

**AN EXPLORATION OF THE DAILY ENVIRONMENTALLY SUSTAINABLE
PRACTICES BY SOUTH AFRICAN YOUTHS LIVING IN URBAN GAUTENG**

by

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DECLARATION

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I declare that

An exploration of the daily environmentally sustainable practices by South African youths living in urban Gauteng is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

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27 MAY 2016

DATE

“Live simply so that others may simply live”

Mahatma Gandhi

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ABSTRACT

This qualitative study explores daily environmental sustainable attitudes and behaviours of Gauteng's urban youth. A social constructivist paradigm underlines the views, challenges and activities expressed. The Reasonable Person Model (RPM) and Social Networking Theory ensure that the content, as well as methodological elements and results herein adhere to a psychological framework. Focus groups and online interviews were utilised to explore the link between community well-being and the state of the natural environment and the sample was drawn using purposive and snowball sampling. The literature reviewed focuses on existing climate change concerns, pro-environmental attitudes and behaviours, and emerging local and international practices, including the importance of expanding local practices. A thematic analysis, ensured for a broad variety of responses, and hence detailed discussion -of and dissemination of results. Using common threads in the results, recommendations and suggestions were made, to improve future studies and research practices concerning Environmental Responsible Behaviours (ERBs).

KEYWORDS

Environmental attitudes and behaviours; Community engagement; Environmental awareness; Dynamic Social Networking Model; ERBs; Participatory action; Reasonable Persons Model; Recycling; Social Constructivist Paradigm; Well-being

ACRONYMS AND ABBREVIATIONS

CBPR	Community-Based Participatory Research
CLET	Collage Life-story Elicitation Technique
COP 21	Conference of the Parties 21
COY 11	Conference of Youth (COY) 11
CSIR	Council of Scientific & Industrial Research

DA	Democratic Alliance
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DPLG	Department of Provincial and Local Government
DTI	Department of Trade and Industry
ECDCs	Early childhood development centres
eNCA	E News Channel Africa
ENI Italy	Ente Nazionale Idrocarburi Italy
EPA	Environmental Protection Agency
EPWP	Expanded Public Works Programme
ERBs	Environmental Responsible Behaviours
GCEC	Global Commission on the Economy and Climate
GDP	Gross Domestic Product
GLOBE	Global Learning and Observations to Benefit the Environment
IRT	Item Response Theory
IPPs	Independent Power Producers
LED	Local Economic Development

NPO's	Non Profit Organisations
NRDC	Natural Resources Defence Council
OECD	Organisation for Economic Co-operation and Development
PACT	People Acting Caring Thinking
PTT	Petroleum Authority of Thailand
RPM	Reasonable Person Model
RTD	Regional Transportation District
SAFCEI	Southern African Faith Communities' Environment Institute
Santaco	South African National Taxi Council
SIT	Social Identity Theory
SMEs	Small and Medium Enterprises
TA	Thematic analysis
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TUT	Tshwane University of Technology
TWhrs	terawatt-hours
UNEP	United Nations Environment Programme

US	United States
Wits	University of Witwatersrand
WEEE	Waste Electrical and Electronic Equipment
WHO	World Health Organisation
WWF	World Wide Fund for Nature

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1 INTRODUCTION

1.1 Background to the research

Over the years the behaviourist approach or worldview has been replaced with one that views humans as making sense of their world, by means of exploration, discovery and inquiry. It has become evident that human beings are at their happiest when they feel needed and can participate in what is going on around them. In line with this study, research suggests that connecting with nature may facilitate prosocial and environmentally sustainable behaviours (Zelenski, Dopko, & Capaldi, 2015). Prior to a time wherein humans from a variety of different backgrounds viewed the natural world, mostly through a scientific looking glass, there once was a time, when humanity deemed or recognised itself as being a part of nature, and vice versa (Andrews, 2003). In relation to this era the biophilia hypothesis comes into play which posits that humans have an innate need to associate with other living beings as a result of our evolutionary historical backgrounds. As we originally evolved in natural environments, it was believed that the direct link to nature constituted the support of optimal human functioning (Wilson, 1984). In past and recent years, it was suggested in various literature that the causes and solutions of climate destruction, accompanied by social and other concerns would pose multifaceted and complex, with many suggesting that our modern lifestyles, not only via excessive consumption but through the increased disconnectedness between humans and nature contribute significantly to the destruction of the natural environment (Kellert, 1997). This study indirectly aims to touch on how the youth engage in and think about alleviating the consequences caused by environmental destructive components, in association with the causes just highlighted such as excessive consumption and modernisation. To understand the attitudes and behaviours of the youth more clearly, one needs to first and foremost gain an overview of, and identify the factors that influence and result in environmental destruction and associated actions or behaviours by individuals. In other words, a brief description to what causes humans to become separated from the natural environment and how they have played a role in the destruction of the natural environment should be outlined.

Additionally, a comprehensive literature review will follow outlining examples of local and global community practices and involvement by individuals and role players

such as Government in promoting ERBs and practices as well as attitude, motivational, -and psychologically-relevant theories that focus on attitude formation and human reasoning associated with forming pro-environmental attitudes and behaviours. The literature reviewed in this study is rich, although the search results pertained mainly to developing alternative food systems. Surprisingly a large number of topics focus on social sustainable practices as well as sustainable tourist, retail -or business practices and products. The majority of the literature pertaining to environmental sustainable attitudes focused on existing practices or the promotion of practices, by youth in the domain of environmental sustainability, rather than on a qualitative exploration of their attitudes and behaviours, which is the main aim of this study.

One of the sources that influenced my literature search strongly pertained to a survey which was spurred by the Nature Conservancy as part of their ongoing efforts to strengthen connections between American youth and the natural world. Ultimately this study suggested that a great potential exists to mobilise the American youth in educating them on issues relating to the environment and nature. The survey notes that an estimated 76% of the youth participants suggested that they strongly believe that issues such as climate change can be solved if the appropriate actions are taken particularly in the face of the struggling economy and capacity of the earth which sustains us (The Nature Conservancy, n.d). A similar study recently conducted by Zelenski, Dopko and Capaldi (2015) suggests that cooperation is in our nature, that increased exposure to nature could promote cooperative and environmentally sustainable behaviours.

1.2 Relevance of the study: Past and present

The underlying significance of this study refers mainly to the direct link between nature and human well-being, by means of delving into an exploration of current pro-environmental and environmentally sustainable attitudes and behaviours by the youth that reside in urban Gauteng. According to Wells and Lekies (2006) relatively little research has examined the long-term influence of childhood contact with nature. As a result of the limited research available on youths and nature, this study nonetheless delves into a variety of theories that focus on the disconnection between humans in general and their natural environment.

First and foremost, the biophilia hypothesis is noted. This idea reasons for human-nature disconnectedness and obstacles associated with the lack of spending time outdoors put aside, it predicts that living near greener spaces promotes higher levels of well-being, happiness and longevity (White, Alcock, Wheeler & Depledge, 2013; Mitchell & Popham, 2008). Spending time in nature it has been theorised, results in a variety of cognitive, mood and physiological benefits (Hartig, Mitchell, de Vries & Frumkin, 2014; Selhub & Logan, 2012). Physical disconnection, such as spending the majority of one's time indoors rather than outdoors could be accompanied by a more significant psychological disconnection that emerges as a result of feeling less connected to a larger ecosystem and therefore making us less inclined to protect the natural environment. In line with this, individual differences in a subjective connectedness with nature could amount to predicting pro-environmental attitudes and behaviours as well as happiness (Capaldi, Dopko & Zelenski, 2014; Mayer & Frantz, 2004; Nisbet, Zelenski & Murphy, 2009; Tam, 2013). Nonetheless, provided that one can gain a clearer view on local pro-environmental attitudes and behaviours, could aid further in forming ground-breaking research to assist those whose main research focus is to promote pro-environmental attitudes and behaviours further, in addition to sourcing alternative food systems, as well as driving more sustainable tourist, retail -or business practices and products.

In this regard it should be noted that individual -and community motivational –and influential factors, societal influencers such as cultural heritage and historical significances and developments, as well as the current state of our economy, political system and levels of service delivery and environmental policies, all play a part in forming and hence exploring the attitudes and behaviours of South Africa's youth with special reference to pro-environmental lifestyle formation and positive community contributions (Department of Environmental Affairs and Tourism (DEAT), 2005)). To follow is a brief summary of some of the earlier research focusing on the formation of human motivations and the promotion of environmental responsible attitudes including the direct link between human well-being and a connection to the natural environment. Modern influencers including the latest technological developments are also noted, although a comprehensive chapter outlining past and more recent research endeavours will follow in chapter two. Let us briefly look at the earliest research influences in the environmental psychology domain.

One of the central purposes by Kaplan (2000) in past years has been to explore human motivation and increased environmental responsibility that result herein. This involved theorising how human beings could be motivated or assisted to be more environmentally responsible, and behave in a more ecologically sustainable way. The result could be the discovery of new ways of relating to the world that would result in promoting the welfare of humans, in addition to that of their children and hence grandchildren. Instead of telling others what to do, further resulting in resistance and ignorance toward significant local factors used to best describe and achieve a specific goal, one could be responsive instead to local variation, in other words changes occurring locally outside of our control (The Business Dictionary, n.d.). This in turn could result in a diversity of solutions that provide the basis for a culture of exploration, innovation as well as involvement, both considered satisfying and responsible.

As Andrews (2003) highlights throughout his literature, it is crucial that as humans we understand our own personal and spiritual development, as well as our state of emotional and physical well-being, by having a greater understanding of the natural world and what in turn it could offer us.

What better way is there to engage in new ways of understanding and behaviour formations than by utilising various modern technological tools at our disposal? In recent years social networking sites like Facebook and Twitter have become quite popular. These, as well as the increased use of mobile technology and instant messaging capabilities have driven new forms of social interaction, dialogue as well as an exchange of information and increased collaborations. Additionally, by using these means, individuals are able to swap ideas, participate in activities and events whilst sharing their wider interests (ITU News, 2010). Environmental issues, innovative ideas on how to curb these and joint collaborations all over the globe have been established and are becoming increasingly popular using various social networks such as Care2 or the MIT CoLab online communities to name a few (Care2, n.d; MIT CoLab, n.d). This new-age technology has been considered throughout the study, with special emphasis on feedback regarding technological advancements during the focus group interview sessions. The underlying relevance of this study will be further described in the aims section to follow.

Along with the influence of research studies such as in the examples above, my initial interest to explore the diversity found in attitudes and behaviours adopted overall by South Africa's youth, whether motivations to work on -or change something such as global warming emerged in 2005 when I moved from my country of birth, Namibia to Cape Town to complete my Grade 12. Particularly at that stage my emphasis was on the range of different attitudes and associated behaviours I discovered whilst moving from a coastal city more inland towards Gauteng in 2007 to attend university. Having resided in Gauteng for over seven years, after completing my school education in Cape Town, I have gained a greater interest in and understanding as to how the attitudes of the urban youth tend to differ to those found in more rural, small town establishments. I am referring in particular to the amount of responsibility individuals adopt when considering making changes or tackling a social concern such as environmental degradation, which I found tends to differ from region to region. To avoid forming a distorted or false view and understanding of these observations, my intention is to conduct a study that explores the variety of attitudes and behaviours the youth adopt, with great emphasis on the youth who reside in urban Gauteng, a tremendously booming economic province.

The strong natural, political and economic undertone in this study are of utmost importance and noted throughout as I place great emphasis on how our surrounding ecosystems such as political, cultural, economic and social systems influences us and vice versa how we in turn influence our ecosystems. This goes hand in hand with the social constructionist paradigmatic viewpoint I support. The main focus on nature derives from my strong spiritual ties to nature and how through a strong interest in environmental psychology I have come to see our ties to the natural environment as influencing our behaviours and overall well-being. To conclude, owing to the emphasis as a researcher I place on the direct link between our community's health and well-being and that of the standards and quality of our environment, particularly our natural environment such as parks and community grounds, in addition to a growing research interest in the domain of green economic development and sustainable growth in South Africa, this qualitative study was eventually formed.

1.3 Purpose of the research

This qualitative study, using the social constructionist paradigm as my underlying model of inquiry has aimed indirectly, in addition to the two major research questions I posed, to understand how closely the youth living in Gauteng, a major economic hub, are in fact related to the natural world and what it has to offer us. The two major research questions were established to determine how much South Africa's youth who currently live in urban spaces are aware of what some of the environmental concerns are we face. In part, to explore my underlying research aim, I explored available literature on environmental education. The aim firstly was to determine by means of an exploration using focus group discussions and online surveys, what some of the daily environmentally sustainable activities are the youth engage in regularly. The study further aimed to establish, depending on the amount of interest, time and additional influential factors, an active collaboration and engagement with my participants, their communities, and other important role players. This was to continue and further expand existing environmentally sustainable activities and attitudes in Gauteng. I intended therefore to analyse the results in such a manner to establish the level of motivation or a need to continue active engagements such as these. This in turn would then allow me to potentially establish new and ongoing community awareness initiatives, that focus on an environmentally sustainable lifestyle, resulting in the improvement of well-being, not only for the participants of this study, but for the citizens of Gauteng in general.

The purpose of this study is therefore to determine how much the youth know about the environmental concerns we face, and how they understand and therefore the attitudes they have regarding the practices that contribute in alleviating existing concerns such as these.

1.4 The scope of the study

The idea to form this study initially derived from my underlying interests in a variety of multidisciplinary domains and research developments as previously noted. These include, for instance, how modernisation has played a crucial role in both positively - and negatively influencing the quality of our natural environment. Other major influencers highlighted throughout the study include the rising environmental or

green technologies -and initiatives that aim to curb global warming, economic/fiscal policy formation, in addition to how as human beings we have become separated from the natural environment and how vice versa this has affected our psychological well-being and social structures. Research conducted by Leiserowitz, Kates, and Parris (2006) on sustainability values, attitudes, and behaviours further sparked an interest to delve into all the domains in our society that could potentially influence the formation and adoption of our attitudes and behaviours.

My underlying paradigmatic viewpoint, namely the social constructionist belief serves as the main driver of my main research objective. It posits that we are influenced by - and in turn influence our surrounding ecosystems including influential structures such as family, community and political factors. We do so by using historical and present knowledge and beliefs. This paradigm as emphasised served as the main driver which resulted in my main objective to engage further in the discovery of the youth's attitudes and understandings on promoting a more pro-environmental lifestyle in the modern world, which has become so separated from the natural world.

The Dynamic Social Networking Model, Kaplan's (2000) works on human nature, environmentally responsible behaviour and the RPM have been utilised for the sake of this study and will highlight the underlying psychological motivators that play a role in possibly driving my participants to form the attitudes and behaviours to live more environmentally sustainable lifestyles overall. The works of Ajzen (1991; 1980) and Ajzen and Fishbein's (1975) Theory of Reasoned Action (TRA), -and planned behaviour including an understanding of how attitudes form and resulting behaviours, heavily influenced the scope of this study along with various alternative literature that focus on natural and social human interactions (Laszlo, 2006; Andrews, 2003).

1.5 Chapter breakdown

Chapter 1 incorporates a comprehensive outline of background literature which introduces the study, its purpose as well as the aims. Included herein are the research questions intended to address the aims as well as the relevance and scope of the study. An in-depth description of the study's problem statement, associated aims and research questions as well as the underlying paradigm and theories that

influenced the construction of this study were covered in Chapter 2. The literature that was sourced throughout derived from past and present knowledge, and is covered in this chapter followed by a brief description of -and inclusion of current role-players deemed important within the context of this study. The means of data collection techniques, namely focus groups and online interviews as well as the research design and participant sampling methods are summarised in Chapter 3. In addition, important ethical considerations as well as the means of quality and trustworthiness my study pursued have been listed in this section. Chapter 4 focuses on the methodology and data analysis method. In Chapter 5, the study results are discussed, including the dissemination thereof and the obstacles, gaps and future developments that could be considered in relation to the study's aims. In line with this I included obstacles identified throughout the course of the focus group sessions that played a pivotal role during sessions, whilst conducting the analysis and also in the dissemination of results. Finally, Chapter 6 concludes the dissertation with a comprehensive conclusion. This includes a brief summary of the study's initial aims, purpose, relevant literature and current developments. To end off, a brief summary of the results of the study and recommendations for future research and possible developments of useful environmental initiatives are listed, which could assist in enabling an active and ongoing collaboration of the youth and their communities to improve their quality of life.

1.6 Summary

This chapter furnishes a brief introduction to the literature review of this study, entailing past and present relevant literature, in addition to previous research that aimed to explore the attitudes and behaviours of youths on pro-environmental -and sustainable lifestyles, attitude formation in general as well as a broader overview of environmental sustainable practices worldwide and in the local context.

The purpose of my study, including the research questions and my underlying motivations to conduct the study are highlighted. This is followed by a brief description of the relevance of the study, with particular relevance to how a health natural environment could affect the overall quality of life and human well-being. Influencers in the environmental psychology research domain were introduced briefly

throughout the chapter and finally, the breakdown of all chapters to be covered is provided.

2 LITERATURE REVIEW

2.1 Overview

The last 20 years has seen a number of significant changes in perceptions about the environment, and the impact of human activity on it. In support of this, scientific data and superficial behaviour change initiatives are no longer considered effective solutions to curb the climate concerns we face, as well as the resultant grief we as humans experience that derives from the general feeling of helplessness. Despite our awareness of the issues at hand, the key in recent years has been to engage individuals at a deep emotional, psychological and spiritual level, instead of searching for reasons why we are failing to act over the imminent dangers of climate change, and other sustainability challenges. The consequence of the guilt associated with feelings of failure to act, or make a difference include not only a compulsion to consume even more, in an attempt to hide our guilt but also a projection of our hidden pain onto the world around us and at the deepest level, the Earth itself (Confino, 2014). In light of this study, the aim is to explore therefore the environmentally responsible practices and behaviours by youths living in urban Gauteng, namely alternative practices associated with tackling climate concerns and the social ills that accompany these.

2.2 Practices to reduce, or failure to reduce the effects of climate change: International and local examples

Governments and communities alike are beginning to acknowledge that environmentally-friendly practices need to be encouraged and implemented. These include increasing efforts by organisations such as Greenpeace and Climate Reality, in addition to international environmental awareness practices by celebrities such as Leonardo Dicaprio (Leonardo Dicaprio Foundation, n.d). A recent focus in South Africa has for instance been on increasing green job initiatives. The 'Industrial Policy Action Plan' has been put into place for this purpose locally, encompassing strategic initiatives to develop green industries and improve energy efficiency, such as local plant and crop growth projects and recycling opportunities (Department of Trade and Industry (DTI), 2013)).

World Wide Fund for Nature (WWF) report suggests that Mpumalanga constitutes 46% of South Africa's total high potential arable soils. For the past five years, scientists, academics, conservations as well as tourism authorities and NGOs have all shown the initiative to address the failure to reduce the effects of climate change, by highlighting the dangers of the expanding mining activities taking place in Mpumalanga currently (The Green Times, 2015). It has in this regard been noted that, should the current high rate of coal mining activities in the area not be reduced, approximately 12% of South Africa's total high potential arable land will be negatively transformed, with the biggest impact on food and water security. The loss of maize production is already evident, having resulted in price increases due to the loss of employment in the agricultural sector (The Economist, 2014). On a similar note, plans by the government are underway to import maize into the country as a result of the drought the country currently faces. Highlighted in this regard was that the poor are affected by the decline in maize production due to drought (E News Channel Africa (eNCA), 2015; eNCA, 2015)). Other damages due to coal mining activities include soil degradation, water -and air pollution as well as health impacts. As yet, little to no action has been taken by the government, to assess the impacts of mining, or integrate the series of actions as suggested by the WWF-SA to curb this destruction other than the plans to import maize already noted (The Green Times, 2015).

Environmental efforts by international communities are also on the rise. Rising sea levels from global ice melts the Pacific Islands face particularly in Kiribati, as a result of global warming, have led the President of Kiribati Anote Tong, in partnership with Prince Albert II of Monaco, to draw up plans which draw attention to this issue. They plan to address the U.N. climate talks that will be held in Paris in December 2015 (Stone, 2015).

The United States (US) Environmental Protection Agency (EPA) also introduces a number of steps to address the challenges of climate change:

- The collection of various types of greenhouse gas emissions data, which aids policy makers, businesses, and the Agency itself to track greenhouse gas emissions trends and identify opportunities that will aid in reducing emissions and increasing efficiency;

- The reduction of greenhouse gas emissions and promotion of a clean energy economy through highly successful partnerships and common-sense regulatory initiatives;
- The EPA's Clean Power Plan addresses emissions from power plants, forming the largest source of carbon pollution in the country, whereby, should it be fully implemented by 2030, carbon pollution from the power sector is estimated at 32% below the levels experienced in 2005;
- Partnering with the Private Sector, by means of voluntary energy and climate programmes. In this regard, EPA's partners have already contributed toward the reduction of over 345 million metric tons of greenhouse gases in 2010 alone;
- Conducting economy-wide analyses to understand current economic impacts and the effectiveness of proposed climate policies;
- Contributing towards world-class climate research through the U.S. Global Change Research Program and the Intergovernmental Panel on Climate Change;
- EPA's Office of Research and Development conducts research to understand the environmental -and health impacts of climate change, and to provide sustainable solutions for adapting to -and reducing the impact of our changing climate;
- Engaging in various international activities to expand on -and advance climate change science practices, monitor the environment, and to promote activities that reduce greenhouse gas emissions;
- EPA's State and Local Climate and Energy Program provides the state, local as well as tribal governments alike with technical assistance, analytical tools, in addition to outreach support on climate change issues;
- Lastly, EPA's Climate Ready Estuaries and Climate Ready Water Utilities programmes assist coastal resource managers, as well as water utility managers to plan and prepare for climate change and its effects (EPA, n.d.).

To further elaborate on the effects of climate change and efforts to curb these, Australia constitutes the world's largest exporter of coal. Currently it has one of the world's highest per capita global warming emissions rates (Union of Concerned Scientists, 2011). In New Zealand, although coal is considered the most abundant fossil fuel, the island surprisingly generates 73% of its electricity from renewable sources, as highlighted in 2009. New Zealand's biggest source of emissions is rather as a result of activities in the agricultural and forestry sectors (Union of Concerned

Scientists, 2011). The impacts of global warming in Australia and New Zealand include the stress on water supply, shrinking glaciers, a rising sea level, disturbances in rainfall patterns, as well as an increase in the frequency and intensity of fires and heat waves (Union of Concerned Scientists, 2011). A number of solutions have been suggested by the Union of Concerned Scientists to foster a healthier natural and human environment in these two regions. Reducing coal dependence and implementing a price on carbon emissions, as well as a national renewable electricity standard have been suggested in Australia, whilst solutions for New Zealand include reforestation and sustainable farming (Union of Concerned Scientists, 2011). Australia has for instance actioned a reduction in its global warming emissions by implementing a national Renewable Electricity Standard (RES). The government has set a mandatory renewable energy target of 9500 gigawatt hours by 2010, whilst aiming to reach a generation of 20% of national electricity supply from renewable sources by 2020 (Union of Concerned Scientists, 2011). New Zealand has introduced the Emissions Trading Scheme (ETS), one of the very few carbon trading systems in the world. Emissions sources are instructed to buy credits in order to cover their emissions, whilst sources that reduce emissions are able to sell credits, making tree planting and sustainable and livestock farming key parts of the ETS (Union of Concerned Scientists, 2011).

Governments worldwide have more than enough policies for tackling climate change in place, of which some remain very expensive (The Economist, 2014). China, America and the European Union for instance spend \$140 billion a year on subsidising renewable energy. In light of this it is difficult to identify which policies are having the greatest effect on reducing global warming. The Economist (2014) has therefore attempted a global comparison of carbon-mitigation efforts, whereby policy –and alternative efforts by various countries are outlined in a chart. Chart 1 on the next page highlights efforts to curb global warming. This chart ranks 20 policies and courses of action according to how much they have done to reduce the atmosphere's stock of greenhouse gases. The figures derive from government, EU and UN agency resources (The Economist, 2014). Among the efforts listed is China's one-child policy, which is said to have reduced carbon emissions by 1.3 billion tonnes in 2005 alone as less people now had to rely on the production of goods to survive (The Economist, 2014).

Chart 1: Global efforts to curb global warming

To slash or to trim

Emission reductions by policies/actions, bn tonnes CO₂ equivalent

Policy/Action	Cumulative emissions	Period	Annual emissions*
Montreal protocol ¹	135.0bn	1989-2013	5.6bn
Hydropower worldwide ²	2.8bn	2010	2.8bn
Nuclear power worldwide ²	2.2bn	2010	2.2bn
China one-child policy ³	1.3bn	2005	1.3bn
Other renewables worldwide ²	600m	2010	600m
US vehicle emissions & fuel economy standards ^{†4}	6.0bn	2012-25	460m
Brazil forest preservation ⁵	3.2bn	2005-13	400m
India land-use change ⁶	177m	2007	177m
Clean Development Mechanism ⁷	1.5bn	2004-14	150m
US building & appliances codes ⁴	3.0bn	2008-30	136m
China SOE efficiency targets ⁸	1.9bn	2005-20	126m
Collapse of USSR ⁹	709m	1992-98	118m
Global Environment Facility ¹⁰	2.3bn	1991-2014	100m
EU energy efficiency ¹¹	230m	2008-12	58m
US vehicle emissions & fuel economy standards ^{†4}	270m	2014-18	54m
EU renewables ¹¹	117m	2008-12	29m
US building codes (2013) ¹²	230m	2014-30	10m
US appliances (2013) ¹²	158m	2014-30	10m
Clean technology fund ¹³	1.7bn	project lifetime	na
EU vehicle emission standards ¹⁴	140m	2020	na

CATEGORIES:
Energy production
Transport
Other regulations
Global treaties
Land & forests
Other

See following panel for sources and explanations

*Annual emissions are cumulative emissions divided by the relevant period. The estimate for the current emissions avoided under the Montreal protocol is eight billion tonnes of CO₂e. The annual figure for the collapse of the USSR refers to the years 1992-98. [†]Cars and light trucks [‡]Heavy trucks

Source: (The Economist, 2014)

Practices to reduce carbon emission and deforestation, as well as replacing traditional fossil fuel sources such as coal used in energy plants, with that of alternative energy sources are also noted in the chart. Findings indicate that hydropower generated the most electricity in 2011, namely 6,000 terawatt-hours (TWhrs) in total, followed by 450TWhrs for wind and less than 60TWhrs for solar (The Economist, 2014). Interesting to note is that the 1987 Montreal protocol, which constitutes an agreement to phase out substances such as chlorofluorocarbons (CFCs) used in air conditioners, refrigerators to name a few, has had nearly as big an effect as all these practices listed (The Economist, 2014).

Despite productive actions such as these, little to no emphasis in literature has been on qualitatively-driven explorations of the youth's attitudes and behaviours, locally and internationally, in relation to environmentally sustainability and pro-environmental practices, specifically how attitudes and behaviours are affected by and in turn affect the outcome of environmentally responsible practices. As the youth

are viewed as the future drivers, not only in protecting the environment but by ensuring that the world is a better place for all who inhabit it, a need exists to spend increasing attention on the youth and their current attitudes and behaviours toward environmental sustainability, including their existing environmental knowledge base. This is not say that the youth should adopt sole responsibility. Local and international ecosystems including communities and individuals, as well as governments and businesses should team up to ensure for a better future for all, animals and humans alike. For this purpose, it is essential to determine the extent of information and sources currently available on the environmental attitudes and behaviours of youths.

2.3 South African youths and their environmental attitudes and behaviours

An exploration of the attitudes of the youth concentrated mainly on entrepreneurial attitudes and their perceptions on HIV testing and practices. (Salama, 2015; Steenkamp, 2009; Steenekamp, van der Merwe & Athayde, 2011; Van Rensburg, Theron, & Rothmann, 2015; World Health Organization (WHO), 2013). Limited literature, particularly with reference to the age group sampled in this study was available, including exploratory studies on youths' attitudes regarding the environment or associated attitudes and practices. In addition, limited mention in literature was on university students. Exploratory studies on South African youths, it seems remains limited to date based on the literature reviewed and additional literature in similar research domains were reviewed to account for this limitation.

After searching for terms such as 'environmental attitudes and youth environment', 'attitudes' and 'youth', the majority of the literature contained therein focused on Europe, UK, Australia, Asia and America. Highlighting are mostly the effects of environmental determinants on youths and their attitudes. Environmental educational developments and initiatives also form part of the major focus of the literature. Herein the focus remained on sustainability and environmental sustainable development, as well as the formation of a variety of behavioural or identity outcomes, as a result of certain environmental attitudes and effects and vice versa (Lotz-Sisitka, 2002; Mayer & Frantz, 2004; Meyers & Diener, 1995; Nisbet, Zelenski & Murphy, 2009; Oliver, 2002; Organisation for Economic Co-operation and Development (OECD), 2002; Oskamp, 2000; Poinsett & Toor, 1999; O'Riordan, 2012; South African Faith Communities' Environment Institute (SAFCEI), 2013;

Selhub & Logan, 2012; Tajfel, 1974; Tam, 2013; Taylor & Mackenzie, 1992; The Global Learning and Observations to Benefit the Environment (GLOBE) Programme, n.d.; Van Staden, n.d.; Westaby, Pfaff, & Redding, 2014; White, Alcock, Wheeler & Depledge, 2013; Wilson, 1984; Zwickle, Koontz, Slagle & Bruskotter, 2014. As the term 'environment' has quite a broad meaning, similar phrases were searched including that of environmental sustainable attitudes and youth.

Similar to the literature mentioned, a variety of topics relating to sustainable and environmental education are available, although as previously, sources focused more on developing alternative food systems. Surprisingly, a large number of topics focus on social sustainable practices, economic developments which relate to climate change and environmental developments, as well as sustainable tourist, -retail or business practices -and products (Miller, Rathouse, Scarles, Holmes & Tribe, 2010; Ozden, 2009; Roberts & Bacon, 1997; Scott, Peeters & Gössling, 2010; The Global Commission on the Economy and Climate (GCEC), 2014; DTI, 2013; The World Bank, 2009; Worachananant, Carter, Hockings & Reopanichkul, 2008; Young, Hwang, McDonald & Oates, 2010; Zulu & Mubangizi, 2014).

The majority of the literature incorporating environmental sustainable attitudes sourced, focused on existing practices or rather the promotion of practices, in the domain of environmental sustainability, with limited emphasis on the youth.

Both local and international literature alike that focused on the effects of -and solutions to climate change and how these relate to human health and the environment included that of Houdmont, Kerr and Addley (2012); Mitchell and Popham (2008); Natural Resources Defence Council (n.d); Stone (2015); Union of Concerned Scientists (2011); Washington (2013); WHO (2013); WWF (2000) and Zhuwakinyu (2001). These findings were only reported on briefly to present the importance of the relationship between a healthy natural environment and human health and well-being. A short summary due to limited availability of sources, will follow on the most relevant literature that pertains to this study, namely in light of youths' attitudes on environmental sustainable practices and their behaviours, including current gaps and suggestions in the environmental literature domain.

2.4 The importance of exploring environmental activities and practices in general: A global review of the link between humans and the natural environment

Past literature highlights certain influential factors which have resulted in the separation -or exclusion of human development in relation to the natural and external environmental (Andrews, 2003). Washington (2003), for example, argues that in a modernist -and postmodernist worldview people have started alienating themselves from the natural world. This constitutes part of the 'human/ nature dualism' (Evernden, 1992, as cited in Washington, 2013). Essentially what it demonstrates is that our modern world is a world wherein humans are viewed as 'apart' from nature, whereby humans are seen as superior to nature, and where forth they have the power to subdue and overrun nature itself, despite the clearly demonstrated physical, educational, psychological and spiritual health benefits nature has demonstrated (Washington, 2013; Cooper, 2005; Stone, 2015). In certain parts of the Pacific Islands, islanders in Kiribati have been forced to move from more remote areas to urban centres such as Tarawa, to avoid the rising sea levels. This has resulted in the population size in the area doubling in the past 20 years, resulting in greater pressure on the city's ability to provide adequate waste management, health care and other social services (Stone, 2015). Beside the socio-economic and service constraints, Washington cited Collins further by arguing that, due to our history of scientific analysis we have lost the ability to view Nature as an interlocking whole. He notes that should nature be destroyed, humans 'would lose the ability to perceive the deeper feelings that give meaning to our lives' (Collins, 2010, as cited in Washington, 2013, p 62).

On the contrary to the above, human actions have also had diverse effects on nature and the quality thereof. For instance, Africa alone could develop as a major global emitter of pollutants in the next 50 years if growth and development trends continue without emission regulations (Liousse, Assamoi, Criqui, Granier, & Rosset, 2014).

Potential negative results on human health and the well-being and that of a society in general, could arise. For instance, research indicates that international migration, or the movement of individuals across international boundaries, are followed by tremendous demographic, economic, social -and cultural consequences for the

country of origin and destination, including overpopulation as well as the deterioration of air quality. Air pollution accounts for one in eight deaths globally, more than malaria and HIV combined (WHO, 2013; Boucher, Randall, Artaxo, Bretherton, Feingold, Forster,... & Rasch, 2013). These consequences in turn are associated with certain key social concerns such as increased levels of pollution, limited housing and natural resources (The World Bank, 2009). Additionally, the effects of environmental depletion by human beings, including rising heat waves, polluted ground water and increased smog levels result in allergies and other health concerns such as asthma, infectious disease and other fatal -or serious illnesses. Natural disasters as an added benefactor, which result from global warming have claimed millions of lives each year on a global scale. Some researchers have suggested that approximately 50 million people worldwide would become "environmental refugees" by the year 2010 (Natural Resources Defence Council (NRDC), n.d.)). These health effects in turn influence the stability of the economy and political stability, as well as our cultural -and social developments (EPA, n.d.).

Taking note of the above it is eminent that increasing attention in the research domain be on the attitudes and understandings of individuals on the state of the natural environment they form a part of, as well as the characteristics or drivers that highlight the important connection between individuals and their natural environment, in relation to health and developmental benefits.

To ascertain how the youth feel about spending time in nature and being more connected to the natural environment, a US survey previously conducted by a bipartisan polling team and the Public Opinion Strategies suggests that the American youth do not spend nearly enough time in nature (Metz & Weigel, 2010). The survey initially spurred by the Nature Conservancy as part of ongoing efforts to strengthen connections between American youth and the natural world conducted 602 on-line interviews with youths aged between thirteen and eighteen. The results indicate that reasons for this disconnectedness and attitudes by the youth for spending the majority of their time indoors include, but are not limited to the following; 88% of American youth say that they spend time on-line every day, of which 69% indicated playing video games or watching television. Only 58% of these emphasised having spent most of their time doing their homework or schoolwork (Metz & Weigel, 2010).

The results further found that out of the youths that participated in the poll, 73% expressed a large concern and dissatisfaction with the poor state the natural environment is -and was left in. Expressed was mainly a disappointment in the lack of faith and failure by previous generations including adults and the government, to address these concerns and to improve the conditions of the natural environment. To elaborate, the majority of the youth, namely 51% expressed their concern with current environmental conditions, labelling it a serious problem. Previous generations were mostly blamed, whereby 73% of the respondents indicated that previous generations are responsible for the damage caused on the environment whereby the responsibility remains with the upcoming generations to fix it. To further elaborate, the youth lack faith in government to address this -or other major problems, whereby only one-third had faith in government leaders to succeed in addressing major problems in the country (Metz & Weigel, 2010).

In terms of encouraging the youth to engage more in nature, key obstacles were expressed in the survey, in line with the factors mentioned, which could explain what was hindering the youth in this regard. The obstacles were mainly; the lack of access to nature including limited - or no transport, distance as well as a lack of interest in nature and the activities it has to offer. Also highlighted were feelings of discomfort associated with things like insects, poor weather conditions as well as the fear of a crime or a robbery, expressed mostly by female participants. Only two suggestions were made to increase the youth's engagement in nature and associated outdoor activities, although these it seemed were not extremely encouraging or convincing. Highlighted were firstly natural elements or characteristics that increase the chances of having fun, such as for instance seeing something extraordinary. Increasing the number of school outings and other activities was listed as the second element, which would play a part in providing the youth with a place where they can experience fewer feelings of stress. Fear was also one of the barriers mentioned, resulting in the youth spending less time in nature. The poll results indicated that the youth that did engage more frequently in outdoor activities, particularly those accompanied by their peers, expressed feelings of being free, and the opportunity to spend time in a peaceful -and calming environment, accompanied by a certain sense of happiness and a sense of adventure (Metz & Weigel, 2010). The results of this study were aimed particularly at motivating and assisting the youth and their

communities further in addressing the effects of environmental degradation, and engaging as a community to tackle some of the social concerns accompanied by global warming (Metz & Weigel, 2010). Why it is so important to address these developments as previously listed among other things include the need demonstrated to increase physical, psychological and spiritual well-being associated with a healthier environment.

In a local study, the Ekurhuleni Metropolitan Municipality's Integrated Development Plan (Olivier, 2004 as cited in DEAT, 2005) for sustainable development highlights, in particular the economic and social aspects associated with improving the natural environmental and sustainable well-being. To understand this association further, it is crucial that the local negative impacts of environmental degradation are listed, particularly those present in the province addressed in this study, Gauteng. The local strategy plan, for instance outlines the negative effects of desertification. Land degradation and drought are an example. These in turn threaten human security by depriving people of the means to decent livelihoods due to the inability to produce food. Access to water and the means to economic activity are also the result of desertification as mentioned previously. To elaborate, desertification in general threatens the local potential to secure food security. In addition, the plan highlights that air pollution, annually costs the public health system over 3 billion rand to address air quality-related respiratory infections. Green House Gas (GHG) emissions are the main cause of human- induced global warming and climate change in this instance. Climate change related to the oceanic environment are associated with issues such as ocean fertilisation/ pollution, ocean acidification, sea level rise and - related storm surges. These have a visible impact on the local coastal infrastructure, development opportunities, as well as the livelihoods of coastal communities (Department of Environmental Affairs (DEA), 2015)).

The importance of addressing environmental concerns is attributable to the fact that, in the long term, these risks and the financial implications of treatment are likely to escalate if no preventive measures are taken. In a less than recent article, Gauteng, although only constituting 1.4% of South Africa's land area, generated around 80% of the country's waste at that time. The bulk of its industrial waste is generated mainly by power stations and mining operations owing to the province's high

economic activity, which constitutes 40% of all national economic activity (Zhuwakinyu, 2001).

2.5 Environmental Responsible Behaviours and community participation: A review through a psychological looking glass

People have realised that the environment constitutes a major part of the quality of life in any community. This has made them and governments alike realise how serious a threat environmental degradation is to our earth (Adams, 2003). A local five-year plan drawn up by the DEA, for instance outlines the need to “drive socioeconomic transformation and transition, by optimising economic benefits for communities, thereby improving their livelihoods” (DEA, 2015, p. 21). To outline the importance of focusing on local ERBs, the Living Planet Report found that the state of our earth’s natural ecosystems have declined by approximately 33% in the last 30 years, with the ecological pressure posed by humans having increased by about 50% (Lotz-Sisitka, 2002; WWF, 2000). This in turn has led to the realisation in recent years that the current behaviour of people toward the environment is in dire need of change and that as humans we need to learn how to behave in an environmentally responsible way (Adams, 2003). In line with this, literature has focused on evaluating both human -and environmental impact, reducing these impacts, and increasing environmentally responsible behaviour, essentially with the attempt to assess how human activities have caused serious problems, and to find a diversity of solutions (Dawson, Stewart, Lemelinc, & Scott, 2010; Dwyer, Forsyth, Spurr, & Hoque, 2010; Scott, Peeters, & Gössling, 2010; Worachananant, Carter, Hockings, & Reopanichkul, 2008; Miller, Rathouse, Scarles, Holmes, & Tribe, 2010).

ERBs occur when an individual or group aims to do what is right in order to help protect the environment on a daily basis through general practices (Cottrell, 2003). These actions have also been referred to as pro-environmental behaviours, environmentally friendly behaviours, stewardship behaviours or conservation behaviours (Mobley, Vagias, & DeWard, 2010). Stern (2000) previously listed several types of ERBs which vary according to their location, as well as the extent of visibility, namely environmental activism, centred in the public realm, non-activist political behaviour which occurs in a public sphere such as support for certain policy initiatives, followed by private environmentalism such as purchasing decisions or

individual recycling. Lastly behaviours which originate in organisations an individual might be affiliated with are also classified as ERBs. To delve further into a discovery of daily environmental attitudes -and behaviours and how these in turn form, one could use various psychological and social theories as guidelines to develop a better overall understanding of ERBs.

Under scrutiny, firstly, is the fact that a large majority of scholarly literature in past years has focused on altruism as a central approach to explaining, or exploring ERBs. One such altruistic approach is evident in for example students, who practice ERBs, or who are concerned with environmental problems, whereby they tend to adopt the common view that there exists an inherent linkage between “good” motives and “good” behaviour and that a symmetry should exist between the moral value of the motive and a moral value of the action. In addition to this, another motive associated with the altruistic approach is the concept of helping others for one’s own sake (Kaplan, 2000). Jencks (1990) defines altruism as the feeling or acting on behalf of the welfare of others, whereby self-interest is not involved. Ultimately altruism brings with it the belief that living with less will ultimately result in a less joyless and impoverished future (Kaplan, 2000).

As Kaplan (2000) has stated in the past, the facilitation of adopting ERBs would serve as a major challenge, specifically in the behavioural sciences. Although this challenge has essentially been based on motivational factors, specifically focusing on altruism as a crucial motive to study, this approach has been seen as having several inadvertent consequences, including its contribution to helplessness and the focus on sacrifice, rather than quality-of-life-enhancing solutions. In addition to this, what can argue against the altruism-centred approach, is the evidence which has found that a term such as “selfless cruelty” is seen as historically impoverished, which, along with the altruistic-associated link between consumption and happiness, does not stand up to a careful psychological analysis (Meyers & Diener, 1995).

An alternative approach has been suggested by Kaplan (2000) which I have incorporated as part of my theoretical stance for various reasons to be elaborated on further below. This approach is the RPM which imposes that, intuitively, people resist making changes that they perceive as reducing their quality of life, despite them still showing concern about the future of the environment.

In the past, psychological research has deemed most programmes that have fostered sustainable -or environmental responsible behaviour, based on models of behavioural change limited. Simultaneously, although psychology has more to contribute to the design of effective programmes in order to foster sustainable behaviour, little attention has thus far been on ensuring that psychological knowledge is easily accessible to those who design environmental programmes (McKenzie-Mohr, 2000). This would indeed be crucial, as research in recent years has shown that increased knowledge leads to increased positive action and behaviours. The Global Learning and Observations to Benefit the Environment (GLOBE) programme, for example, indicates that GLOBE participants demonstrated more positive attitudes and actions toward the environment than non-GLOBE participants. The GLOBE programme is a worldwide hands-on, primary -and secondary school-based science and education programme offered to participants (Adams, 2003; The GLOBE Programme, n.d.). In another more recent study by Mobley, Vagias and DeWard (2010), it was clearly demonstrated that individuals who are knowledgeable and who are concerned about the environment, are more likely to engage in ERBs and that environmental concern, above knowledge, was the strongest predictor to determine ERBs in this instance. This having been said, one can point out though, that not only will knowledge, on its own, enable us to act more environmentally responsible, but that, as humans we also construct forms of knowledge by means of social interchange. Herein we attempt to articulate or create common ways of understanding. This knowledge creation and human interchange as a result, could be attributed to our concern toward climate issues.

In addition to the design of environmental programmes, Bamberg and Möser (2007) found that knowledge and an awareness of environmental problems are of utmost importance for the development of moral norms, which in turn influence the outcome of ERB. This ultimately means that knowledge and environmental sensitivity are important prerequisites for ERB (Mobley, Vagias, & DeWard, 2010). One needs to consider in light of this, exploring important psychosocial and contextual influencers that may be influenced by -or in turn influence ERB. These include social pressures and norms, particularly concerns of poverty and unemployment, as well as material costs and rewards, laws and regulations, behavioural intentions, the use of incentives, social norms and expectations and lastly policies that are supportive.

Henceforth, these influencers play an important role in our identity formation and in turn, our engagement in ERB (Mobley, Vagias, & DeWard, 2010).

The New Climate Economic Report (GCEC, 2014) previously investigated how serious risks, caused by climate change are addressed, as linked with the need to tackle more immediate concerns such as jobs, competitiveness and poverty. The report indicates that countries at all levels of income currently have the opportunity to build lasting economic growth, whilst at the same time reducing the immense risks of climate change. This is made possible by structural and technological changes unfolding in the global economy and opportunities for greater economic efficiency. The capital for the necessary investments is available, and the potential for innovation is vast. The following are local examples of evolving economic activities that have resulted from increased environmental efforts by the public, government and private parties:

- Local public hospitals, for example, have started sourcing around 40% of their fresh produce supplies from black emerging farmers, which Gauteng aims to increase to 80% by 2016.
- Additionally, efforts to establish four agri-parks in Bekkersdal, Khutsong, Sebokeng and Eikenhof are under way. These parks could essentially increase economic activity in townships and expose unemployed youths to farming opportunities, as well as expand value-adding agricultural activities in townships (FIN24, 2015).
- As can be noted in an independent study conducted by the Council of Scientific & Industrial Research (CSIR) (Khuzwayo, 2015), renewable energy from South Africa's first wind and solar (photovoltaic) projects created an astounding R800 million in net financial benefits in 2014. Among this renewable project's advantages were the reduction in financial fuel costs by the independent power producers (IPPs) involved, and the avoidance or curbing of approximately 120 hours of "unserved energy", which occurred in the period when South Africa's electricity supply was in dire need of an alternative energy source, in turn resulting in customers' energy supply being curtailed or "unserved" if it had not been for renewables. This in addition to the IPPs having saved Eskom's power system R3.7billion in diesel and coal fuel

costs, are major recommendations to be taken into account (Khuzwayo, 2015). They prove that renewable energy sources should be one of the main topics to be under discussion in the South African community including in Parliament, considering that South Africa's power system is currently under severe constraint, with diesel-fired gas turbines currently being overpowered and exhausted having resulted in load shedding and in some instances even the death of a South African community member in Bloemfontein due to power cuts (eNCA, 2015).

- And then lastly, the City of Johannesburg Metropolitan Municipality aims, by means of implementing by-laws to regulate the collection, disposal, treatment and recycling of waste, to enhance sustainable development (Municipal Systems Act, 2000).

2.6 Local Environmental Responsible Behaviour practices and suitable theoretical guidance

As listed previously, various international environmentally responsible behavioural practices have been implemented and established on an ongoing basis, although in our own back yard, numerous organisations and individuals are currently, and have previously, embarked on endeavours to act as responsible agents in curbing environmental concerns, as well as the negative affects these concerns have on ordinary peoples' lives that share their space. Not only are these agents acting on behalf of global warming, but what can be noted and, what some of these agents have clearly communicated is that in order to curb or alleviate global warming concerns, it is crucial to focus on how as individuals our attitudes and perceptions shape how we respond to and behave to these concerns, in other words we should be fully aware of how our attitudes affect our behaviours. In line with this, the dynamic social network theory discussed in Chapter Three sheds more light on how our behaviours and the networks or people we associate with influence how we establish an orientation towards the goals we aim to achieve. This having been said, the agents mentioned above, as well as ordinary citizens and organisations, whether small business enterprises, local municipalities, communities and non-government organisations, should pay special attention whilst, aiming to alleviate environmental concerns and the negative social and other affects these concerns have on our local

community, on the networks they associate with, as well as how these affect their attitudes, perceptions and goal orientations on a regular basis. To support this, an increasing number of social scientists, policy makers and laypeople have started expressing an interest in the conditions, traits and attitudes which define our quality of life, and it is for this reason that a suitable psychological theory, to be discussed in the sections to follow, be included that suggests that human relations are linked to our specific goal pursuits (Meyers & Diener, 1995; Westaby et al., 2014).

2.7 Local and international Environmental Responsible Behaviour practices: The importance of collaborations/ partnerships to promote health

Local voices have emphasised that, as South Africans, we should work together as a community to tackle climate change concerns not only for the sake of saving the environment but for the sake of our own health. The DEA for instance, recognises an environment that is not harmful to the health and well-being of South Africans and all those who live in South Africa (DEA, 2015). Further, highlighted by Bishop Dandala in the Universal Christian Church Conference held on poverty and the environment, is that we “are faced with enormous challenges of poverty, climate change and environmental degradation caused by a culture of consumerism and greed” (SAFCEI, 2013). Onyeka, who also present at this conference, stated that the aim is not to save the planet, as the planet will survive but rather, that it is about saving humanity (SAFCEI, 2013). In addition, at the same conference, Bishop Geoff Davies of SAFCEI demonstrates that our present economic system is destroying the world (SAFCEI, 2013). With this in mind, society tends to take the natural environment for granted despite depending on it for survival. Ecosystem services provide for human life including food, water, health and pharmaceutical benefits, genetic resources, fibre and timber, soil formation, pollination and resources for industrial processes as well as pollution control (Van Staden, n.d.).

Among the topics addressed during the above mentioned conference, an initiative by the Dutch Reformed Church, Uniting Reformed Church and the Anglican Church of Southern Africa, were emerging and current local initiatives and engagements by role players such as community members as well as congregations, and also local businesses who all aimed to address environmental concerns, as well as human health concerns linked to the issues of poverty and environmental degradation. On

this note, with South Africa facing many social and economic challenges, attention should be on alleviating these concerns. Unemployment is estimated at 25.5% and HIV/AIDS has been reported to have affected approximately 5.51 million people in 2014 (Stats SA., 2012; Stats SA., 2014). The conference's main aim was therefore to establish an ongoing and collaborative partnership between churches to tackle the environmental work seen as crucial to ensure a healthier South African community. The following initiatives were highlighted by three business speakers at the conference, who show-cased inspirational ways of living out these new values in their world of work:

1. The University of Stellenbosch has radically reduced their rubbish and has a comprehensive waste recycling system for the students' canteen;
2. Santam, an insurance company recently collaborated in research on climate-induced risks (floods and fires) and questioned how they could mitigate and manage these risks in order to build climate and disaster-resilient communities;
3. Woolworths introduced their *Good Business*-strategy that encourages producers to care for the environment, improve water and soil quality and encourage biodiversity. A reduction in the use of fertilizers, herbicides and pesticides, the saving of millions of cubic meters of irrigation water, as well as better quality produce and higher yields were experienced were the result (Langley, 2015).

Lastly in light of the above conference and in line with environmentally responsible behaviours, the workshops that took place mainly aimed to achieve among other things the following:

1. Churches were encouraged to be more involved on three levels – preaching and praying about the environment, starting local eco-projects, and getting involved in advocacy on a broader level.
2. Highlighting the link between health and climate change, in other words a reduction in meat consumption, getting more exercise and reducing fast foods, which are good both for the environment and our bodies.

3. A Partnership and Advocacy which highlights the importance of working alongside others. A city could partner with local communities for example, to care for local nature reserves or collaboration and partnering by local groups could be encouraged to stop the fracking, or mining activity in the Karoo.
4. Encouraging leadership by our South African youth in changing their life-style and influencing others for change as well as the involvement of local youths and children from poor communities in swap shops' related to various activities related to recycling.
5. Encouraging sustainable community development and farming by means of reducing the local domestic ecologic footprint and ecological impact of poverty on Africa (SAFCEI, 2013).

As can be noted in the above initiatives by various local church organisations, certain factors should be emphasised, should Gauteng residents wish to live in a safe and healthy environment that could improve our general standard of life. For instance, our community's health and well-being should be linked to the standards and quality of our environment, particularly our natural environment such as parks and community grounds.

In Sol Plaatje Municipality in Kimberley, the Green Belt Project, run by the Galeshewe Urban Renewal Project formed part of an initiative by Thabo Mbeki in 2001 to create open spaces to better meet environmental, economic and social needs which would essentially contribute to health and development. Forms of open spaces of the project include parks, squares and street promenades along important activity corridors. The project would be irrigated using treated effluent from Kimberley's sewage plant to avoid the arrears affected by a scarcity of water. Detention dams and weirs would ensure for a better management of storm water and rainwater harvesting would aid in the reduction of potential flood damage. In addition, economic sustainability aims to be supported by utilising opportunities for small, medium, and micro businesses in areas such as the maintenance of streets, trees and lawns, plant nurseries as well as olive farming. Essentially the main aim was to create quality open spaces along specific corridors in the community for a more vibrant, pleasant environment for everyone to live and work (Goosen, n.d.). In this regard, urban green spaces are defined as formal or informal, unofficial open

vegetated spaces, fulfilling ecological functions and providing natural habitats, whilst aiding society (Van Staden, n.d.).

In addition to the initiatives already covered, one should also consider working together as a community, by taking the personal initiative, rather than relying on solely government and authoritative efforts. This could include collaborating and forming partnerships with surrounding community members or individuals in our own community, or joint work by local private or public businesses in creating a clean and safe natural environment noted in an example by the Centurion community engaging in a joint effort to clean up a bird park. This would henceforth result in our local community/s being able to live in a safer, healthier environment aiding in the health and well-being of all. Particularly in Gauteng, wherein community members are constantly forced to face challenges such as high crime rates, high volumes of traffic and pollution caused by the surrounding, and ever increasing numbers of informal settlements in the province, it is crucial for the citizens of Gauteng to join forces and find easy solutions, which can be managed, without having to rely on the local authorities and leaders such as the municipalities or political parties.

One such a recent community undertaking supports the above, namely the clean-up effort in the Stymie Road Bird Sanctuary that took place in 2015, by participants including Centurion community members, local small and large businesses including the ADT and Monitor Net, two private security firms, as well as the local firm Coastal Hire. The aim of this undertaking was to rejuvenate the neglected park. According to one of the event's organisers, Celeste Sutherland, a high volume of the community's residence, roughly 50 attended, along with the Democratic Alliance (DA) ward councillor at the time Ina Strijdom, who sponsored refreshments and food for the event. John Maclean another organiser stated that the success of this event could be contributed mainly due to the large number of companies and community members who were involved in this event. Among the sponsored items by Coastal Hire were bush whackers, chainsaws and other tools to assist those involved in effectively cleaning up the park. Another attendee, namely Maurice Malan, the community development manager at the ADT security company stated that it is crucial for companies to assist and help build communities from the inside (Meijer, 2015).

Not only do community projects act as an aid in improving the lives of so many South Africans. Every so often South African residents have taken the initiative to engage in pro-environmental efforts, by making use of their cultural, political, religious and educational backgrounds to improve the state of our natural environment and wildlife. Nazeer Jamal, for instance, a young Cape Town resident labelled a “Green Scorpion” owing to his activism in environmental conservation, and due to his previous role as the president of the Muslim Student Association at the University of KwaZulu-Natal, at the time worked as a control officer at the DEA. As a result of his position and circumstances he has made it one of his main priorities to take care of what he refers to as “God’s creations”. After the killing of Nkululeko the hippo in 2008, he co-founded the animal rights and environmental protection group People Acting Caring Thinking (PACT) (Axelrod, n.d).

Another such individually-sparked initiative is that of Prof. Michael Rudolph, the director of Wits Public Oral Health division in the Health Promotion Unit. In 2005 he initiated the Siyakhana Initiative for Food Security and Ecological Health, a dynamic collaboration of people based at Wits in Johannesburg. What was formerly known as an alliance of inner-city NGO's providing home-based care and early childhood development centres (ECDCs), the organisation now consists of a 1-hectare Siyakhana food garden which regularly provides these NGOs and ECDCs with organic fresh fruits and vegetables. The utilisation of an inter- and multi-disciplinary approach such as this has enabled a variety of Wits departments and experts to contribute toward improving food security and the promotion of health for all. Key partners involved in this collaboration are among the following departments and organisations:

- The School of Architecture and Planning
- The School of Civil Engineering
- The School of Animal, Plant and Environmental Sciences
- African Food Security Urban Network
- Health Empowerment Through Nutrition
- South African National Tuberculosis Association

The initiative also engages in research, consulting, and programming in the areas of food security, nutrition, and ecological health, by means of an interdisciplinary

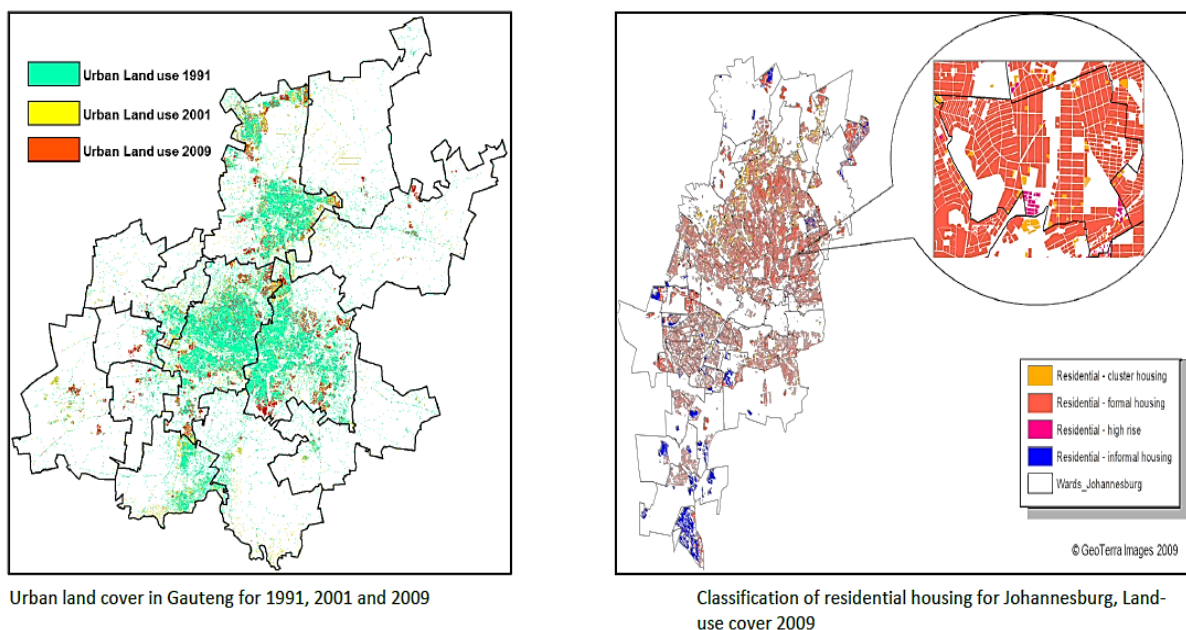
collaboration with various stakeholders. These include organisations such as faculties, schools and departments from Wits, international universities, as well as the public and private sectors (Siyakhana, 2015).

In the international front, in September 2014, an Oil and Gas Methane Partnership was launched, which pledges to cut the emissions of methane. Multinational companies included: Ente Nazionale Idrocarburi (ENI) of Italy; Pemex; the U.S. gas company; South-western Energy; Norway's Statoil Group; BG Group, the former British Gas, and Thailand's oil and gas company, Petroleum Authority of Thailand (PTT), the Natural Resources Defence Council and Environmental Defence Fund. Governments from major oil and gas-producing countries, including Mexico, Nigeria, Norway, the Russian Federation and the US formed part of this partnership and launch. One of the initiative's partners Statoil took further steps, by highlighting the need for an international carbon price that would give the industry clear incentives to find technologies to bring down emissions (Freedman, Wills & Ries, personal communication, September 23, 2014).

The EnerKey project, a collaboration between South Africa and Germany, is another example of an international initiative that aims to develop and implement innovative pathways and projects in urban energy supply -and use in order to improve sustainability in the Gauteng region (EnerKey & Future Megacities, 2008). Although the initial pre-phase of this project was implemented in 2005, phase one officially started in 2008. The project's main aim is to address "Energy as a Key Element of an Integrated Climate Protection Concept for the City Region of Gauteng". Their website EnerKey provides additional information and sources on upcoming conferences and published handbooks in this field. Additionally, EnerKey also hosts environmental education workshops. The EnerKey Schools Projects for instance, aims to sensitise teachers and learners in Gauteng on clean energy solutions, by means of providing an overview on energy and climate education materials. The project to a large extend, also provided support to the 17th Conference of the Parties (COP 17) to the United Nations Framework Convention on Climate Change (UNFCCC), an annual intervention which aims to assess progress in dealing with climate change (EnerKey & Future Megacities, 2008).

In an action brief outlining one of EnerKey's assessments on integrated urban development in light of energy and climate protection in Gauteng, the following results came to the fore; the growing economic industry in Gauteng in recent years has resulted in a major population boom, further causing energy inefficiencies and constraints, which require for a speedy implementation of strict preventative measures to end the urban sprawl. Among these measures were the efforts to restrict urban growth, the protection of conservation areas as well as restoration of wetlands. Alternatively, an income-integrated community development initiative, to avoid income segregation or the introduction of a stronger public transport network to attract more people to deserted city centres was highlighted. As per the action brief's findings, a visual depiction, represented as diagram 1 below, of Gauteng's urban land cover usage for the years 1991, 2001 and 2009, as well as a representation of the classification of residential housing in Johannesburg, with a focus on land use cover in 2009 are depicted (EnerKey & Future Megacities, 2008).

Diagram 1: EnerKey - Integrated urban development assessment in Gauteng



Source: (EnerKey & Future Megacities, 2008)

The diagram shows that from 1991 to 2009, the use of urban land in concentrated areas has declined rapidly in the Gauteng Province, demonstrating an increasing even distribution of land used in urban areas.

The Matswathaka school project is yet another local initiative which aims to establish an outreach project for the area, by growing and supplying fresh vegetables, herbs, medicines, workshops and inspiration to the school's learners, the community and surrounding schools and clinics located in Bohlokong. This semi-urban area is characterised mostly by overpopulation and high unemployment, and the main vision of this initiative is therefore to develop a nursery, food garden, an orchard, compost heaps, a medicinal garden, as well as the distribution of information and workshops to schools in the area such as on planting trees and providing seeds. The gardens are maintained regularly by the parents and learners of the school (Food and Trees for Africa, 2007).

2.8 Local Economic Development, policy and local municipality involvement

In line with this, South Africa's LED or Local Economic Development policy, which has its roots in the new institutional paradigm, has recognised an integral link between economy and society. Herein, economic decision making and action are shaped by the shared norms, values, beliefs, meanings and procedures, which in turn, are shaped by formal and informal local institutions and societies (Department of Provincial and Local Government (DPLG), 2006, p.4)). In effect, the focus should be on developing shared meaning and values, and on strengthening local networks of social interaction, which could, when combined, contribute to LED. Insofar as economic development takes place at a local level, it is the responsibility of local municipalities to influence the formation and shape of local economies by means of locally appropriate strategies (Zulu & Mubangizi, 2014). Various rural and urban developments and strategies throughout Africa have been operationalised. These however have failed to alleviate the deprivation experienced by rural and urban communities, in addition to the hindrance of local development processes due to our high local rural and urban unemployment rates, leaving most rural communities with their own devices/ This could lead one to ask whether all municipalities, specifically rural municipalities are capable of initiating LED projects, whilst using locally situated natural and human resources (Taylor & Mackenzie, 1992). Also crucial to the policy

and legislative framework wherein LED functions, is the paradigm in which it is conceptualised by the various stakeholders, which Zulu and Mubangizi suggest should be examined further (2014).

As local government is seen as the heart of the development process in South Africa, wherein the Department of Constitutional Development (1998b) describes local government as “the hands and feet” of reconstruction and development in South Africa, it ultimately places a large emphasis on people-centred development by means of encouraging rural communities to engage in meaningful social and economic development issues that affect our lives. Two local government objectives, as specified in Section 151 of the Constitution of the Republic of South Africa (1996), are to promote social and economic development and further, to encourage communities and community organisations to become involved in local government matters. In line with this it is stated in the Local Government Municipal Systems Act 32 (2000), and in the White Paper on Local Governance (1998), that a municipality or local government system should ensure that priority is given to the basic needs of the local community, and in addition, promote the development of the local community to ensure that all members of the community have access to minimum levels of basic municipal services. By means of participatory decision-making and planning processes, this endeavour could result in job opportunities, as well as the efficient use of local resources needed to improve the quality of life for everyone, now and in future. As was indicated before, the quality of the natural environment is deteriorating rapidly, despite constant efforts to avoid this. According to Climate International (2014), humans need nature to thrive, in other words, nature can play a critical role in defending us from disasters as mentioned above. In addition, it should be considered important for all persons to become involved in environmental concerns and to work toward reducing the damaging impacts of humans on the natural environment (Oskamp, 2000), which is easier said than done, considering that most South African citizens do not always have the means necessary to do this. Generally, we tend to find ourselves in a situation wherein other issues are of greater concern to us, such as poverty and unemployment. South Africans tend to prioritise feeding their families and living a good quality life over bigger economic issues like the national or global recession. Conflicting relationships and characteristics, such as cultural heritage and demographic characteristics tend to also play an important role

in forming attitudes. In light of this local LED policies and government involvement could be considered crucial role players in assisting local communities in tackling climate concerns, as is outlined in the Constitution (1996) and Local Government Municipal Systems Act 2000 (Act Number 32, Section 73), as well as the White Paper on Local Governance (1998).

To conclude, with the above statement in mind, one could pose the important question of whether it is possible to achieve lasting economic growth while simultaneously tackling the risks of climate change and the promotion of pro-environmental attitudes and behaviours (GCEC, 2014).

2.9 The importance of tackling the risks of climate change concerns and increasing the promotion of pro-environmental practices and attitudes

Despite increased international attention and governmental interventions, most local and global efforts are not sufficient at present, specifically in the domain of alleviating social ills local communities in South Africa face, that are mainly associated with environmental and climate concerns (Adams, 2003). Although local and global environmental efforts and policy attempts to minimise rural-urban disparities are expanding, social deprivation persists in rural areas, specifically in countries such as South Africa. This is evident mainly in the three municipalities of Gauteng, Johannesburg, Ekurhuleni and Tshwane where alone, more than 10 million inhabitants currently reside (EnerKey & Future Megacities, 2008). The results are that the vast majority of the population remains poor, particularly in the rural areas and highly populated urban areas such as Gauteng, unless supportive measures are put in place alongside administrative reforms (Zulu & Mubangizi, 2014).

This suggests that not only is joint community effort a priority in tackling environmental concerns in South Africa, but in addition, efforts by local individuals with a high emphasise on the knowledge to engage in environmental practices could be seen as the window, to further expand opportunities in improving the condition of our natural and community environment. As mentioned in the previous section, knowledge and an awareness of environmental problems are of utmost importance for the development of moral norms and hence attitudes, which in turn influence the outcome of ERBs and associated attitudes or activities, implying that knowledge and

environmental sensitivity are important prerequisites for ERB (Bamberg & Möser, 2007; Mobley, Vagias, & DeWard, 2010).

In 2013, in a study measuring the long-term sustainable development of 31 countries, South Africa was rated last, essentially receiving the lowest score overall, despite three African countries being in the top ten. This was largely based on a fall in life expectancy over the review period 2000-2012 and the long-term sustainability of its environment. In addition, compared with other African countries, South Africa had a higher GDP (Gross Domestic Product), although it is said that it still has a lot of catching up to do in terms of sustainable developments (Benjamin, 2013).

Nonetheless, various local initiatives and team collaborations continue to highlight the promotion of environmental skills and knowledge to support increased job creation and healthier communities, despite the lack of attention on the promotion of local ERB practices and attitudes, with emphasise on the youth.

Among these initiatives is the engagement by enviro-teams, such as Green Beings in partnership with the City of Johannesburg eco-guides. Funded by the Expanded Public Works programme (EPWP), various projects have been implemented in 2015 starting with a five-month contract involving value-laden skills transfer, to broaden the knowledge base and ultimately alleviate poverty by creating jobs. During this project, eco-guides went on a two-week accredited environmental education training course at Suikerbos Nature Reserve, which aimed to equip the eco-guides with the knowledge and skills to actively focus on environmental management at schools.

Another project, focusing on conservation was launched in Cosmo City in February 2015 in Extension 6 Tree Park. This Park Ranger project, funded by EPWP and Johannesburg City Parks, was implemented and run by Green Beings, who hired and trained ten residents on how to identify indigenous and alien plants, the importance of biodiversity and conservation of natural spaces (The Green Times, 2015).

Emphasis with reference to the above should be on fostering and promoting increased ERBs, including increased education and knowledge on environmental issues, by means of an active collaboration between governments, the private sector and communities to improve our natural environment. This could foster, aside from a

variety of positive results such as increased pro-environmental attitudes and activities particularly by the local youth, the promotion of -and use of cleaner energies to generate power, replacing South Africa's main energy source coal (Hweshe, 2012). Ultimately, to elaborate on why it is essential to foster pro-environmental attitudes and behaviours, it can be concluded that the outcome of green activities which could contribute towards a greener economy and further, green job developments could in part be responsible for the positive or negative outcome of our personal, professional and psychological developments and hence, our overall well-being as suggested previously (Houdmont, Kerr, & Addley, 2012).

2.10 Chapter summary

As scientific data and superficial behaviour change initiatives, also known as observational studies are no longer considered effective solutions to curb the climate concerns we face, the key in recent years has been to engage individuals at a deep emotional, psychological and spiritual level. The reasons why we fail to act over the imminent dangers of climate change have been covered extensively in past research. This qualitative study, taking the above factors into account, and hence the literature reviewed, instead focuses on exploring the environmentally responsible practices and behaviours by youths, specifically those living in urban Gauteng. This includes an exploration of alternative practices associated with tackling climate concerns and the social ills that accompany these.

Despite our awareness of the issues at hand, limited literature is available regarding such practices and attitudes. Nevertheless, various initiatives and individual practices have come to the fore, in support of pro-environmental practices, or ERBs. Discussed herein firstly were examples of local and international practices to reduce, or the failure to reduce the effects of climate change. Numerous local initiatives or ERB practices, including the most suitable theoretical guidance, that aim to address the failure to reduce the effects of climate change were listed. These included plans by the Government to import maize, and the impact of various mining activities throughout South Africa, and how these in turn affect the well-being of locals. A chart outlining efforts by governments worldwide followed, which outlined various policies in place, to tackle climate change. Local LED, policy and local municipality involvement were emphasised, as well existing environmental attitudes and

behaviours by the South African youth. Evident however was that the focus on the attitudes and activities by the youth remains limited to date.

The importance of exploring environmental activities and practices in general, including the link between humans and the natural environment were emphasised herein on a global scale, followed by a detailed summary of the importance of tackling the risks of climate change concerns. Increasing the promotion of pro-environmental practices and attitudes was an element explored thoroughly throughout this chapter, which included further emphasis on the importance of collaborations or partnerships to promote health. As part of the discussion, local ERBs and community participation were highlighted, whereby the focus remained with the psychological aspects associated herewith. As Adams outlined, people have realised that the environment constitutes a major part of the quality of life in any community, making them and governments alike realise, the serious threat environmental degradation constitutes to our earth. Solutions, as well as suggestions to accommodate the lack of literature in light of the above are discussed in my results and discussions chapter. What is evident however is, that social networking research, as well as community-based participatory research (CBPR) approaches should be investigated further to aid in gaining a greater insight into the practices and attitudes of local youth, particularly in Gauteng.

3 PARADIGMATIC VIEWPOINT AND THEORETICAL STANCE

3.1 The nature of psychological inquiry and social science methodology

In order to explore the daily activities and attitudes by youths in Gauteng, it was crucial to establish which epistemology and methodology were suited best in order to achieve the aims of this study most effectively. A short explanation on how this was established follows. As humans, we tend to learn either through experience, such as via direct observations, or by means of agreement, relying on what we are thought to ascertain the truth about something (Babbie, 2008). In other words, we tend to rely on both universal truths and on what we learn from the bottom up through experiences and personal observations. We might for instance all know that an animal, such as a lion, is extremely dangerous, hence well avoiding a possible encounter with one, although as many have attested in, for instance, documentary films, roaming with lions, although dangerous might be a great and rewarding experience.

Inquiry and the nature of inquiry are important to reflect -and report on in light of the aims and nature of this study, which involves a direct interaction with my participants. Based on the research questions posed, the epistemology, in other words, the nature of knowing pertaining to this study are mainly driven by qualitative social constructionist characteristics accompanied by underlying modernistic and a few postmodern elements. The methodology or means of inquiry are covered in the section to follow, although each method used was chosen carefully based on the characteristics and criteria of my participants and the aims of the study. For the sake of this study, and to explore the daily activities and attitudes of youths, much emphasis and consideration was placed on Babie's (2008) work. He noted that everyone desires to predict their future circumstances, further stating that we rely on causal and probabilistic reasoning, meaning on top of the natural desire to predict future outcomes, we generally recognise that future outcomes are caused by present ones. Questions posed during the interview sessions relied heavily on this emphasis. In addition, the consideration of my participants' cultural and family beliefs, living circumstances, mental well-being and so forth, where of utmost importance, including their age and social circumstances. Race and gender were not considered

in this study, as the intention was purely to investigate attitudes and behaviours using a diverse as possible sample.

In light of the above, Babie (2008, p.8) notes that we all inherit a cultural make-up, consisting partially of firmly accepted knowledge regarding worldly functions, whilst rarely attempting to seek a different understanding to what “we all know to be true”. These points were all considered during the methodological phase. This is of course accompanied by the consideration for selective observation or overgeneralisation and illogical reasoning on the part of the researcher, all common errors made in social inquiry, to be discussed in the section to follow (Babie, 2008).

3.2 Paradigmatic viewpoint: A social constructionist approach

For the sake of this study the social constructionist approach was implemented as my guiding framework. It deems that the world is understood as being constructed by social artefacts and relationships as well as products of historically-rooted interchanges among people. Gergen (1985) states that a constructionist point of view is underlined by the process of understanding, which tends to not be naturally driven, but rather results from people actively interacting and cooperating with one another. This further suggests that inquiry is viewed to form part of the cultural and historical aspects of different perceptions that have been constructed of the world.

Recently the social sciences have highlighted that social, as well as individual identities are constructed, not “given”. What should be remembered, however, is that even though they are constructed, social identities are accompanied by a primordial validity for most individuals, as they might not be aware of the historical, social and political ways in which their identities have been constructed (Alexander, 2006).

This calls for the engagement in -and implementation of the social sciences, which play a critical role in resolving problems that stem from human behavioural patterns. Engagements such as these, and henceforth an implementation could contribute towards the goals by those who lead sustainable lifestyles (Oskamp, 2000). Although first and foremost, collaboration should be established with large and smaller stakeholders associated with -and knowledgeable about climate concerns. These could include the average South African citizen engaging in environmental practices,

as well as fellow environmental research and psychology colleagues, or local communities, small and medium business enterprises (SMEs), as well as local municipalities, and policy makers. Local, national and international government entities should also be considered. Once these collaborations were incorporated as considerations in my study and the relevant viewpoints noted, the social constructionist framework is incorporated in all decision-making processes and further research endeavours outlined in this study. From a theoretical stance, various viewpoints have been adopted over the years which have dealt with emerging environmental concerns as well as attitudes and behaviours shaped by our environments, social and natural alike. In order to explore viewpoints associated with ERBs further, particularly that by the youth living in urban Gauteng, it is detrimental to gain an understanding of previous and current environmental theories and developments.

3.3 Theoretical stance: Suitable theoretical guidance

Literature in the past, concerned with ERB has drawn primarily from social-psychological theories of human behaviour, such as the norm activation model by Schwartz (1977), the TRA (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), as well as the Theory of Planned Behaviour (TPB) constructed by Ajzen (1985, 1991). Not excluding the usefulness of these theories, which have since moved beyond simplistic models of behaviour, several researchers have in turn developed models that could examine the interactions between cognitive, psychological-situational, emotional, socio-demographic, as well as social-situational predictors of ERB (Cottrell, 2003; Hines, Hungerford & Tomera, 1986/1987; Stern, 2000). In this regard Hungerford and Volk's (1990) research has been particularly influential, relying heavily on the incorporation of three levels of variables which impact ERB in a sequential way. These variables comprise of entry-level variables, such as environmental sensitivity and knowledge of ecology, ownership variables on the second level and on the third level are variables such as empowerment variables (e.g.) an individual demonstrates the ability to make a difference in relation to a particular environmental issue. .

Instead, within the context of my study, it has been my initial intention to make use of various theories, more specifically; Jung's thoughts on an individual versus

community psychological stance; Tajfel's Social Identity Theory (SIT); the TPB and the TRA, as integrated with current knowledge on sustainable attitudes and thus pro environmental behaviours (Tajfel, 1974; Ajzen, 1991). The TRA posits that individual behaviour is driven by behavioural intentions, which constitute a function of an individual's attitude, in other words, positive or negative feelings toward the behaviour and subjective norms surrounding the performance of the behaviour. These can be determined by assessing one's beliefs regarding the consequences arising from a certain behaviour, and also by evaluating the desirability of these consequences (Fishbein & Ajzen, 1975). Although this theory at first seemed suitable, I have since concluded, that in addition to the majority of the listed theories being outdated and not applicable to local issues of, for instance increased environmental degradation and hence decreased well-being and overpopulation, an explanation of social identity formations might not be as applicable for the sake of this study as I had first assumed. The TPB was also noted although thereafter considered unsuitable. This framework proposes a model which measures how human actions are guided, and thereafter predicts the occurrence of a particular behaviour, provided that behaviour is intentional (Ajzen, 1991). Along with motivations from more recent readings and literature on sustainable environmental attitudes and developments, and owing to the fact that my research questions do not intend to answer how groups form, these theories have been deemed inappropriate mechanisms to approach my aims and rational with. Instead I have delved deeper into literature and theories that focus specifically on existing local environmental behaviours and attitudes. Emphasis is on how these attitudes shift and, in turn how pro- environmental behaviours come about by means of participatory action research with an active collaboration with my research participants and their wider communities.

To further elaborate on the above, I would like to state that, although I have decided to exclude theories of social identities and identity formations, I do still acknowledge, based on underwritings of such theories, that our sense of identity extends beyond our own individuality and that clearly a radical change in our perceptions of the social world, as well as in the norms that guide our behaviours would occur, or in fact inevitably occur as a direct result of a shift from a personal to a more social identity

(Turner, Hogg, Oakes, Reicher & Wetherell (Eds.), 1987 as cited in Brown & Capozza (Eds.), 2006).

With reference to the Altruistic Theory, I have also chosen to exclude this as a valid theoretical stance within my study, which places an exceptional amount of emphasis on our internal motivations as a determinant for ERB. On a personal note, I myself consider there to be a distinction between self-interest and ERB, although my continuous engagement with literature concerning the inseparable relationship between our own well-being and that of the environment and climate, have resulted in a paradigmatic shift. A search was in order for a new and more suitable, well-fitting theory that could explain how and why we engage in ERB, as well as the consequences and challenges we are faced with daily as a result of such an engagement, not to exclude our ongoing concerns and actions to maintain our beliefs and ERB practices.

Overall, my intention was to focus on theories that could potentially encapsulate current viewpoints, challenges and events. Such a theory should in addition, have the capacity to incorporate the aims and objectives of my study, in other words be well-suited as previously mentioned. After excluding the Altruism Theory and theory of Social Identity, I came across an alternative theoretical stance, namely the RPM, which I see most fitting within the context of my study, and on which I will elaborate in the next section once I have rounded off my findings concerning the SIT I initially intended to use as my guiding framework, as well as the discussion of suitable theoretical elements.

3.4 Considering suitable theoretical elements

Environmental knowledge does not necessarily lead to pro-environmental attitudes or the willingness to engage in environmentally responsible behaviour. This is especially applicable when personal sacrifices are required leading to an added factor of inconvenience. However, a willingness to make sacrifices (a behavioural intention) is more likely to lead to environmentally responsible behaviour than an environmental attitude on its own. To elaborate, a more positive environmental attitude and greater willingness to make sacrifices are more likely to lead to more

environmentally responsible behaviour according to Adams (2013). Although as Kuhlemeier, Van den Berg, and Lagerweij (1999, p.1) emphasise, behavioural intention, namely the 'willingness to make a sacrifice', combined with a positive environmental attitude on their own do not necessarily lead to more environmentally responsible behaviour. They suggest that environmental education be used to provide learners with knowledge of -and skills in using environmental strategies. They further highlight the importance of the link between environmental problems and learners' personal lifestyles. Studies by Ewert (1989), Conrad and Hedin (1982), as well as Kellert (1998) support the importance of such a link and provide a summary on how the experience of nature, through direct actions, connects to adolescent development and further positive attributes hereof. These include physical benefits such as fitness, cognitive gains (e.g. outdoor skill sets), the ability to problem solve and cope with new challenges, as well as personality benefits such as improved self-concept and self-efficacy. Despite this, it is stressed that people in general tend to be unaware of the impact of their own individual lifestyles on the environment, mainly as result of feeling that they do not possess the necessary knowledge/ information, or skills in order to make a tangible difference in their environments (Adams, 2013). A suitable theoretical model should consider elements such as these in order to succeed in capturing the essence of the topic under discussion, namely exploring environmental attitudes and behaviours of the youth. For this reason, the theories to be discussed next comprise some of these elements.

a. Social identity theory

This theory is based on the concept that we have the desire to exaggerate the similarities between ourselves and others, or our groups we belong to, in order to feel that we belong. Whether it be a social group, friends circle, or the colleagues you associate with in your workplace, we tend to in addition to finding similarities, exaggerate the differences between us or other groups as well. This concept helps us rationalise our internal perspective compared against others. In the past, both in-group -and outgroup attitudes were initially viewed as a result of emerging social norms, directly due to an explicit intergroup conflict of goals, although past research reveals a changing pattern in intergroup relations. The African Americans, French Canadians and Welsh for example seem to have started rejecting their previously

negative in-group evaluations and hence, have developed a positive ethnocentric or superior group identity (Stapel & Blanton, 2007, p.359). According to Milner and Tajfel (1981 & 1982b), this data is a reflection that social change, in a group sense, has taken place. In addition, this construction of positive in-group attitudes has often been accompanied by a new militancy or opposition and dislike over political and economic objectives (Tomlinson, 1970, as cited in Tajfel & Turner, 1979). In South Africa for instance the African National Congress (ANC) managed to construct such a strong positive in-group association, that the group managed to overpower the ruling party of the time, the Apartheid government. To elaborate, it appears that an active and new search for a positive group identity globally in recent years seems to have been one of the critical factors responsible for the reawakening of certain groups' claims to scarce resources and overpowering economic or political systems (Dizard, 1970). For instance, where previously in-groups such as those associated with race or class remained segregated and stuck with their own in-group beliefs, the youths in our country, of all races have now started forming new in-groups. With only one common purpose, namely environmental conservation, these new in-groups exist to protect scarce resources, resulting in a shared objective and motivations and also in the dissolution of old in-groups.

However, as the aim of this paper is not to constitute an understanding of the formation of in-groups, but rather to explore the existing attitudes and behaviours of youths and their motivations in turn, the SIT will not be comprehensively covered in this study.

b. Reasonable person model

In line with my study's aims, this theoretical model remains most suitable and will be discussed more in-depth. The RPM draws mainly on cognitive and affective motives. It states that, in order to make it easier to get people to act more environmentally responsible, one has to recognise the human inclinations and circumstances that are supportive of human motivations. This approach imposes that, intuitively, people resist making changes that they perceive as reducing their quality of life, despite them still showing concern about the future of the environment. In this light, the theory further states that individuals who are at times reasonable, can also potentially act unreasonable, which implies that the circumstances that people find

themselves in, to a large extent determine the outcome of their behaviours (Kaplan, 2000). This is proof that adopting an environmentally responsible behaviour does not solely stem from our implicit motivations and intuitions, or the extent of knowledge we pose about the state of the natural environment and pro-environmental practices. In support of this, evolution, with the rise of *Homo sapiens* has shifted from a biological, to a more sociocultural dimension, resulting in alternating periods of stability and instability of human development no longer being involved in –or associated solely with the human’s genetic code. The biological dimension has instead been replaced with the sociocultural organisation of groups of individuals, in other words how people relate to one another and to their environment, as well as the values and ethics they adopt and how they see themselves and the world around them (Laszlo, 2006). The social constructionist viewpoint further supports this model by highlighting that knowledge is created by means of social interchange, whereby we attempt to articulate or create common ways of understanding as they now exist, as they have existed historically, and as they might one day exist. This is to say that what we take to be knowledge of the world is in fact not a product of induction, or the building -and testing of general hypotheses (Gergen, 1985). In fact, Gergen (1985) further states that the process of understanding is not automatically driven by the forces of nature, but instead constitutes the result of an active, cooperative enterprise of individuals in relationship, who understand the world by means of social artifacts. These constitute products of historically-situated interchanges among people. Hereby inquiry is invited into the historical -and cultural bases of various forms of world constructions, as previously outlined.

One of the RPM primary focuses is helplessness, which constitutes one of the main determinants when acting more environmentally responsible. With regard to this, the theory emphasises that, once we recognise our human inclinations, and the circumstance that support human motivations, it would be easier for us to behave in a more environmentally responsible way without having to feel guilty, or express the need to sacrifice our own self-interest and gains. In addition, three aspects of information processing based on strong behavioural and motivational implications have been identified by Kaplan and Kaplan to support this view (1989), namely;

1. In general, people hate being confused or disoriented, instead they tend to be motivated to know, to understand what is going on;
2. People are also motivated to learn, discover, and to explore, whereby they prefer acquiring information at their own pace, including supplying answers to their own questions;
3. People prefer to participate and play a role in what occurs around them, as they tend to dislike being incompetent or helpless.

These implications have been incorporated throughout this study, to ensure the views and behaviours recorded could be understood –and reported on as clearly as possible.

Further emphasised in this theory is that a situation could well turn out extremely distasteful, should persons find themselves in a position wherein they feel incapable of solving either a problem, when implementing solutions or when attempting to act effectively. This could result in the avoidance of situations, wherein the primary determinant as outlined, namely helplessness could potentially be experienced. This having been said, the RPM places helplessness at the top of the list of motivational issues to be considered when focusing on behaviour change (Kaplan, 2000). This is explained further in a study previously spurred by the non-profit group Public Agenda, which found substantial declines in a concern about environmental issues due to a sense of helplessness (Donn, 1999). This may suggest and support the view that, often those who appear uninterested in environmental issues may in fact distance themselves, as a result to avoid pain and helplessness as opposed to not being concerned with environmental issues (Kaplan, 2000). Another finding by Allen and Ferrand's (1999) measurement of personal control study found that people are less likely to participate in ERB if they feel helpless or that their behaviour would not make a difference. The results of these studies could lead one to conclude that a psychological approach to ERB should in fact address the issue of helplessness directly to avoid limited practical value (Kaplan, 2000). An inquiry of existing beliefs and knowledge are therefore in order in line with the research - and interview questions addressed in this study.

As Kaplan (2000) suggested, means should be sourced, which are sensitive to our needs and inclinations, and that motivate us to be more environmentally responsible,

whilst the factor of helplessness is reduced. One such suggestion constitutes a participatory problem solving approach. Individuals and their communities, inclusive of my research participants, could become involved in activities that could potentially aid them to find innovative solutions to environmental problems that meet not only my participants' needs, but those of their surrounding communities (Kaplan, 2000). This aligns with my main research question, whereby I firstly attempt to explore what the daily environmentally sustainable activities are that South African youths in Gauteng engage in. Also addressed are how these activities affect their lives and in addition how, and which solutions to the concerns highlighted by my participants could be implemented, by means of an active participatory collaboration with myself, the researcher as well as their communities they reside in. In line with the principles of the RPM outlined, the elements highlighted would form the general guidelines, whereby the effectiveness of possible implemented solutions and associated elements could be measured in my results section (Kaplan, 2000).

Another solution as suggested by Kaplan (2000) encapsulates a focused task needing problem solving, whereby people, rather than being told what to do or not to do, are given the opportunity to figure out various possible goals on their own that could be met. This would mean that a specific focus, namely a particular problem to be solved be in place, in order for such task-oriented groups, in this case my focus group and online participants to be able to flourish in various contexts, including at a business level, various government levels, as well as at agencies, organisations and lastly at grassroots levels.

Kaplan (2000) further suggests that solutions be found that are both satisfying and responsible. To elaborate, to avoid the implementation of forced choices that are not conducive to a person's self-interest, choices need to be available that positively influence the environment and which are multiply desirable. In this light it could be added that an approach, which could generate "multiply desirable choices", would be most suitable within the context of my study. The focus on multiply desirable choices could ultimately assist in the avoidance of situations wherein people who feel guilty about their resistance to adopt alternatives deemed unacceptable, could in turn resolve the conflict by tuning out the message and avoiding such a message in future.

To support this model, Roberts and Bacon (1997) have also avoided an individual behaviour change approach. Instead they have argued for alternative strategies that are found outside our individual awareness, and which refrain from following a 'blaming the victim' approach, such as for example macro conditions, that exist due to the failure by companies to provide ecologically friendly products or government inactivity. An example of an alternative strategy constitutes the shuttle service known as Regional Transportation District (RTD) SKIP in Colorado, which, consisting of comfortable seats and a cosy interior to create a safe and comfortable public space, was developed by input from a citizen advisory board with the aim to replace single-occupancy vehicle trips. In light of this, those who use this environmentally preferable alternative might feel virtuous regarding their actions and consequently not suffer in the process. This then results in the improvement of their quality of life. To conclude, with the help of group problem solving, a multiply desirable choice has been created (Poinsatte & Toor, 1999). Creating greener spaces in urban settings could also constitute an alternative, whereby the multiply desirable theory suggested by Kaplan is supported. A variety of local examples whereby green spaces have been implemented are listed in the previous sections, such as the Green Belt Project in Kimberley.

A further solution included as part of the RPM, could be the implementation of an effective participatory problem solving technique which might assist individuals in understanding the issues they are faced with, namely environmental and climate change concerns and additionally invite them to explore possible solutions. This solution incorporates understanding, exploration and problem solving as important factors to be included in participation. Surveys however are not encouraged in this regard as they tend to be informed by the opinions of ordinary individuals, which could result in different uniformed responses (Kaplan, 2000).

I have actively used the three implications above, as well as the theoretical indicators, as guidelines throughout my study and data collection period, and have focused on all three aspects as a means to explore the answers of my participants. My intention was to discover what ultimately motivated them to continue engaging in ERB, and in turn on an ongoing basis, involve their communities in the same process of ERB and similar attitudes. To support this model and further integrate the social

aspects into this study the Dynamic Social Networking Model has been introduced to explain how our social relations and organisations influence and link to our goal pursuits to act more environmentally responsible.

c. (Dynamic) Social networking model

This theoretical model describes how human social relations are linked to specific goal pursuits. To clarify, the dynamic social network theory suggests that human social relations are linked to specific goal pursuits (Westaby, Pfaff, & Redding, 2014). Psychological practices have thus far placed limited focus on why people form social networks and how these networks influence their actions and attitudes, particularly in the context of this study, how social relations of individuals and organisations influence and are linked to the goal pursuit of acting more environmentally responsible (Westaby et al., 2014). Westaby and associates (2014) suggest that social networks research could ultimately aid in developing networking charts. These could contribute toward the aim of improving environmentally responsible practices and promoting further and continuous environmentally responsible behaviors. It could aid firstly in implementing future social change, particularly in line with conducting the participatory action research practices suggested in my study. Secondly, the model could assist in further promoting my secondary research question, namely the continued social action engagement and collaboration with my participants and their communities, in addition to further enabling similar research practices, owing to the clarity provided by this model on the formation of social relations and views.

To elaborate on the implementation, practicality and usefulness of this theoretical model in the psychological domain, Westaby and associates (2014) indicate that goals serve as the critical anchor allowing us to understand how and why individuals in social networks do what they do, thereby substantively extending the network approach to the psychological and motivational domain. It is this extension discussed above which will be used in the context of my study to answer my main research questions and ultimately to achieve the objectives set out in my study. Special attention should be paid though to the obstacles and limitations this theoretical framework could pose in line with my study's outcomes and aims. This includes added suggestions on the improved focus of this model in future to be more in line

with similar studies and practices associated with environmental and psychological work.

Concluding in light of the above, the Social Networking Model has been chosen to further guide me and the readers in understanding the underlying themes of my study

3.5 Chapter Summary

In order to reach a level of understanding or nature of inquiry within the context of my study and methodology, the RPM as well as the social constructionist paradigm and (Dynamic) Social Networking Model have been implemented after a brief mention of the most suitable theoretical construct. These models served to guide me throughout the research process. Mentioned were also several real life examples of how these theories are -or could be incorporated in our lives. My main viewpoints were supported in light of these models, specifically during the analysis and data collection/ focus group stages of the study. In addition to the RPM and (Dynamic) Social Networking Model aiding as my main theoretical constructs, the social constructionist paradigm served as my main underlying framework, whereon each step in the research process encompassed in this study was carefully planned and conceptualised. These steps will be discussed next and constitute the methodological framework of my study.

4 RESEARCH DESIGN AND METHODOLOGY

4.1 Problem statement and the aims of the research

It is in my interest as an aspirant research psychologist to investigate how the general population, particularly the youth residing in Gauteng, engage in environmentally sustainable lifestyles and their daily experiences henceforth. Furthermore, it is my aim, by means of such an exploration, to investigate how these practices might be accompanied by potential challenges, and the attitudes associated with the quality of life of our country's youths. Taking into consideration how my participants have engaged in – and feel about daily environmental sustainable practices, a further collaboration thereafter could assist in improving the quality of life of my participants and their communities. The dissemination of knowledge they have gained previously, as well as during the focus group sessions and online survey, in addition to their current views, could aid in finding means to encourage their general well-being further, as other researchers could use this information to expand on this study. Also, this study could aid in exploring developments across the broad spectrum of the communities that face daily social ills such as poverty, HIV/Aids and unemployment as a result of a demoralised state of being. In the hopes of encouraging my participants to make full use of this study's results, I further intend to encourage an attitude shift in my participants, as well as their fellow human beings they associate with, who currently live in a state of demoralisation and who are generally affected by the social ills present in South Africa. Henceforth, I further aim to investigate how the RPM (Kaplan, 2000), as well as the Dynamic Social Networking Model (Westaby et al., 2014) to mention two, might explain how individuals make decision and behave accordingly. I have, however, taken into consideration, within the domains of my study that in practice, constraints such as limited ability, time, environmental or organisational limits, and unconscious habits all contribute towards, and limit the freedom to act.

Overall, it is evident that literature and existing knowledge pertaining to our youth's sustainable environmental attitudes and behaviours, particularly in a local context are limited to date, and deserve more attention owing to the crucial link presented within this study between a healthy natural environment and human well-being. This

link is evident in, for instance, the local initiative in recent years, which aims to increase the focus on green job creation as a result of the high unemployment and poverty rates that are prominent in Gauteng. Unemployment among other social ills tends to act as a driving force in poor human health and well-being, particularly in the rural and impoverished South African communities and districts. This study does not solely aim to address the gap in existing knowledge, but further aims to aid in the future improvement of our youth's knowledge base pertaining to ERBs and associated attitudes and activities. This could encourage my participants to increase their own environmental responsible practices and henceforth result in increased assistance by my participants in their communities through becoming more involved in environmental sustainable practices. In this light I have carefully considered questions which relate to this problem as well as to my study's aims. Although quite broad, the questions might prove valuable in closing the gap in current knowledge on local ERB and environmentally sustainable practices and attitudes.

4.2 Research questions

For the sake of this study I have attempted to answer two separate, yet interlinked and closely-related research questions. Both currently have not yet been tackled adequately by researchers in the field of psychology. I have firstly rendered a description of the two posed research questions in a theoretical light, and thereafter went about conceptualising, in practical terms, how and why I attempted to answer these two questions specifically.

4.2.1 Primary research question

My intention was firstly to explore daily environmentally sustainable activities that South African youths, who currently reside in Gauteng, engage in on a daily basis. Herein, I explored firstly, by means of a collaborative engagement with my participants in focus group sessions, what their current attitudes are on being actively involved in the process of ERB. In addition, the discussions aimed to render an insight on whether these activities present these youths with challenges and obstacles, or even elements that could ultimately influence their lives either in a negative or positive light. Furthermore, any attitudes were addressed and recorded regarding the state of our natural environment, by focusing on both global and local

examples. Participants were encouraged to openly discuss any views or suggestions they might have, based on the answers that were given in the focus group sessions.

4.2.2 Secondary research question

My secondary research question pertains to how the youth, who participated in my study, could be encouraged, through an active collaboration with their communities, local government and other important influencers, to expand local environmental sustainable practices on an ongoing basis, upon completion of this study. This was attempted by means of engaging with my participants using a participatory action approach and by means of creating awareness during the focus group sessions. In this regard, I intended to review and include in my results and discussions chapter personal viewpoints, including my own, as well as suggestions participants shared during the focus group sessions, in line with the expansion of pro-environmental activities and attitudes. Based on this, discussions during the focus groups, including questions posed were formulated accordingly, whereby I fully engaged with my participants in each topic under discussion during the focus group sessions. Included in the sessions were an indirect interaction, via word of mouth and online correspondence from -and to my participants', regarding interactions with and discussions with my participants and their communities, as well as the broader systems that influence them pertaining to the expansion of environmental sustainable activities and attitudes. I attempted to search for means on how, as the researcher I can include my participants and their communities in the entire ongoing process of research, problem-solving, community engagement and further community and environmentally sustainable development on an ongoing basis, by relying on the Social Networking Model. Suggestions in light of this as well as possible answers to my research question are covered in the dissemination section. Ultimately this question was fuelled initially by my personal views as a researcher to be discussed further in the sections to follow. Herein, it could be added that successful research practices rely on an active collaboration between the researcher, his/her participants and those either directly or indirectly affected by the research study. A report published by O'Fallon, Tyson and Dearry (2000), in association with the National Institutes of Health (NIEHS) confirms this, stating that community participation improves the ability of local residents to address future health risks, through education, outreach and training. It is important however, to

further investigate and henceforth demonstrate the success of such community models, especially with regard to institutions that support such research, owing to the growing number of researchers that have started utilising CBPR (O'Fallon, Tyson, & Dearry (Eds.), 2000). Nonetheless, engagements could include elements such as those of thought generation, as well as shared ideas and suggestions by all the parties involved. As highlighted previously, individuals are more likely to act and engage when they feel they are playing an active role in achieving a goal, including a clear oversight and plan on tackling issues.

To conceptualise the above, firstly I observed and recorded, with the assistance of one of my focus group participants, by means of a carefully set up interview schedule, answers and feedback that my student participants provided in the weekly focus group sessions that lasted for a month. This entailed what the actual daily sustainable activities are that they currently engage in, in addition to how engaging in these green activities, as in relation to their daily lives has perhaps influenced their quality of lives.

As previously mentioned, with the results obtained from the first research question, and by means of participatory action, I then attempted to engage in an active collaboration and community engagement with my participants and their communities. This aimed to further educate the people living within the participants' communities, on what it means to partake in ERB, not to mention how these behaviours and attitude shifts resulting from further education, would improve the quality of life of persons living in Gauteng.

4.3 Research design

For various reasons, including those suggested by Caelli, Ray and Mill (2003), a generic qualitative research approach was used to generate this study. Not only is this method commonly used, it is also time effective and suitable for a study that is explorative in nature (Caelli, Ray & Mill, 2003). As previously outlined, this study is informed by the social constructionist approach.

The aim of this chapter is to provide a detailed description of the social research design and methodology adopted for my study. The research design, also referred to as a "blue print" (Babbie & Mouton, 2001, p. 77) was utilised as a plan to guide my

research activities. This is to ensure sound, unbiased conclusions are reached (Durheim 2006). Commonly, this process is defined as a strategic framework, whereby decisions regarding research designs are made along four dimensions, including the research purpose, the theoretical paradigm informing the research, the context within which the research is conducted, and the research techniques selected for collecting and analysing the data" (Durrheim & Painter, 2006). Thus, the research design serves as an overall plan for guiding the research process in order to achieve the intended aims and objectives of the study. The theoretical paradigm was covered in the previous section and deemed as a separate section.

Ultimately, this study encapsulates a social constructivist research design. This is fitting, considering that the study focuses on addressing and mapping out a topic that warrants for further studies at a later stage, an element quite common among those who engage in social research practices (Babbie, 2008).

4.4 Sampling

During the sampling phase, flyers were designed by myself, and dispersed across a variety of university campuses, including the University of Pretoria, The University of South Africa and the Open Window Institute. Both male and female university students across cultures were invited to participate in my environmental focus group and online interviews. Their age requirements were set out between 18 and 36 years. The purpose, aims and study topic were introduced during the selection process, and included in the flyers, and participants were given more than four weeks' notice to respond. The age range selected for this study was based on the fact that almost half of Gauteng's population, namely 5 723 595 million people out of a total of 12 728 438 million Gauteng residents, range between the ages of 15 and 39 (Stats SA, 2014). As the topic discussed in this study targets a wide target population, the broad age range allowed for a wider selection of audience during the sampling process.

To increase the rate of participation, snowball sampling was utilised, based on a participant referral system, whereby either mouth-to-mouth or social media communication were used (Terre Blanche, Kelly, & Durrheim, 2006). This technique deemed the most successful during the sampling phase, owing to its suitability in this

purposive study, in line with the study's purpose, which was to explore attitudes and behaviours regarding a specific topic.

4.4.1 Conceptualising my sample and data collection

Overall nine participants consented to take part in the investigation. My total sample group consisted of four online participants, whilst an additional five participants formed part of my focus groups. One participant was involved in the initial pilot interview, whilst my focus group participants were encouraged to suggest further questions during the sessions. The online interviews and focus groups aimed to explore some of the environmental sustainable practices by youths who live in urban Gauteng. One focus group participant originated from Durban, and all my participants consented to having their words transcribed verbatim (as illustrated in the findings). After the interviews were transcribed, the data was compiled and analysed by an external analyser, where after myself, as well as an external reviewer perused the analysis against the responses, to ensure for a rigorous analysis and valid findings.

Data for the focus groups was gathered on both university campuses including the University of South Africa, University of Pretoria, and Open Window College. Also utilised were an informal setting at the University of Pretoria, and a boardroom setting at my place of work, within walking distance of the University of Pretoria. This reduced the travelling efforts of my participants and ensured that the environment of the sessions remained not too formal, yet casual enough for my participants to feel comfortable, disclosing their views and experiences openly.

My focus group participants ranged between the ages of 22 and 24, whilst the age range of my online participants varied greatly between 20 and 31. With the exclusion of race, ethnicity and gender, all the participants were currently pursuing degrees at a tertiary institution. Specific educational backgrounds did not constitute a study criterion, although as per the selection criteria, the sample had to include participants who studied at a tertiary institution at the time of the study. Two of my focus group participants were in the process of finalising their BSC in Human Physiology Genetic Psychology at the University of Pretoria (Tuks), whilst one, who was in the process of completing his Honours in Psychology at the time of the study, had already

obtained two degrees prior to this study in a similar field as those mentioned. These encompass a BSc Natural Science in Human Physiology, genetics and psychology and an honours degree in Physiology, with specialisation in neurophysiology. Two participants held an honours degree in Psychology at the time of the study, whilst one participant pursued a diploma in Interactive Media Design at the Open Window Institute in Centurion. Multi-disciplinary fields were highlighted, that were either pursued at the time of the study or which participants have already completed their degrees in. These include a BA in Graphic Design, an ND in Mine Surveying at the University of South Africa (Unisa), a BSC degree, A BCom in Marketing, as well as a MEd in Educational Psychology at Tuks. Home language was not included as a criterion in my sampling, although all of my participants had the ability to communicate in English throughout the study. The majority of my participants agreed to participate in the study for various reasons, although shared interests, and the desire to further educate themselves about environmentally sustainable practices constituted the main reason why participants initially joined. The biographical Table 1, listed on the following page provides a summary of these elements.

Table 1: Biographical table

Participant Type	Please state your Age	Please indicate what you are currently studying and at which institution?	Please indicate any previous education you pursued	How long have you been living in Gauteng?
Online Participant 1	22	BA Graphic design	none	Born in Gauteng
Online Participant 2	31	ND mine surveying at Unisa	N4 electronics NP multi media	Born in Namibia Lived in Gauteng 25 years
Online Participant 3	20	University BSc Degree	A teacher at primary school level	15 months
Online Participant 4	25	MEd Educational Psychology (University of Pretoria)	BSocSci Honours (Psychology) (University of Pretoria)	7 years
Focus Group Participant 1	24	Honours in Psychology	Two previous degrees. A BSC Natural Science in Human Physiology, genetics and psychology and then a Honours degree in Physiology, specialising in neurophysiology	Born and raised. I've been living in Gauteng all my life as well, last 4 years in Pretoria and a gap year overseas
Focus Group Participant 2	23	Interactive Media Design at the Open Window Institute in Centurion	none	I was born here in Pretoria. 23 years. My whole life
Focus Group Participant 3	23	BSC in Human Physiology Genetic Psychology at the University of Pretoria	BCom Marketing	I was born in Gauteng, I'm in the East Rand and I've been there my whole life. I've been in Pretoria now for 6 years
Focus Group Participant 4	23	Open Window Graduate - Visual Communication with a major in interaction design and development	No previous education	I was born in Gauteng and have stayed here all my life
Focus Group Participant 5	22	Human Physiology Genetic Psychology at the University of Pretoria	none	I was born in Durban, I still live there. I study here and that's about it, ja (yes) for about 5 years

4.5 Data collection procedures: Fieldwork

4.5.1 Preparing for the interviews and focus group sessions

a. Developing the interview guide

The first step in any research study is to find unanswered research questions that warranted further investigation or testing. In this study, the intention was to explore an under-researched topic, namely the environmentally sustainable activities and attitudes by youths living in Gauteng. Initially, general topics of interest, or those under global discussion, owing to their relevance in improving environmental sustainable activities in a time where global warming is prominent were listed. Based on these themes, I constructed questions that were easy to understand and answer. Developing research questions then, in light of this entailed an intricate subjective observation by both myself, the researcher, in conjunction with my participants. As the nature of this study is purely exploratory, joint efforts allowed for the selection of the most suitable research questions to fit the needs of the study, as well as its intended outcomes. Considered, in addition, was how the outcomes of these questions would influence the attitudes and behaviours of my participants. Overall, my research participants constituted major role players in constructing the research questions and content thereof, although the structure and layout of the interview guide was determined and finalised by myself. The guide did not account for a particular order of questions, and was instead based on a model allowing for in-depth feedback. For this reason, a pilot interview was conducted prior to the commencement of focus group sessions and online interviews to establish that questions were sound, clear and meaningful.

b. Conducting a pilot interview

A pilot questionnaire prior to the commencement of my focus group interviews was emailed to one participant for proof reading. Additional feedback and suggestions were encouraged at this stage, to ensure that the questions were not only well understood by and appropriately phrased to the participants who needed to answer them, but that the questions were valuable for the purpose of this study and future research. One or more questions were rephrased and additional questions were added to the interview schedule, in most part by my participants, to ensure that a

variety of crucial topics were covered during the focus group sessions, and to alleviate potential researcher bias. The interview schedule is attached in the appendices section.

4.5.2 During the interview

As mediator, I needed to ensure that the focus group interviews followed a logically and consistent flow. To elaborate, answers to one question would influence answers to the questions to follow, based on the ideas expressed and suggestions participants provided during the sessions. As previously mentioned, considering the exploratory and subjective nature of this study, questions were constructed freely, based on interests and suggestions by myself as well as my participants. To allow for transparency and triangulation, participants were continuously encouraged to comment on and provide suggestions on how the research questions could be phrased differently or amended. Throughout the focus group sessions, participants had free reign. Although the sessions were mediated, participants were able to lead open discussions based on the main questions posed. Further questions were included in the focus group sessions, which participants felt were necessary to be addressed. No unforeseen external variables were recorded during this phase, although not all the participants could attend each session due to time constraints related to the completion of university projects and assessments. It was ensured however that the focus group and online interviews were conducted prior to the examination period, with enough time ahead to prepare for their examinations.

4.5.3 Concluding the interviews

Considerations during the conclusion of interviews were as follows: (a) complete the interview in the time allocation of 60 minutes or less, whilst ensuring all the topics chosen for each session were covered in the discussion; (b) ask the participants if they have anything additional they would like to add and if there are any questions they might have; (c) thank the participants again for their time and allowing me into a piece of their world; and (d) assure the participants that once the interview has been transcribed and the results have been drawn up, once the thesis has been accepted, that they will receive copies of the results via email to ensure that the participants were kept up to date with further developments of the study. In addition, participants were assured that the audio recordings of the interviews were stored in a safe place

and that process notes were finalised soon after each interview (Terre Blanche et al., 2006). Participants were assured by me that their audio recordings as well as the transcripts and any other information relevant to the interview would be stored in a locked cabinet in my home where I have sole possession of a key, and will be destroyed after three years on completion of the study.

During the closing of each interview session, participants received an opportunity to include a closing remark. This included remarks by the researcher of personal experiences, which allowed for a general sense of joint understanding and sharing of similar opinions and views, removing any research biases, or the abuse of research power.

In summary, every interview was different as each participant tends to be accompanied by their own circumstances, needs/ gains and views, which as previously highlighted are all socially constructed. My job was purely to ensure that all the participants had an equal opportunity to share their views openly, and that any unanswered questions were addressed, either by means of providing instant answers or by sending follow-up answers and/ or content to the participants via email. This ensured that each participant's questions and suggestions were addressed fairly and equally, alleviating any possibility of interview and response bias.

4.5.4 Participatory focus groups

It is important to realise that people in participatory groups prefer to work with experts, rather than on their own (Wandersman, 1979). A thoughtful context and the availability of a wider range of information can have profound effects on the perspective of participants (Kaplan, 2000). It is for this reason that I have chosen a participatory focus group as my main data collection technique and qualitative research initiative. This type of data collection technique serves as a valuable method for qualitative data collection and produces a wealth of information that can be compared across informants and across cultures (Colucci, 2007). In addition, the focus group sessions, which were accompanied by the establishment of clear ground rules for participation, prior to the commencement of sessions, proved to promote a safe environment for self-disclosure through careful participant selection, and sensitive questioning by myself (Krueger, 1994). The focus group sessions were

held once a week for a period of one month to ensure rich and in-depth collection of information. No more than eight members were included in each session, as this ensured that my focus group was small enough for everyone to contribute, yet large enough to share diverse opinions across the whole group rather than fragmenting into smaller parallel discussions (Stewart & Shamdasani, 1990; Krueger, 1994). The purpose of the large focus group size was to overcome the obstacle of discontinued participation and ensure enough members remained in each group to make up for those participants who have left. Each session, of which in total there were four, lasted approximately 45 min to an hour, with each participant having had an equal opportunity to engage in -and provide their perspectives on the research questions posed. During focus group meetings, participants were supplied with the pens, paper and a note book, in order to build on -and state their responses regarding their everyday sustainable practices and experiences. Participants were encouraged to record any questions or suggestions they might have during sessions, in order for these to be addressed accordingly after each session. No attempt was made by me or any of my participants to manipulate the conversations. Discussions were mostly mediated between participants, which resulted in the conversations having maintained a certain level of flow, and hence resulting in the data I collected to be as natural and subjective as possible. A few personal views of me were shared during the focus group sessions, although this was to encourage more open ended responses, and further support my study's aims. In addition, participants were encouraged to bring along any material on pro-environmental attitudes or initiatives such as newspaper clippings or social media stories, including examples of valuable green applications and suggestions of similar green technologies to the focus group sessions. This content was meant to be shared with the other participants, as a means to educate and inform, as well as to expand the remaining participants' existing knowledge regarding a field they cared so deeply about.

4.5.5 Promotion of quality focus group questions

The construction and outcome of my research methods were greatly influenced by the works of Kaplan (2000) and Westaby, Pfaff, and Redding (2014), as well as Adams (2013) and Terre Blanche and associates (2006). Crucial was the consideration of the quality outcome of the focus group discussions due to the broad topic under discussion. This was taken into account by means of considering the

nature of the research questions asked and their epistemological assumptions, the contingencies posed within my study setting, and the way in which contingencies were accommodated within the study design (Freeman, 2006). It was ensured that the questions chosen for the interviews overall remained relevant to the topic being explored, and that each participant understood the content. For this reason, participants were involved directly in constructing the questions. The questions we posed in the sessions included basic biographical questions such as where the participants reside, how long they have been living in Gauteng, their education levels and fields of study. Interests, reasons and/or motivations for engaging in environmentally sustainable activities in addition to the types of environmentally sustainable activities and attitudes of the participants were also covered. I ensured that both positive and negative attitudes were addressed. Not only were participants asked what their views on recycling are, but also what they feel about dumping waste, littering or the lack of recycling facilities.

4.5.6 Focus group observations

An additional method to ensure trustworthiness of my data was used, which entailed the utilisation of natural observations using a recorder during focus group discussions, as well as any non-verbal cues and body language that I considered important to take note of. These methods allowed me to capture rich information on my own, and enabled me to record the participants' progress throughout the duration of my study. Anonymity and security was established by storing the recorded audio footage in a secure location at my private residence, namely in a safe where I have sole access to any shared information, for a minimum of three years on completion of the study. Additional characteristics ensuring trustworthiness in my study are mentioned in the quality and trustworthiness section to follow. Participants' interactions with one another, as well as communication styles adopted by each participant were observed as time progressed. These observations ensured that I was able to observe and record any important body language and non-verbal cues taking place in meetings (Holloway & Wheeler, 2013).

4.5.7 Online Questionnaires

To allow for a greater response rate and the collection of more in-depth and richer data, I implemented an online questionnaire in line with the focus group schedule

used. Asynchronous online interviews were used, as these did not require me or my participants to use the Internet at the same time (Hunt & McHale, 2007). The questionnaire was dispersed to a four online participants residing in Gauteng via email. The selection criterion was the same as those for my focus group participants, with an underlying purposive sampling element. Online participants were selected using snowball sampling, via direct referrals from my focus group participants. Two of my online participants participated in the online questionnaire as they were initially unable to attend the focus group sessions due to time constraints, or because of having to work outside South Africa during the times sessions were scheduled for. Once the questions were tested and the interview guide finalised, the questionnaire was implemented using Google Forms and then emailed to the participants along with a consent form and summary of the study and its objectives to allow for as much as possible for of the study to be disclosed to the online participants, hence ensuring for rapport prior to the commencement of the interviews (Jowett, Peel, & Shaw, 2011). Four responses were received although it should be noted that the answers provided were not as in depth as those that derived from the focus group sessions. Further on this note, it should be added that one of the advantages of online interviewing constitutes a more in-depth collection of data as a result of the interviewee having limited to no face-to-face contact with the interviewer, allowing for the interviewee to provide more personal responses. Despite this, more in-depth responses were obtained via the face-to-face focus group sessions, where participants shared their personal thoughts and activities with everyone. Clarity and generalisability of the questions were ensured prior to distributing the questionnaire to ensure that the questions were understood by all those who participated in the online survey. In light of this, each question was accompanied by a brief explanation and example to eliminate any ambiguity and ensure clarity on the part of the participants.

Prior to my decision to implement an online questionnaire, in addition to my focus group interviews, I considered the advantages and disadvantages, as well as the suitability of this data collection method and its contribution toward my study. Although online interviewing is more prominent in quantitative data collection, considerably more psychologists are now making use of the internet to conduct qualitative interviews (Ayling, & Mewse, 2009; Jowett, Peel, & Shaw, 2011). In

today's world, numerous external factors lead one to use the internet as a means of data collection. In account of this, and owing to various constraints, associated with for instance the availability and mobility/ access on the part of my participants, as well as available financial means, not to mention the accessibility of my research site to conduct the interviews in, I decided to also conduct online interviews. According to Mann and Stewart (2000), online data collection methods are used more frequently nowadays to study human behaviour and experience, owing to the many advantages that accompany this method. Ayling and Mewse (2009) note that online qualitative research is valuable, as its advantages considerably outweigh the difficulties.

4.5.8 Supplementary data collection: Collage Life-story Elicitation Technique (CLET)

In order for all my participants to express their perceptions and views and to ensure for rich descriptions and clearer memories within my focus group conversations and throughout the process of storytelling I included a supplementary data collection method, only to serve as an alternative method to enhance the quality of the exploratory data in the event that the online and focus group interviews did not serve as sufficient data collection methods in the context of this study. This method was however not implemented based on the sufficient data gathered during the online and focus group interviews. I deemed it appropriate however to describe this method briefly should researchers with a similar study in mind wish to utilise the method as a data collection method during the implementation of their studies. The Collage Life-story Elicitation Technique (CLET) mainly explores my participants' life stories. This renders my participants the opportunity to become the co-actors, who are able to reflect on their life stories and who then also co-construct meanings of the phenomena we discussed during the sessions (Van Schalkwyk, 2012). To elaborate further on why this method was chosen as an alternative, a collage consists mainly of a poster or visual representation whereby the participants make use of photos, pictures and text, perhaps from magazines and other types of media, that tell us something about the participant as a person (Van Schalkwyk, 2010). The main purpose of the CLET is to discover what lies beneath the level of awareness in order to gain access to participants' experiences and perceptions of their real-life relationships, events and perceptions (Van Schalkwyk, 2012). Despite its advantages, this technique only served as an alternative, intended to be included as

a valid collection method only, in the event that I required more enriched, personalised data and responses that served as unobtainable during my audio recording sessions, as well as during the drafting of my field notes. This technique's element of dialoguing, which addresses some of the shortcomings of verbal communications, as well as the language barrier possibly presented in my cross-cultural focus group settings by means of utilising alternative means of expression deemed quite valuable (Van Schalkwyk, 2012). For this reason, should further sessions take place after the finalisation of this study, a special point will be made to include this method as my main collection method.

4.6 Thematic Analysis (TA)

Once I completed my data collection phase, as well as two of the transcriptions relating to the feedback received from the sessions, a transcriber was used to transcribe the remaining data. An external data analysis expert was used to set up my analysis, whereby verbal and non-verbal cues collected during focus group discussions and observations were considered. The process of response recording and the recording of transcriptions will be discussed further in the next section and forms part of my data analysis phase. All raw data, once transcribed and coded, were reviewed by me to ensure no data was excluded.

The recorded focus group transcriptions from the are stored on a removable and compact hard drive, and my final reviewed, and edited Excel analysis sheet is included in the appendices section

4.6.1 Exploring links and patterns

I deemed it crucial to discover any links or patterns whilst re-analysing and re-coding the responses. According to McMillan and Schumacher (2010) the discovery of various patterns in the data, suggests that a relationship exists between the different categories. In discovering patterns, I attempted to make sense of the complexities related to pro-environmental behaviours and attitudes, including our individual beliefs systems and the diverse mind sets of researchers, participants and their communities (McMillan & Schumacher, 2010).

4.6.2 Defining and conceptualising my Thematic Analysis

TA refers to a multi-disciplinary, widely-used qualitative data analysis method, used to identify patterns and meaning across a dataset of responses. This method not only assisted me in answering my main research questions, in general it is also deemed quite flexible when exploring individuals' views and experiences, which compliments the aims of my research study, and hence deems this method of analysis as the most suitable for the sake of this study.

Various steps were taken to ensure for a rigorous analysis, including the familiarisation with my data by reading and re-reading the transcribed responses (Aroni, Goeman, Stewart, Sawyer, Abramson, & Thein, 1999). Once the data was cleaned, the online and focus group responses were sent to an external analyst, along with the recordings of the responses. A confidentiality agreement was signed, ensuring that the analysis was kept confidential and all data was destroyed upon completion by the analyst. Important features in the data were identified during this stage, in relation to my research questions and then coded and categorised into suitable themes. As the purpose of these themes was essentially to answer my research questions, the themes were reviewed to ensure that they were representative and inclusive of the data, and that they remained relevant to the aims and purpose of my study. In addition, the finalised transcriptions, along with the recordings of each focus group session were shared with my focus group participants for a rigorous check. This allowed for them to complete unclear responses, amend or add words or phrases, which they felt were transcribed incorrectly or not entirely captured initially. These amendments are highlighted in red in the Excel analysis sheet. All amended responses were screened carefully and compared to the recordings to exclude participant response -and researcher biases. All responses which the external analyser initially failed to include, were added to the Excel analysis sheet and highlighted in yellow. Any quotes highlighted in blue were indicated by the external reviewer as duplicates.

Certain themes, otherwise known as categories were amended, and some of the codes which were initially constructed by the external analyst were restructured, to fit into the correct categories. Once initial codes and themes were identified, these were then conceptualised by means of defining, finalising suitable names and

focuses for each, and then developing a detailed and in-depth analysis of each theme in the form of an extensive description. The entire analysis was then finally written up and contextualised in relation to existing literature. Overall the analysis entailed a recursive process whereby I moved back and forth between the steps throughout this phase (The University of Auckland, n.d).

4.7 Role of the researcher

4.7.1 Personal and professional reflections

A strong inert need, coupled with a passion to improve the lives of not only human beings but that of nature initially drove me to explore something we tend to feel so strongly about. Attitudes and views regarding global warming and environmental practices have grown and become more public over the years, as nature and scientists alike continue to demonstrate how human activities have negatively affected the natural environment and its ability to sustain us further in future. Scientists deem that “we now live in the Anthropocene, a geological age of mankind’s making”, whether the damage comes in the form of carbon dioxide, industrial agriculture, reef destruction or polluted water, such as is the case in Groot Marico in South Africa currently, evidence on human impact on the natural environment is abundant and therefore attitudes and behaviours that contradict these activities deserve much attention (Vörösmarty, McIntyre, Gessner, Dudgeon, Prusevich, Green, ... & Davies, 2010, p.1). As my views are mainly driven by the social constructionist paradigm, I included a broad variety of elements in this study, either directly or indirectly linked to attitudes of ERB and associated practices, although the sole purpose remained to explore the youth’s environmental attitudes and behaviours in relation to their environmentally responsible activities. Despite the enormous concerns expressed with rising temperatures and elements such as those mentioned above, research pertaining to an exploration of environmental sustainable practices and attitudes remains limited. With an increasing number of individuals making their mark in the green and environmental communities, and as a researcher and South African resident, I felt it is my responsibility to tackle and explore this under-researched topic. This study, I felt could ultimately open future research avenues and aid researchers and individuals in understanding this topic better. In this way responsible environmental practices could be encouraged further and the

expansion of associated attitudes, that are deemed necessary as demonstrated previously, to improve the state of our natural environment, and hence the quality of our lives as earth's cohabitants. Aside from my research motivations, my background and personal history heavily influenced the development of this study. As a child I was taught that as humans we cohabit with nature, in other words, we need nature to survive and so it is important for us to return the favour, to respect and take care of the natural environment which sustains us and which we are unable to live without. When I was younger, I had the opportunity to interact with nature often. I was always surrounded by nature. I only moved to a bigger city years later, where I learnt that not all humans seem as connected with nature as I am. Owing to my history and upbringing, I was quite aware, and quickly realised when I moved to the city, how disconnected we really are from the natural environment. Seemingly, less value is now placed on our relationship with the natural environment, as our focus is shifting to one of self-betterment and self-gain, or as scientists phrase it Anthropocene. Our world has developed to one that one might term almost completely human driven.

My opinions were at first quite negative, as I witnessed the increasing exploitation of natural resources and disregard of the quality of our natural environment. Although, as time progressed, I began to realise that entire communities, small groups of individual here and there, as well as some organisations place a large emphasis on improving the natural environment via their conscious practices. Take for instance the 21 youths who are now planning to sue the US government over the state lack of action on climate change and refusal to reduce the use of fossil fuels. Not only are the government taking this matter more seriously than before, the majority of fossil fuel companies, including Exxon Mobil, BP, Shell, Koch Industries as well as 625 oil and natural gas companies, have requested to join as plaintiffs along with the US government in this case (Chang, 2016). It is because of stories such as these that I was fuelled to explore the extent of positive environmental attitudes that exist. I started off by asking myself, why some individuals feel so strongly that it is their responsibility to engage in pro-environmental attitudes and behaviours to improve the state of our natural environment, whilst others do not share this view. Owing to my own psychology background, I learnt that as humans our views differ as a result of our genetic make-up, family and historical backgrounds and current circumstances among other things. In light of the question that arose from my observations of the

differing views and actions previously mentioned, realising that limited knowledge on this topic existed, I was driven to explore ERB practices and attitudes, particularly by those that determine our future, the youth.

4.7.2 Research-related reflections

As a South African researcher, I firstly started off by reflecting on my own background, in relation to how this, and personal interests and goals would affect the quality of my research study and its outcomes overall. My research practices are socially positioned in complex and multiple ways, which is a crucial consideration and is commonly associated with positioning. This implies that as the researcher, my personal attributes such as gender could influence any intrapersonal, interpersonal or intergroup actions (Mkhize, 2008, as cited in Hook, 2008). This is why I deemed it important to examine both myself and the research relationship throughout the research process, owing to my personal assumptions and views. To elaborate further, factors such as these could potentially affect my research decisions, particularly in how I select and word my questions (Hughes, 2012). In light of this, all attempts were made not to follow a psychological outlook deriving solely from the developed world. One must therefore consider that traditional psychology methods differ tremendously from those applied in indigenousness psychologies. Despite this, western psychology still widely applies in the local context, which renders methods adopted herein inapplicable to local needs such as poverty (Duncan, Ratele, Hook, Mkhize, Kiguwa, & Collins, 2004). Therefore, local contexts should be considered when choosing the most suitable research methods and style. A result of this was a social constructionist view, which enabled me more easily applying local psychology methods. This view has further guided me in addressing a local topic which bears a crucial role in developing a healthier nation, based on an improved natural environment within the local context.

4.8 Ethical considerations

As a researcher I have an obligation to adhere to ethical considerations (Gravetter & Forzano, 2012). Research participants were informed at the beginning of the study that participation is voluntary and that they can withdraw from the study at any time without any consequences. Informed consent was provided in a language that is clear to all participants and which clearly explained the purpose, as well as their

roles within the study. Written informed consent was obtained by participant's signing the consent form both in the online and focus group interview sessions.

As focus groups include more than one participant, confidentiality was encouraged. As a researcher, I had an obligation to ask participants to respect each other's privacy. I encouraged them to keep information discussed in focus groups private if they felt this necessary, although most participants expressed the desire to make all the information obtained from the sessions public. Furthermore, any reporting of my research findings did not disclose participants' names. This served as an additional way to ensure confidentiality.

I obtained institutional approval and research ethical clearance from the Department of Psychology, University of South Africa in May 2014, prior to conducting my research from all the relevant role-players. As my focus group meetings were held informally in a variety of locations chosen by my participants, there was no need for me to obtain further approval as sessions did not take place in any formal university or other institutional setting.

It was taken into consideration that my research study can only be performed within the parameters of my research capacities. Furthermore, I will ensure that accurate information regarding my research findings is reported. Furthermore, I have an obligation to control, maintain and disseminate as well as store, retain and dispose of records and data relating to my research, allowing for my research design and analysis to be replicated and for institutional requirements to be met.

Initially I aimed to incentivise my participants in the form of small organic vegetable food parcels and packaged seedlings for growing, although after numerous requests to companies in the form of emails, this deemed unsuccessful due to financial constraints and lack of organisational support. Ongoing participation and the encouragement to engage in pro-environmental behaviours lay solely with my participants. Despite time constraints, associated with the fact that the focus group sessions were held close to the start of the June exam period, the majority of my participants demonstrated a genuine passion for -and commitment to continue their participation in my study and future practices. This is particularly evident in the findings, which will be elaborated on further in the discussions section.

Lastly, I ensured that none of my participants were harmed, misled or exploited in any way by refraining from disclosing their personal information or demeaning or breaking down their personal viewpoints and perceptions. Each participant had an equal opportunity during and after the focus group sessions, to share any thoughts or suggestions, based on the feedback and questions posed. The same applied to my online interviews, wherein I highlighted to my participants that any suggestions or questions regarding the questions were welcomed. All of my participants demonstrated the need to share as much as they could about their knowledge on ERB and their practices.

4.9 Quality and trustworthiness in my study

4.9.1 Credibility

As a researcher I have an obligation to ensure that my research includes certain characteristics which enhance its quality and credibility. In qualitative research, validity and reliability are described mainly through strategies to ensure trustworthiness (Tobin & Begley, 2004). Using Lincoln and Guba's (1985) model of trustworthiness, I have taken into account measures to ensure the representation of trustworthiness of my study which will be briefly mentioned below.

My research was carried out in a manner which allowed for a greater chance for credibility of the findings, including more authentic representations of the findings. It was ensured that the findings have been approved by the constructors of the multiple realities studied, otherwise referred to as peer evaluation or examination. In this case I refer to the university students that partook in the focus group discussions. My participants all received the transcribed responses, to see if no information was missing, including the re-evaluation of inaudible responses. This allowed my participants the opportunity to check if responses were captured accurately, and that the content was accurate as per the original responses provided in the sessions. To allow for researcher accountability, before dispersing the research findings, I double checked the transcriptions by listening to the recordings and adding information that I or the transcriber could have previously missed. Any additional information was then included in and coded in the analysis and added to the discussion of findings.

4.9.2 Transferability

I have made an attempt to describe the entire research process in such a fashion that other researchers can follow similar steps in approaching similar research topics and that my research topic serves as applicable in similar topics. This process is known as transferability. Ample opportunity was provided in this study for fellow researchers to refer back to, including common research gaps in this field of study and further suggestions.

4.9.3 Dependability

Dependability was considered throughout my research process to minimise researcher idiosyncrasies by means of making use of triangulation. The use of triangulation in my study can be observed in my introduction of multiple methods of data collection, namely focus group discussions, online interviews, naturalistic observations and the CLET method. This was accompanied by the facilitation of multiple communication techniques including email, as well as correspondence via a What's App chat group and weekly discussion groups. During this process various sources throughout my study were also cross-checked against one another.

4.9.4 Confirmability/triangulation

I engaged in confirmability by acknowledging that the characteristics and findings of my research study should be confirmed by another party, in this instance my participants. This was to account for the fact that I myself may not have considered all the possible, holistic viewpoints, opinions and issues presented by each participant in my study. I considered that I might have left out important factors during the recording of the responses and not included some communications and discussion themes that might ultimately serve as important characteristics to be taken into consideration. Additional ethical factors I have taken into consideration are discussed along with the obstacles that were present in this study (Tobin & Begley, 2004).

4.10 Chapter summary

This chapter constituted an overview of the research questions, problem statement and aims of this study. Also addressed were the sampling methods used, as well as

a guide on the field work which was conducted to collect data for this study. This included a conceptualisation of each method used, as well as their alternatives and overall quality assurance of each. The overview of the methodology and design was followed by reflexions I share as both an individual and researcher. Highlighted throughout was that as humans we tend to be socially constructed, implying that our social, historical and biological traits are all constructed throughout time and formed because of different events that take place. Also emphasised was the important role an indigenous psychological perspective would play in ensuring that this study remains culturally sensitive and suitable for use in similar contexts. A large emphasise was placed particularly on the phrasing of the questions and discussion content for the focus group sessions and online interviews, as well as on the active engagement of my participants throughout the research process. Participation was the key highlighted throughout this study. The chapter concluded with important ethical considerations as well as measures of quality and trustworthiness, pertinent to ensure for a sound and ethical study. The most important consideration which this chapter highlights is that the purpose of the study tends to be linked to the fact that limited knowledge or studies exist that explore this topic, despite its link to generating healthier communities. For this reason, the aims highlighted herein were constructed and the most suitable methodology chosen to accommodate the potential outcomes of this study. These along with a discussion and future suggestions will follow in the next section.

5 RESULTS AND DISCUSSION

5.1 Introduction

The main research question for this thesis was 'What are some of the daily environmentally sustainable activities that South African youths, who currently reside in Gauteng, engage in on a daily basis?' The study aimed to explore the views, as well as associated behaviours and challenges of university students who engage in these activities. In addition, the study also considered the views of implementing a participatory action approach, and continuation of the activities under discussion, especially in the broader context of local community development and the improvement of well-being in general. Focus on participatory action was however only after the online interviews and focus group sessions were in their final stages.

In this chapter, the findings of the study are presented and discussed. The data is presented according to the main research questions, and compared with the existing literature pertaining to pro-environmental attitudes and behaviours, as underlined by the social constructivism paradigm. To allow for the presentation of verbatim information from my participants, whereby findings are represented in my participants' own words, the qualitative research method was chosen, in order to substantiate the findings of the research more clearly (Merriam, 2002).

5.2 Segmentation and coding

During the data analysis phase all qualitative data was analysed according to small segments of information by an external researcher who was given an extensive overview of the study, including the aims, questions and paradigmatic viewpoint and theories used. The segments consisted of groups of ideas that were meaningful during the study. I ensured that I read over the transcripts several times in order to submerge myself into the data. This allowed me to obtain a sense of the interviews and focus group session as a whole. My focus group participants had the opportunity to peruse through the focus group transcripts and recordings to include anything that I, or the external transcriber failed to capture during the transcription process, although as previously highlighted, the additions were carefully perused against the original responses, to ensure that individual concerns expressed by my participants, did not generate discrepancies within the final overview of my data to be analysed

(Mays & Pope, 2000). The information was categorised and broken down into smaller segments thereafter. As noted by the external analyst, some of the information was too incoherent to categorise into main themes (Creswell, 2007). Once the external analyst had labelled and coded the responses anonymously as 'P', I thereafter engaged in an effort to indicate a clear distinction between the online responses, and the responses gathered in the focus groups, allowing for a clear distinction and comparison in the type of responses obtained from each interview method. In addition, this allowed me to gather more diverse data in relation to the population this study focused on (Kuzel, n.d., as cited in Miller & Crabtree, 1992). Codes were used to give meaning to each of the segments (McMillan & Schumacher, 2010) and the themes were constructed as follows:

- Pro-environmental attitudes;
- Pro-environmental behaviours;
- Counter-productive factors to pro-environmental behaviour;
- Limitations to engaging in environmentally friendly behaviour;
- Promoting environmental awareness and activities.

5.3 Categories or themes

As part of the data analysis, the codes were merged into different categories. These categories denoted the main themes that became apparent during the study. McMillan and Schumacher (2010) describe themes or categories as single ideas that are grouped together under a code. The codes that emerged in two of the separate themes, regarding the attitudes and behaviours of my participants are listed below and will be discussed more in depth in the sections to follow.

Pro - environmental attitudes	Pro - environmental behaviours
- Environmental sustainable behaviour change;	- General daily environmental sustainable practices;

<ul style="list-style-type: none"> - To live in harmony with the environment; - Littering is unacceptable behaviour; - Money influences the environment. 	<ul style="list-style-type: none"> - Daily activities whilst a student; - Local support; - Domestic recycling; - Organic waste recycling; - Making use of recycle bins/ facilities; - Alternative technologies & practices to replace un-environmentally friendly resources; - Water saving; - Limited use of plastic and plastic bags; - Burning waste; - Reusing trash; - Not supporting big corporations.
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Counter-productive factors to pro-environmental behaviour	Limitations when engaging in environmentally friendly behaviours
<ul style="list-style-type: none"> - Need for clean water; - Public transport is unreliable; - Misuse of recycling bins by general public; - Lift clubs are inconvenient; - Inconvenience associated with 	<ul style="list-style-type: none"> - Lack of –and importance of government interest in environmental consciousness; - University recycling facilities limited; - Limited availability of recycling facilities in general; - Environmental projects and opportunities

recycling; - Inconvenience of environmental friendly behaviour in general.	are limited; - City life limits opportunities; - Project might be a scam; - It is expensive living an environmental friendly life.
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To assist in answering my second research question and as part of my secondary research aim, which entails the further promotion of environmental awareness and activities, responses were coded as follows under the theme highlighted in bold bellow:

Promotion of environmental awareness and activities	
- First interest in recycling	- Educating the general public
- Family exposure to environmental tasks	- Working as a community
- Friend or peer exposure to environmental tasks	- Creating awareness
- Internet creates awareness	- Cultural differences
- Working on an individual level	- Influencing others

The interview responses were read, re-read and grouped by myself, an external reviewer, and the focus group participants after the external analyst had finalised the analysis. Firstly, this ensured that no information was missing or biased. In addition, any similarities or differences could be determined, thereby giving rise to emerging

themes or categories related to pro-environmental attitudes and behaviours of the youth living in urban Gauteng. Introducing main categories and their associated codes

5.3.1 Environmentally (pro-environmental) sustainable attitudes

As highlighted in my literature review, a need exists to spend increasing attention on the youth and their current attitudes and behaviours toward environmental sustainability, including their existing environmental knowledge they pose regarding existing ERBs, their challenges therewith and climate challenges.

To understand my participants' views and current understandings regarding pro-environmental activities and behaviours, participants were asked a variety of questions of which the responses are captured and contextualised below using specific themes or categories. The terms highlighted in bold refer to words that were emphasised more or stood out from the rest of the answer provided in totality during the recordings. Throughout the analysis phase, a certain pattern emerged, highlighting the importance of personal responsibility whilst acting more pro-environmentally responsible. A more in-depth discussion follows to highlight this.

a. Environmentally sustainable behaviour change

A variety of responses were provided in the focus group sessions, when participants were asked what they understand under the term pro-environmental behaviour, otherwise known as ERBs. It was evident however, that participants were, in general, not certain as to the text book definitions of this term, which describe pro-environmental behaviours or ERBs as behaviours that occur, when an individual or group aims to do what is right, in order to help protect the environment on a daily basis through general practices (Cottrell, 2003). One participant displayed some uncertainty in his response to this question, which is evident in the following statement: **FG P 2:** *'I don't know, I was just going to say it's basically like your **pro-active activities**, more **sustainability** and it's just like stuff that you do every day that you can keep doing to not ahm how do you say diminish to get out there if that makes sense?'*. Focus Group Participant One, when asked what word or term comes to mind, when they think about pro-environmental behaviour stated, *'I'd say **the Future**, 'if I'm thinking of the fact that I want the environment to be sustained, and*

well in the future still, **myself in the future and future generations**'. Rhino poaching was used as an example to explain this statement, whereby the participant responded as follows; *'there's this interesting fact that says that once the rhinos die out, they die out forever. There's no way that they can ever come back to...'*. In light of this response, the participant concluded by stating *'I just don't want human ignorance to be the cause of it'*. This could be linked back to, and supports the emphasis throughout this study, on creating awareness by expanding the current knowledge base regarding pro-environmental activities. The same participant also indicated that sustainability refers to a *'give and take'*, a *'cycle'*, *'the more you give to sustaining, the more it comes back to you'*. The responses obtained from my online participants support similar views, and are listed below:

Online Participant 1

'To be pro-environmental means one is actively creating a positive change for the environment through conducting sustainable practices'.

Online Participant 2

'Minimising your personal destructive effect on nature'. 'So people litter all over, drive incredibly badly with the fuel efficient cars they commute with and no one carpools'. (when asked if their university or neighbourhood has any readily available recycling facilities).

Online Participant 3

*'Pro- environmental behaviour is any behaviour that has a positive effect or impact on the environment'.
'Environmental sustainable practice is any activity that can help a community or group to minimize their negative environmental impact while helping them to look after themselves'.*

As highlighted, a clear pattern in the majority of my participant responses was displayed between acting more responsibly, including continuous personal efforts to live more environmentally sustainable. Adams (2003) points out that the current

behaviour of people toward the environment is in dire need of change. He highlights that as humans, we need to learn how to behave in an environmentally responsible way (Adams, 2003).

b. To live in harmony with the environment

When asked what word or phrase comes to mind when they think about the term pro-environmental behaviour, the majority of my focus group participants gave similar answers, as is clear in the following excerpts; **FG P 1:** '[.....]'; *'just living more harmoniously with the environment'*, whilst Focus Group Participant Two, when asked what their ideal society would consist of stated, *'my ideal society is one where humans live **with** the earth and not on it'*. As demonstrated in the theme to follow, this response highlights the presence of harmony or equality which should be present whilst engaging in ERBs. Focus Group Participant Three and Four gave very similar responses, highlighting that pro-environmental behaviour is related to implementing new ways of living or adjusting one's life to be able to live more **harmoniously** with the environment. This is demonstrated in the following excerpts; **FG P 3:** *'So making changes or implementing new ways of living that lead to you living more harmoniously with the environment'*; **FG P 4:** *'the word "harmony" comes into mind so actually, we are able to live harmoniously with the environment. [.....]'*. According to Andrews (2003), certain influential factors have resulted in the separation -or exclusion of human development, in relation to the natural and external environmental. Washington (2003) supports this view by noting that, people have generally started alienating themselves from the natural world as a result of a more modern worldview. Evident from the responses is that living a more pro-environmental lifestyle would require one to live more in harmony with one's natural environment, although certain changes or developments according to the majority of the participants would have to be implemented to achieve this. Also evident in this theme is the emphasis on sharing resources and caring for the natural environment, which offers us resources, which based on the majority of responses, would require a certain element of responsibility by individuals and communities alike. This further supports the aim of my study to motivate and support local youth and their communities in addressing the effects of environmental degradation, and engaging as a community to tackle some of the social concerns accompanied by global

warming (Metz & Weigel, 2010). This is crucial, considering that a need exists to increase not only our physical, but also our psychological and spiritual well-being associated with a healthier environment (Adams, 2003). He also supports the points outlined by Metz and associates (2010), by stating that environmental degradation is detrimental to our earth, and that our well-being could be improved by tackling the effects thereof, along with our communities (Adams, 2003).

c. Littering is unacceptable behaviour

Although it seems logical to most individuals that littering has negative impacts for our natural environment, this activity remains prominent locally. Statistics South Africa in its 2014 General Household Survey revealed that, waste removal problems and littering, as well as land degradation and soil erosion (34,4%) were the two environmental problems, that concerned the highest percentage of households in the country, in comparison to air and water pollution (Stats SA, 2015). Waste removal problems and littering constituted around 38,6% of the local population's concerns, whilst land degradation and soil erosion made up 34,4% in 2014. Despite this, a pattern highlighting personal responsibility and awareness in the theme, 'Littering is unacceptable behaviour' arouse, similar to that presented in the previous themes.

The participants' responses, when asked what their thoughts or attitudes on littering are, are listed verbatim below. Overall participants shared similar views, stating that a sense of personal responsibility should be present when the act of littering, and the protection of our environmental are concerned. A general sense of a lack in awareness and responsibility by local citizens was expressed overall under this theme, in relation to environmental behaviours. I included my personal researcher views to encourage the generation of more open-ended and personal responses in this focus group session.

Online Participant 1

'Environmental vandalism. I dislike it'.

Online Participant 2

'Disrespect. For me littering is one of the most inconsiderate actions a human can do, some materials take quarter generations to decompose and people don't realise the long term effect of littering'.

Online Participant 3

'dirty, unpleasant, lazy, thoughtless, ignorant. I think people are ignorant of the consequences of littering for the environment'.

Online Participant 4

'Too many people think littering is not a serious problem. When I witness someone littering I think that they do not have respect for themselves or the world we live in. I also wonder about the way in which they were brought up'.

Online Participant 5

'People litter because they are lazy. Being lazy is a part of basic human nature and therefore if we want people to stop littering we have to change their mind set'.

Focus Group Participant 1

'[...], disgust and disappointment because I feel that people have been taught so well in modern day and age in society with the technologies and ahm means we have to know about the world, you know about the causes of littering and all...'. 'and they just continue in not taking personal responsibility even though they have been made aware of what littering does'.

Focus Group Participant 2

'For me littering is one of the most inconsiderate actions a human can do. Some materials take quarter generations to decompose and people don't realize the long term effect of littering'.

Focus Group Participant 3

'When I witness someone littering, I think that they do not have respect for themselves or the world we live in. I also wonder about the way in which they were brought up'.

Focus Group Participant 4

'I used to always go and pick up litter and stuff because it would be obvious to me because of the act of doing it'.

Focus Group Participant 5

'Um, my views on littering, I despise it, um I don't ever litter, um if I have rubbish I'll just throw it in my car, and whenever I clean my car out, they go to the appropriate place, um and then if I do walk past litter, I generally do pick it up. Um I don't know why it's been a problem'.

As mentioned, I thought it appropriate to add my personal thoughts as the researcher to the conversation at this stage, to encourage my participants in disclosing more in-depth open responses, than the answers been provided up until this stage in the discussion. The quote below demonstrates this view:

*'So for me it was a case of when I met my fiancé', he made me aware of the fact that it is not **on** to just throw anything on the ground, where previously, I think it has also got a lot to do with underlying things because when you are younger, you care less and you just don't think about certain things, so I was very disregarding in the sense of, I would just throw something next to the bin and when he said 'pick it up', I said, 'no but it's job creation', true story, so he made me very aware of the fact that, you know, even though it is job creation and there are people that are paid to clean these things up, it is just not human, it is not acceptable'.*

The RPM supports this view by suggesting that intuitively, people resist making changes that they perceive as reducing their quality of life, despite them still showing concern about the future of the environment. Further the model suggests that individuals who are at times reasonable, can also potentially act unreasonable, implying that the circumstances that people find themselves in, to a large extent determine the outcome of their behaviours (Kaplan, 2000). According to this model, the human inclinations and circumstances that are supportive of human motivations need to be identified, so as to make it easier for us to act more environmentally responsible.

d. Money influences the environment

With reference to the question regarding an ideal society, A certain element of harmony or equality, as well as a shared goal pursuit in society in general, as demonstrated in the previous theme, was expressed by the majority of the participants. During the focus group sessions, it was quite evident that participants did not place a large emphasis on money as an influential factor when engaging in environmental responsible practices. Only three participants had the following to add in this regard:

Focus Group Participant 1

An 'Ideal society would be one that the people's behaviour actually changes and they don't seek powers, like everyone is more almost like a communist society where they are more dedicated towards ah just like living together peacefully, instead of gaining more power and more money – so that if someone finds out a better way to live in terms of the environment, then they could put that into practice rather than think about how much money they could get out'.

Focus Group Participant 2

'So I still believe in my concept of expiring money because I don't believe that money can ever, um the monetary system can ever be completely destroyed because we are living in the kind of world where there are resources and people; but

I also feel that once there is an abundance in this world, it would be a lot easier for people. If I had 50 apples and I had to eat them by tomorrow I would hand them out'.

Online Participant 1

'One which is environmentally sustainable and far more economically egalitarian, in which the income of highest and lowest earners does not diverge by more than a factor of 20'.

Laszlo (2006) further supports the views above on the lack of views demonstrated in this study regarding the influence of financial resources on ERBs and associated practices. According to him, the biological dimension, associated with human development has been replaced with the sociocultural organisation of groups of individuals. To elaborate, how people relate to one another and to their environment, as well as the values and ethics they adopt, and how they see themselves and the world around them does not solely stem from our implicit motivations, such as monetary gain among others, and biological make-up. Instead, as humans, we are now increasingly viewing ourselves as part of groups of individuals or communities, who, in the attempt to increase our focus on actions, are either like-minded or who share a common interest or goal (Laszlo, 2006). The responses above support this and demonstrate that, through a joint collaboration, by means of shared goals, the potential of increased ERBs in communities is vast, and could potentially aid in limiting and reducing social -and climate concerns (Dawson, Stewart, Lemelinc, & Scott, 2010; Dwyer, Forsyth, Spurr, & Hoque, 2010; Scott, Peeters, & Gössling, 2010; Worachananant, Carter, Hockings, & Reopanichkul, 2008; Miller, Rathouse, Scarles, Holmes, & Tribe, 2010).

5.3.2 Environmentally (pro-environmental) sustainable behaviours

a. Daily environmental sustainable practices

Cottrell (2003) defines ERBs, also known as pro-environmental behaviours, environmentally behaviours, stewardship behaviours or conservation behaviours, as behaviours, which occur when an individual or group aims to do what is right in order to help protect the environment on a daily basis through general practices (Mobley,

Vagias, & DeWard, 2010). Several types of ERBs have previously been identified, which vary according to their location, as well as the extent of visibility (Stern, 2000). These include namely, environmental activism, centred either in the public realm, or consisting of non-activist political behaviour. These could occur in a public sphere, such as support for certain policy initiatives, followed by private environmentalism, such as purchasing decisions or individual recycling. Lastly behaviours which originate in organisations an individual might be affiliated with are also classified as ERBs. My discovery of daily environmental attitudes -and behaviours, and how these in turn form, were underlined by two psychological theories. The RPM and Social Dynamic Networking Theory were used as guidelines to develop a better overall understanding of ERBs in light of this study.

My online participants, in particularly two, listed the following, as part of their daily environmental sustainable practices, whilst the majority of responses obtained from my focus group participants are categorised separately in the environmental behaviours theme:

Online Participant 1

'I drive a fuel efficient car and walk if it is in 5km range; Re-use water bottles and plastic containers; Recycle paper'.

Online Participant 2

'Recycling; Carpooling; Switching off -and unplugging unused lights/ appliances; Composting; Vegan lifestyle; Herb garden; Vegetable garden'.

All participants indicated that recycling constitutes the main environmental sustainable activity they engage in. Herein, activities such as paper recycling, as well as the re-use of water bottles and plastic containers were outlined, whilst the use of alternative transport, gardening, composting and switching off, -or the minimal use of electric appliances where also mentioned. Although, these activities only constitute a general summary of daily ERBs the participants mentioned they engage in regularly. A broader variety of ERB practices will be discussed more in depth, and separately according to the codes each constitutes a part of under this theme.

b. Daily activities whilst a student

To establish the type of activities the youth engage in whilst a tertiary student, my participants were asked to list activities they engaged in regularly whilst a university student. As is clear in the online responses below, not all were at the time of the study students. The activities listed, varied greatly, ranging from relaxation activities such as sleep or meditation and watching movies, to leisure, including gym and ballet, as well as outdoor activities. A US survey regarding the youth's attitudes on spending time in nature, clearly demonstrates that the majority of the youth in the US spent their time indoors, either on-line, playing video games or watching television. (Metz & Weigel, 2010). Only a minority of studies in South Africa have focused on the attitudes of local youth regarding the environment and environmental activities, which this study aimed to explore further.

Online Participant 1

'class; walk in nature; study; sleep'

Online Participant 2

'we live in the bush with minimal power and heavily rely on solar power and geysers a lot of the times'

Online Participant 3

'Wake up; Meditate; Work from home; Drive to varsity/work (usually carpooling); Study; Gym; Ballet; Leisure activities'

Online Participant 4

'Wake up, shower, dress, eat, attend a meeting or go to a class, have a nap, attend another meeting, reply to emails, have dinner, study a little, watch series/movie, sleep'.

The responses above could provide clearer answer to my research question, although it is quite clear, despite the limited responses, that the majority of the participants did not highlight, spending a large amount of time in nature. A study, similar to that conducted by Metz and associates (2010), could potentially aid in

expanding local literature regarding environmental topics. This study however, also provides sufficient information in this regard.

According to Collins (Collins, 2010, as cited in Washington, 2013), due to our history of scientific analysis we have lost the ability to view Nature as an interlocking whole. This could explain the limited engagement of the youth who responded in this study in nature. The following themes intended to address my research question further and could aid in expanding local knowledge on youth sustainable environmental practices in Gauteng:

- Counter-productive factors to pro-environmental sustainable behaviours;
- Limitations to engaging in environmentally friendly behaviour;
- Promoting environmental awareness and activities.

These themes will be touched on in more detail further in the next sections, although a few more categories regarding environmental sustainable behaviours will be discussed first hereunder.

c. Local support

The support of local products and small businesses has played a tremendous role in South Africa in encouraging citizens to live more environmentally sustainable and vice versa in supporting small business growth (DTI, 2013).

The majority of focus group participants, who this theme applied to, indicated that they preferred to buy from their small local grocers. As one participant made clear, most of his perishable groceries and food items are all bought from a small local grocer in the immediate vicinity of his residence. These excerpts support this statement; **FG P 1:** '[...], *the grocer I go to is just a **small local grocer***'; **FG P 3:** '[...]. *I also try to buy local, organic produce*'. Most were in agreement that supporting local small businesses is important, when engaging in environmental sustainable activities. The importance of small local business development and support, emerged as a common pattern in my study, and could ultimately serve to play a tremendous role, whilst engaging in pro-environmental practices. One participant noted the following; **FG P 4:** '[.....]. Ahm I think it's good to "support" like that, *that's also maybe a way to **support small businesses**, ahm so that's family*

*owned, they get all their stuff from local farms etc. and there you don't have to put all your stuff in plastic, you can **buy organic foods** etc. which is nice*'. Similar to one of the responses, Focus Group Participant Three highlighted that they try to buy local organic produce, whilst Focus Group Participant Two strongly emphasised on only purchasing local products if they are **free range**, such as eggs, which are not directly related to the environment, and have been responsibly produced or sourced, whilst respecting the animal or environment.

Bishop Geoff Davies of SAFCEI clearly outlines the current destruction of the world which is taking place, mainly as a result of the present economic system (SAFCEI, 2013). In light hereof, society in general tends to take the natural environment for granted, despite its major dependence on nature to survive. Among ecosystem services which cater for our human needs, are a variety of benefits, including food and water, supply, improvement of health and well-being. Additional benefits include that of pharmaceutical products, genetic resources, fibre, timber, soil formation, pollination and resources for industrial processes, not to mention pollution control (Van Staden, n.d.).

d. Domestic recycling

Not many views were available regarding domestic recycling, as is evident in the short responses supplied below:

Focus Group Participant 1

'Ahm, ja (yes). But we burn our rubbish at home, we live on a farm and then we take our glass and cans through to this recycling place'.

A study in 1999 by the University of East Anglia demonstrated that established drop-off points ensure that recycling is more economical. In addition, this report stated that recycling drop-off, was in fact the cheapest option for managing domestic waste, followed by landfill, incineration and composting. Noted should be, that in South Africa, although recycling might cost more than landfilling, long-term strategic goals and planning should be addressed, when deciding on the most suitable waste minimisation, recycling and disposal (DEAT, n.d).

e. Organic waste recycling

Evident from the responses below, was that my participants were quite familiar with the practice of organic waste recycling.

Focus Group Participant 1

'starting a compost heap with all my, ahm what you call that kind of rubbish? Organic waste'. 'And then started throwing my organic waste into the compost heap. Ahm I don't keep the organic waste anymore, because the complex where I stay won't let me do my compost heaps anymore'.

Focus Group Participant 2

'Ahm the only thing that I do at home, is ahm organic waste like put into the garden and (incomprehensive)'.

Online Participant 1

'I also compost with leaves and kitchen scraps (vegetables/fruits etc.)'.

Organic waste recycling occurs when biodegradable or organic waste is disposed by means of composting for example. Hereby, organic matter decays and goes back into the soil and nature, such as garden refuse, animal, fruit or vegetable leftovers resulting from the handling, preparation or cooking of foods (DEAT, n.d). The limited views available on organic recycling are surprising however, and more information and views regarding organic waste recycling need to be investigated by means of further studies.

f. Making use of recycle bins

My focus group participants were also asked how they initially got involved in advocacy work and, whether they currently engaged in any environmental activities. In terms of recycling activities, two activities were referred to hand-in-hand, namely recycling and organic waste disposal, although these were separated into two separate themes. Limited feedback regarding the utilisation of recycling bins was captured, as demonstrated in Diagram 2.

Diagram 2: Responses pertaining to the use of -and availability of participants' recycling bins or facilities

O P 1: Separating paper and plastics for recycling.	O P 2: Yes, I do recycle. I have separate bins for plastic, paper and glass.	F G P 1: Ahm, in terms of environmental, ahm I just decided one day that I would start recycling.	F G P 2: Yes so, ahm so I started recycling about 3 years ago.
FG P 3: [...] what I've been doing lately, I've been taking items that are from products like boxes and plastics and things and then put them, putting them in a box in the house and then they've been piling up.	FG P 4: Ja (yes) well every centre around there like a shopping centre has the recycling bins there but those massive ones um, but then also like if you drive through the neighbourhood you will see quite a few houses have recycling bins extra and not just their normal trash bin.	FG P 5: It was nice recycling because you actually had to throw away your stuff, like it's a lot less work because I had two bins, one for recycling and then one for normal waste um and then like the normal waste bin didn't fill up very quickly because most stuff you can actually recycle; Well we basically get these blue bins um so [unclear 08.59.3] you've got your trash and you've got the blue bin and then ja (yes) you just, that's all I recycle for so if it's a milk bottle or a glass bottle then straight into the bin.	

It is evident, that recycling facilities are available, although widely dispersed. Despite this, locals still face certain limitations, which serve as counter-productive when recycling, as is evident in the theme which covers the misuse of recycling facilities by the general public. In South Africa, recent efforts by the government to increase green job initiatives, have focused on expanding strategic initiatives to develop green industries, and improve energy efficiency, such as local plant and crop growth projects and recycling opportunities (DTI, 2013).

g. Limited use of plastic and plastic bags

In general, South Africans consume about 8 billion plastic carrier bags annually. The plastic bag has become known in South Africa as the country's 'national flower', and the extensive use of these bags, has resulted in an acute solid waste problem (Dikgang, Leiman, & Visser, 2010).

The plastic bag legislation in South Africa, constituted in May 2003, encompassed a charged levy per bag in an effort to reduce the consumption of these bags. Despite this, waste activities remain a problem in South Africa (Stats SA, 2015). Dikgang and colleagues (2010) emphasise, that the levy has failed partially in meeting its objectives, and should be set reasonably higher in order to influence consumer

behaviours effectively. The level at which levies are currently charged in South Africa, although successful in reducing the demand of plastic bags in the short term, remains too low to be able to influence consumer behaviour overall, and decrease the purchases of plastic bags in the long term (Dikgang et al., 2010).

As demonstrated in the majority of the online responses, participants were adamant on using as little plastic and plastic bags as possible, as demonstrated in the quoted response: **FG P 2:** *'I stay away from plastic as far as possible'*. As the researcher I contributed towards the discussion, by highlighting that *'if that could be something that people could be more aware of and would be more interested in doing, and going to the shops and not buying things with plastic bags and containers'*. In an attempt to demonstrate how similar my views are to that of my participants, I added that *'I already do it myself, when I go to the shops and I get vegetables and stuff, ahm I refuse to put them in bags'*. Focus Group Participant One agreed partially by stating that, *'at the grocer, ahm you don't get plastic bags, just take a box, or take the box that they get their fruits in'*.

Online responses were geared more toward the amount of average units of plastic bags used weekly, except one, as is evident in these four excerpts; **OP 1:** *'0'*; **OP 2:** *'3'*; **OP 3:** *'I use reusable bags that I carry with me'*; **OP 4:** *'None, I have 3 material bags that I always use'*.

The responses overall suggest that participants are quite keen to use as little as possible plastic bags on a weekly basis, with a variety of alternative packaging being used instead of plastic bags. As a result of the rising global population and per capita consumption, a need exists for more global cooperation, to mitigate the ecological effects of consumption. This is according to Dauvergne (2010), who states that one of the biggest problems in environmental management currently remains "the problem of consumption," (Dauvergne, 2010, p.1). This not only entails consumers' purchase choices and what they use, but most importantly, how systemic drivers shape the quantities, costs, as well as benefits of producing, distributing, -and disposing of consumer goods (Dauvergne, 2010). Despite this, current green consumption initiatives continue to expand, and include efforts such as improved management of per unit energy -and resource use, as well as local green job developments. Key departments that should be approached in this regard, include

those that deal with agriculture and rural development, wholesale agricultural and produce markets at municipal level, as well as supermarket chains, farmer's associations and sector NGOs (Spencer, Swilling, Everatt, Muller, Schulschenk, du Toit, Meyer, & Pierce, 2010). As highlighted in the literature review, an extensive knowledge base, pertaining to green business practices already exists, and despite the need for a greater focus on consumer behaviour, Confino (2014) emphasises that, with our increased awareness on climate change, it remains crucial to engage individuals at a deep emotional, psychological, and spiritual level to avoid experiencing the failure to act on -or tackle sustainability challenges, in addition to the general disregard expressed previously. This is important to consider, as the guilt we experience, associated with feelings of the failure to act, or make a difference, could essentially result in our compulsion to consume even more, whilst attempting to hide our guilt (Confino, 2014). In this light, it remains crucial to consider not only scientific, individual elements associated with the changing climate, and efforts associated with tackling climate concerns, such as economic and social policy developments. A thorough exploration of holistic elements, which either directly or indirectly affect the above, including my participants' attitudes and behaviours could serve useful in investigating the expansion of environmental sustainable practices that involve participatory/ collaborative practices.

h. Alternative technologies & practices to replace un-environmentally friendly resources

In light of the aim of this study, to explore the environmentally responsible practices and behaviours, including alternative practices to curb climate concerns and social ills by youths living in urban Gauteng, numerous responses were obtained, which are discussed below. These responses further contribute towards the limited local literature, previously highlighted in the literature review.

Both online and focus group participants agreed that conventional environmentally unfriendly resources and practices should be replaced with alternatives where ever possible. Topics such as alternative energy generation, the use of alternative or energy friendly vehicles, as well as the need for increased recycling and sustainable shopping facilities and activities came to the fore in this regard. The following responses support these views: **O P 1:** *'So things like watching our "electrical*

resources, ja (yes)....., I think "solar power" is a good one to work with as well and cutting down on "Fuel consumption" in cars like pacing to the robots instead of just racing up to, and putting on your brakes and stuff like that'; O P 2: 'More readily available recycling facilities; More waste free grocery stores; The banning of plastic bags (new policies);

Pro-environmental education in schools and rural areas, including the replacement of paper with a 'kindle' were emphasised by two online participants, as is evident in these excerpts: **O P 3:** '[....]; [....]; [....]; *Pro-environmental education in schools and rural areas*'; **O P 4:** '*Replace school books with a kindle paper, which will save millions of trees being cut down and make people less prone to buy paper products*'.

Chart 1 in the literature review demonstrates similar productive actions, and it is evident from the responses obtained in this regard, that the youth do engage in, and support strong attitudes and behaviours, locally, in relation to environmentally sustainability and pro-environmental practices.

i. Burning waste

Two participants indicated that they burnt waste in a hole that was especially dug for this purpose. It should be noted, however that these participants used to, or still reside on a farm, where activities such as these could be performed with ease. As the researcher, I supported these responses by adding that I used to perform similar activities during my stay on the farm whilst young, where materials that were not perishable were burnt and then buried in a hole in the form of ash. The limitations of pro-environmental activities, as a result of residing in urban Gauteng are discussed more in depth in the next theme.

According to a study concerning the disposal of waste in South African abattoirs, methods of waste disposal, depending on the type of waste, tend to differ greatly, ranging from burial, rendering, land application, municipal landfill, collection by farmers (animal feeding), burning, and composting. Noted in this study, however was that although legally permitted in other international countries, not all of these disposal methods used, are necessarily legally approved in South Africa as yet (Molapo, 2009). This calls for increased government involvement, as emphasised in the responses regarding government interest and responsibility on ERBs and green

policy formation. To assist government, specifically municipalities in implementing the National Waste Management Strategy, certain guidelines have been developed. These could aid municipalities to work in collaboration with communities and consult with residents on implementing practical, easy to follow steps to manage waste disposal more efficiently. The focus has, in addition, shifted to one which no longer only focuses on the disposal of waste, but rather on avoiding minimising the waste stream, specifically solid waste wherever possible, now and in future generations (DEAT, n.d).

j. Reusing trash

The act of re-using trash or materials also constitutes as part of recycling activities. An increasing aim, especially by engineers has been to develop more environmentally friendly, recyclable materials. The steps of integrated-waste management are considered, by using smaller amounts of materials to package products, and by using recyclable and reusable materials as much as possible. In addition, means are investigating as to how the decomposition process can be accelerated. In light of this, engineers have recently focused on developing industrial systems that burn trash for energy at power plants, and have designed innovative landfills which are considered more economical and which reduce pollution (Kolenbrander, Todd, Zarske, & Yowell, 2005). Four focus group participants and two online respondents shared their activities surrounding the re-use of trash, which consist either of biodegradable or non-biodegradable products such as plastic. Their responses are listed in Table 2 below:

Table 2: Participant responses regarding the re-use of trash

Focus Group Participant 1	Focus Group Participant 3
I promised this woman who works at our farm she said she collects these things, and like there's these people, they don't really wanna work they just wanna sit, and they wanna make a small amount of money in a day so that they can go and	I think it's quite a good plan; you could use it, take your trash and make something.

<p>drink or like drink it up, so I told her ahm, ok I'm gonna help her no and turn the items into art or turn the things into something useful. And there's sort of the first idea of this guy who takes ahm newspaper, and he folds it up into little roles and then he makes a paper plate out of it but it's like this nice thing, or not a plate it's a, ahm mat or something.</p>	
Focus Group Participant 2	Focus Group Participant 4
<p>So I've been trying to make art out of trash, cause I feel that there's stuff you can make like even a Nik Naxs thing you know it's nice, beautiful. I don't want to throw it away.</p>	<p>Like you can use the resources completely all over again.</p>
Online Participant 1	Online Participant 2
<p>Proper waste disposal is very easy and recycling or re-using takes small efforts out of individuals.</p>	<p>I recycle where I can; the most efficient recycling I do is taking old tea bags and cigarette buds and putting them in paraffin to use as firelighters.</p>

Although local and global environmental efforts such as the re-use of trash listed above, as well as policy attempts to minimise rural-urban disparities are expanding, social deprivation persists in rural areas, specifically in countries such as South Africa. As highlighted in the literature, not only is joint community effort a priority in tackling environmental concerns in South Africa. The increase of environmental sustainable efforts by local individuals, with a high emphasise on the knowledge to engage in environmental practices, could be seen as the window, to further expand opportunities in improving the condition of our natural and community environment. Previously, it was highlighted that an expansion of existing knowledge, in particular

an increased awareness of environmental problems, are of utmost importance for the development of moral norms and hence attitudes. These then in turn influence the outcome of ERBs and associated attitudes or activities. To elaborate, knowledge and environmental sensitivity are important prerequisites for ERB (Bamberg & Möser, 2007; Mobley, Vagias, & DeWard, 2010).

k. Water saving

Although not many, aside from two focus group responses, were available regarding views on water saving; **FG P 1:** 'Ja (yes) I guarantee you if you walk into one of these bathrooms you'd see a running tap somewhere'; **FG P 2:** 'So things like [.....] saving water [.....]'. Numerous efforts locally however, highly emphasise the need for local citizens to take responsibility and save water. Campaigns recently have focused on creating awareness regarding the importance of saving water, mainly due to water shortages experience in the Gauteng province (South African Government News Agency, 2015). Municipalities in Gauteng for instance, have spent a large amount of funds on saving water posters, in rural areas specifically. It is therefore surprising, that not many views were available with regard to saving water. Whether this is due to the desensitisation by participants on the matter, as a result of this activity being over-publicized is yet to be proven. A lack of awareness, in addition to this, is also evident in this instance, therefore one would need to further explore alternative studies to establish the reason for a lack of views on water saving.

l. Not supporting big corporations or brands

As demonstrated in the previous themes, participants were in agreement that it would require a life change or adjustment to be able to live more environmentally responsibly, as is demonstrated in the following excerpt relating to the question of what an ideal society would be like; **OP 1:** '*citizens apply the concept of reduce, reuse and recycle in every aspect of their lives*', where '*environmental education is a key focus in schools, it is safe to walk anywhere and there are trees everywhere*'. The influence environmental awareness and education has on views regarding ERBs are discussed more in depth in the themes to follow. Noted herein is that increased attention should be on exploring the attitudes and behaviours, that contradict activities of human impact on the natural environment, including further

educating the youth on the benefits of expanding their environmental sustainable practices (Vörösmarty, McIntyre, Gessner, Dudgeon, Prusevich, Green, ... & Davies, 2010). Below are the verbatim responses obtained in regard of the support of big corporations and brands.

Focus Group Participant 1

'I think in terms of makeup I don't go for the conventional like Rimmel and Maybelline and all those big names because for me it's just like, like I don't know anything about if they affect the environment but I don't like the whole like um big corporation, like I don't really want to support that'.

Focus Group Participant 2

'I do also try and stick away from big brand products as much as possible'.

Online Participant 1

'I do not support bottled water as the water is taken from natural resources into the city and doesn't make its way back to nature, never as clean as it once was'.

Online Participant 2

'I try and make fuller use of electronic devices since the batteries disposal is incredibly destructive for environment'.

Online Participant 3

'My beauty products all come from Margaret Roberts Herbal Centre, which is made with natural ingredients. No parabens, no sulphates. Make up is a tough one in South Africa, but I use as many non-animal tested products as a possibly can. I stay away from any processed food and meat, especially when there are any 'E-numbers' present in the product'.

Online Participant 4

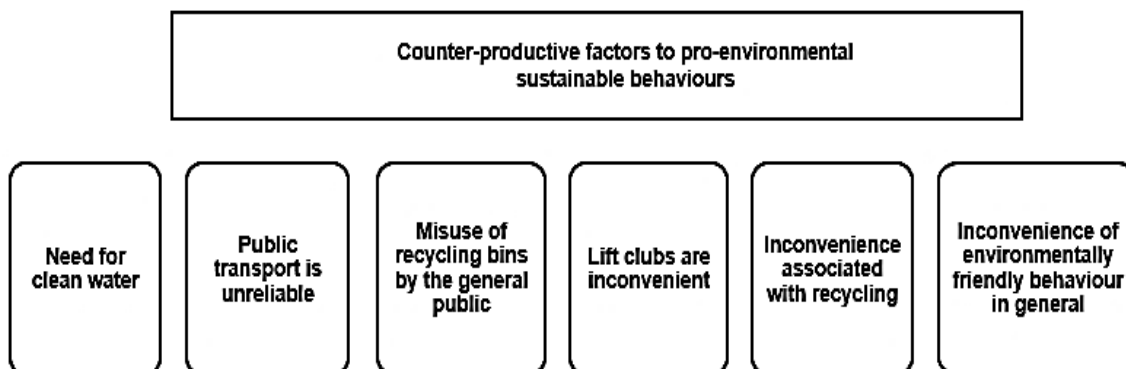
‘Foods in general that are heavily processed, leaving my lights on throughout the whole day, driving somewhere that is in walking distance’.

Regarding the above, limited focus in literature has been on how social relations of individuals and organisations influence, and are linked to the goal pursuit of acting more environmentally responsible (Westaby et al., 2014). This is discussed more in depth in the sections to follow, and solutions hereto are covered in the disseminations section and conclusion.

5.3.3 Counter-productive factors to pro-environmental sustainable behaviours

In addition to exploring pro-environmental activities and attitudes of my participants, I deemed it crucial that the challenges they experience in this regard are identified and described thoroughly, in line with Vörösmarty and colleagues (2010). Included in the aims was also an exploration of some of the challenges youths face, whilst engaging in environmentally responsible lifestyles. Diagram 3 provides an extensive overview of the codes which arouse under the theme ‘Counter-productive factors’ from the responses, regarding existing challenges. The limitations my participants expressed in their daily environmental sustainable practices were constructed under a separate theme, and the responses thereto are covered in the next theme.

Diagram 3



a. Need for clean water

As part of the counter-productive factors that limit the extend of pro-environmental activities, my participants expressed a shared concern regarding the quality of drinking water South Africans are exposed to, including the limited availability of clean water as is evident in these excerpts:

Focus Group Participant 1

‘Ahm can I add something to the trash thing? Where do you find clean water? I mean, cause if I drink water from the taps here I can taste the difference. The chloride and the stuff ahm layering over and whenever we go to our farm, cause the water there is clean so I like it. I always take a bottle home and when I drink that water it's like it basically cleans you from the inside’.

Focus Group Participant 2

‘So ahm, I would really like to if South Africa agrees to have clean water. I think that the whole, all the places in the world will become paradise if we had such a high number of clean water’.

Online Participant 1

‘I do not support bottled water as the water is taken from natural resources into the city and doesn't make its way back to nature, never as clean as it once was’.

Consequences associated with the effects of environmental depletion by human beings, such as rising heat waves, polluted ground water and increased smog levels could result in allergies and other health concerns such as asthma, infectious disease and fatal -or serious illnesses. In turn, these consequences are associated with certain key social concerns such as increased levels of pollution, limited housing and natural, hence economic resources (The World Bank, 2009), which could be linked to the counter-productive factors highlighted by my participants to be discussed in the sections to follow.

b. Public transport is unreliable

As highlighted in my literature review, the growing economic industry in Gauteng in recent years has resulted in a major population boom, further causing energy inefficiencies and constraints, which require for a speedy implementation of strict preventative measures to end the urban sprawl. Among these measures were the efforts to restrict urban growth, the protection of conservation areas, as well as restoration of wetlands. Alternatively, an income-integrated community development initiative, to avoid income segregation or the introduction of a stronger public transport network to attract more people to deserted city centres has been highlighted (EnerKey & Future Megacities, 2008). Oxford (2013) pointed out previously that our country is in desperate need of a viable and sustainable public transport network, further highlighting that the public transport system faces various challenges including health and safety hazards. This is, despite a report by the South African National Taxi Council (Santaco), which notes that taxis transport approximately 15 million commuters daily, that is approximately 60 to 70% of the total commuting public and workforce (Oxford, 2013). Some concerns were also expressed with the Gautrain.

The majority of my focus group participants expressed a joint concern with having to rely on public transport as an alternative means of transport. Concern was shared regarding safety, as well as the inconvenience associated with having to rely on an unstructured, untimely and at times, poorly situated, overloaded or expensive public transport system. My participants had the following views, when asked whether they use or had previously used local public transport:

Focus Group Participant 1

I actually was driving this week and I tried to count how many, what's the ratio of ahm, as in one person driving in a car versus many people driving in a car and it's one to 10. Ja (yes) I was counting, in every 10 people there was one person who had maybe two or four people in the car. Everybody else was driving one person in a car, and right now I have to drive from Centurion to Johannesburg every single day, and I'm starting to feel that car thing is weighing on me because, I'm driving alone. There's nothing I can do about it. That's where my work is.

Focus Group Participant 2

*'I think the one problem with the "Gautrain" is that it's cheaper to drive to the airport than to take the **Gautrain**'.*

Focus Group Participant 3

'Ja (yes) also the "Gautrain" for me it's like an hour walk, or 45 minutes to an hour walk to get there, otherwise I have to drive my car there'. 'In the mornings, ahm if you go on the Gautrain with the rush hour, I've literally stood there and let a cart go by without getting on it because it's so full. And I've watched someone beg that she could get on there, cause (because) they couldn't understand what's happening'.

Focus Group Participant 4

'I won't say that it's not easy to use, I think it's just, it comes down to being convenient'.

Focus Group Participant 5

'They could make it and you know, you know what causes, almost causes an accident for me every single day is like I'm driving in the one lane because I need to get to my work which is literally five metres away but every single morning there's a taxi stopping and not, it's in the middle of the road and I have to go around it. But then I have to go back into that lane because I need to turn there so if they could just drive more safely and not overload (laughs all around) and not like on the highway go into the yellow, skip a bunch and then go in'.

Lisa Seftel, executive director at the City of Johannesburg Transport Department emphasised that in the past five years, the focus has been on transforming public transport in the City of Johannesburg (Oxford, 2013). In addition, the need for a functioning, safe and efficient public transport network has been expressed, coupled with an increased focus on reducing the issues of congestion, pollution and overcrowding associated with the major population boom mentioned previously (Oxford, 2013).

As with my participants, perceptions regarding our local public transport system remain negative, although more significant developments could aid in demonstrating not only a safer and more reliable mode of commuting, as opposed to unreliable timetables and vehicles, but a greener public transport sector in South Africa, according to Joubert (2015). She states that instead of focusing on rolling out privately-owned electric vehicles, the emphasis instead should be on developing more efficient and affordable public transport, which all South Africans can utilise and rely on. According to Joubert (2015, p.1), 'a developed country isn't one where poor people own cars, it's one where rich people use public transport'. This implies that instead of producing more vehicles to accommodate the growing population, the country's existing transport infrastructures could emerge as more user-friendly, and affordable to the general public, considering that so many people solely rely on public transport (Joubert, 2015; Oxford, 2013). This would in addition aid in reducing the congestion and resultant high carbon emissions currently experienced in South Africa (Joubert, 2015).

As emphasised throughout my study, increased ERBs, including increased education and knowledge on environmental issues should be fostered and promoted, by means of an active collaboration between governments, the private sector and communities, to improve our natural environment and hence the well-being of local communities and ecosystems (Hweshe, 2012). From an urban mobility perspective, Joubert (2015) suggests, that if the government were to aid the country in meeting its international obligations towards emissions reduction, and meet its development goals, by means of adopting a low carbon policy, an efficient, integrated public transport system should be linked with a non-motorised transport network. This could support policies that drive city densification and mixed land use, as highlighted in the previous theme on 'Environmentally (pro-environmental) sustainable behaviours' (Spencer et al., 2010). This should present quite a challenge, considering that in cities, taxis accommodate nearly a third of all work commuters. Developments in the public mobility network in South Africa still require much support, especially from the Government, considering that nearly 40% of all South Africans rely on minibus taxis to get to and from work each day, despite the negative elements of recklessness and high fares associated with this means of transport. Trains accommodate only 10% of local commuters, whilst 6% of South

Africans are reported to use buses. Private vehicles account for 38% of work-day commutes, although private car ownership is not accounted for herein (Joubert, 2015).

c. Misuse of recycling bins by the general public

In order to explore viewpoints associated with ERB, I asked my participants whether they participated in recycling activities, and whether they had any recycling bins at their disposal, either on campus or in the vicinity of their home. Two responses were as follows:

Focus Group Participant 1

‘Um recently I’ve stopped, well I haven’t stopped but the complex where I stay stopped, well the recycling company that picked up the stuff stopped coming two weeks ago because of repeated problems with people throwing cigarette stompies (cigarette buds) and food in the recycling bins’.

Focus Group Participant 2

‘There was strictly labelled recycling corner with the recycling labelled bins and then on the other side was like ten normal bins okay and people would still go and throw their stuff in the recycling bins’.

The fact that both participants expressed a concern with the disregard from the general public towards the recycling facilities in their complexes, suggests that an increased awareness of -and understanding of climate change, would result in an increase in public -and hence personal responsibility to engage in more environmental sustainable activities. Bamberg and Möser (2007), as well as Mobley et al. (2010) support this statement, and indicate that knowledge and an awareness of environmental problems are of utmost importance for the development of moral norms and hence attitudes, which in turn influence the outcome of ERBs and associated attitudes or activities. As is evident from the responses above, more readily-available recycling facilities do not necessarily constitute for increased recycling activities by the general public. Responses that were coded according to recycling behaviours indicate that, recent efforts to increase recycling facilities are

under way. This therefore does not seem to constitute for the lack of environmentally responsible behaviours by the general public. A shift in behaviours of the public, with the aid of increased awareness regarding topics such as the effects of littering, or advantages of recycling, could encourage communities to recycle more, in line with Bamberg and Möser (2007). The RPM supports the view however, that adopting an environmentally responsible behaviour does not solely stem from our implicit motivations and intuitions, or the extent of knowledge we pose about the state of the natural environment and pro-environmental practices (Kaplan, 2000). As Adams notes, a realisation in recent years has been that the current behaviour of people toward the environment is in dire need of change, and that as humans we need to learn how to behave in an environmentally responsible way (Adams, 2003). Behavioural changes could arise as a result of social network formations such as a joint community effort which have been considered a priority in tackling environmental concerns in South Africa. In addition to increasing awareness, psychological practices should place more focus on why people form social networks, and how these networks influence their actions and attitudes (Westaby et al., 2014), particularly in the context of this study, how social relations of individuals and organisations influence and are linked to the goal pursuit of acting more environmentally responsible. Westaby and associates (2014) suggest that social networks research could ultimately aid in developing networking charts, and used henceforth to continue improving environmentally responsible practices and promoting ongoing environmentally responsible behaviours.

d. Lift clubs are inconvenient

As part of exploring my participants' daily environmental sustainable practices, I asked them whether they had ever utilised, or currently use lift clubs. Coetzee, Pretorius and Sorenson (2007) highlight that South African cities continue to struggle with the increase in traffic congestion and that forming more lift clubs would effectively contribute in decreasing the number of vehicles on local roads, especially during peak travelling hours. Views in this light were however limited. Only Focus Group Participant One had something to share in this regard; *'The funny thing is that the only people I can find a lift club with, are the big bosses, cause they're the only ones living close to me, and the problem with that is, they're constantly in and out of*

meetings so’. This response and the lack of feedback from the other participants clearly demonstrate that lift clubs are underutilised in Gauteng. The limitations and inconvenience associated with this activity could be reason for the low use thereof, and public transportation, which could serve as an alternative means of transport has been deemed mostly as unreliable in this study, hence participants continue to rely on their own mode of transport.

e. Inconvenience associated with recycling

Views regarding the ease of recycling activities were limited, and only two online participants had something to add in this regard, with one positive and one negative response; **O P 1**: *‘Recycling costs more to have collected monthly and the nearest recycling stations have a weight limit’*; **O P 2**: *‘Downstairs, therefore readily available’*.

Despite limited responses on and views, which demonstrate that recycling is inconvenient, recycling activities in South Africa, continue to remain limited. E-waste, or current waste electrical and electronic equipment (WEEE) management practices in various countries and regions, is said be grossly underestimated, and initiating, drafting and adopting WEEE regulations seems to progress slow and is still lacking (Ongondo, Williams, & Cherrett, 2011). This could be due to the lack of recycling facilities available, as noted in the responses categorised under the theme ‘Limited availability of recycling facilities in general’, to be covered in the next section. The ‘Misuse of recycling bins by the general public’ could also be associated with this theme, as our actions in general relate to our personal viewpoints and attitudes according to Babbie (2008). He states that as humans, we tend to learn either through experience, via direct observations, or by means of agreement, relying on what we are thought to ascertain the truth about something, which implies that we tend to rely on both universal truths, as well as on what we learn from the through our experiences and personal observations (Babbie, 2008). Ultimately it remains the responsibility, not only of the general public to ensure their waste is disposed of responsibly. Government and other important role players should ensure that waste practices in South Africa run effectively and in line with environmental sustainable practices. Although WEEE management practices in various countries still struggle, the e-Waste Association of South Africa (eWASA), established in 2008, and

supported by the (DEA) and the Department of Trade and Industry (DTI), ensures for the establishment of a sustainable environmentally sound e-waste management system for the country. Since its establishment eWASA has been in collaboration with manufactures, vendors and distributors of electronic and electrical goods, including e-waste handlers such as re-furbishers, dismantlers and recyclers, to manage e-waste effectively.

Since 2004, several initiatives have been implemented successfully in the KwaZulu-Natal, Western Cape and Gauteng provinces, as a result of active global partnerships, and non-profit and government engagements. To conclude in light of this, the establishment of projects such as those by Ewasa, e-waste, and other waste initiatives and networks, continue to grow rapidly to fulfil the current demand for local services related to waste disposal, among others (eWasa, 2016).

f. Inconvenience of environmentally friendly behaviour in general

Focus Group Participant 1

'It's just the tough thing is now for me to go and contact um a company to come and do recycling just for my flat is not really possible; maybe it is possible but also because I'm so busy and because I am one flat in the whole complex um it puts a spanner in the works'.

Focus Group Participant 2

'It's not convenient'.

Herein it should be noted, that inconvenience, underlined by an element of self-sacrifice might play a role in counter-acting pro-environmental attitudes or the willingness to engage in environmentally responsible behaviour. These responses link to those discussed under the theme 'Domestic recycling', where it is suggested that drop-off points could make recycling more economical, and hence convenient. Activities, alone however do not lead to our willingness or intention to make sacrifices to engage in environmentally responsible behaviours, nor does an environmental attitude on its own. Adams (2013) suggests that more positive environmental attitudes and a greater willingness to make sacrifices are more likely

to lead to more environmentally responsible behaviour, coupled with environmental education to provide learners with knowledge of -and skills in using environmental strategies (Kuhlemeier, Van den Berg, & Lagerweij, 1999). In this regard the lifestyles of local youths as linked to environmental challenges should be addressed (Kuhlemeier, Van den Berg, & Lagerweij, 1999). To conclude, the RPM places helplessness at the top of the list of motivational issues to be considered when focusing on behaviour change (Kaplan, 2000), further suggesting that aspects of information processing, such as our preference to participate and play a role in what occurs around us, link to our behavioural and motivational implications (Kaplan & Kaplan, 1989).

5.3.4 Limitations to engaging in environmentally friendly behaviours

a. Lack of –and importance of government interest in environmental consciousness

Although governments have realised how serious a threat environmental degradation is to our earth, all the participants, except one, did not necessarily feel this was the case (Adams, 2003). A lack of interest by the government, and also the importance of government involvement in empowering ERBs were highlighted. A US study conducted by Metz and colleagues (2010), supports these views. Highlighted was that the youth lack faith in government to address environmental, and other major problems. Further, the study indicated that, only one-third of the respondents had faith in government leaders to succeed in addressing major problems in the country (Metz & Weigel, 2010). Policy formations, in particular, were mentioned in my responses as important to consider, as demonstrated in the following responses:

Focus Group Participant 1

‘I think it’s also I feel like, like I really battle because you know, the government policy and economical growth always trumps environmental consciousness’.

Focus Group Participant 2

‘Ja (yes), you know, but what they do, it’s more you know for the appearance that they are doing something; but I mean if the government wanted to make real changes I think it would be a lot different’.

Focus Group Participant 3

'I feel quite pessimistic, but I think I'm just tired, I don't know, I just feel like you know unless the government makes regulations, where shops, where places, you know are not allowed to use plastics and they are forced to have alternatives, where people are forced to bring their own boxes to the shops to pack their stuff in, unless it is forced on people like that I just feel like you know it's probably never going to change'.

Focus Group Participant 4

'They've been doing it for a long time, they get Titanium, it's just on the coast or the edge of the Saint Lucia wetlands, ah I think it's an Australian company that does it. Like the government is accepting money to dump nuclear waste and stuff and all the side effects as well'; 'Even if the motive is wrong it is still good, and, ja (yes) they can really do more with recycling. And power, like I feel this whole power thing with Eskom and things like that, like there are so many ways that they could, things that they could implement to help out the power situation; and if they help out the power situation it would decrease the coal which would help the, coal consumption, which would help the environment in the end – they are not doing any of that'.

Focus Group Participant 5

'[.....]. So I think also you know, you know government policies should really also be at the "forefront of facilitating for daily sustainable practices and pro-environmental behaviour, cause they actually have the power to (pause), you know, ahm, accommodate laws that facilitate ahm for that, and also, you know like we were saying. We don't, we can't have much of an effect ahm outside our immediate vicinity to our daily lives, but like where the real problem is you know with the recent biodiversity, where animals are being killed and stuff, the government there has the first power to stop it'.

Online Participant 1

'No, government does not make it easier to recycle in fact they make it harder, therefore people believe it's too much work'.

Online Participant 2

'No. They aren't even able to provide basic services most of the time, let alone any pro-environmental practices'.

Online Participant 3

'Not at all. There is very little, no, actually there is nothing that my municipality does openly to encourage sustainability'.

Despite the concerns noted above, governments and communities alike are beginning to acknowledge that environmentally-friendly practices need to be encouraged and implemented. Increased focus recently in South Africa has for instance been on increasing green job initiatives, using the Industrial Policy Action Plan. Strategic initiatives are under way, to develop green industries and improve energy efficiency, including local plant and crop growth projects and recycling opportunities (DTI, 2013).

b. University recycling facilities are limited

As highlighted overall by seven participants, recycling facilities and the awareness regarding environmental practices and facilities at university campuses are rather limited, including in the university residences. Suggested by Online Participant Four was the following: *'No, their focus is always on other issues, never the environment. In terms of recycling, the university does have a recycling programme, but does anyone know about it? No!'* This implies that universities have the means to implement the much needed facilities and activities, although priority seems to lie with other developments and engagements. **FG P 3:** *'Ja (yes) I would like to add that the University has the power to implement recycling in the residences if they wanted to'.* This quote suggests that university campuses have the power to implement policies and initiatives which could encourage students and their communities to expand their involvement in pro-environmental practices, in and off campus. The Siyakhana Initiative for Food Security and Ecological Health, consisting of a dynamic collaboration of people based at Wits for instance has already established an inter- and multi-disciplinary approach, enabling a variety of Wits departments and experts

to contribute toward improving food security and the promotion of health for all (Siyakhana, 2015).

c. Limited availability of recycling facilities in general

Highlighted by Online Participant One was that Gauteng in particular is not yet very focused on recycling as yet. Emphasised were restricted pro-environmental services, including recycling bins/ and companies, which are not always available in certain areas. Also outlined was the limited availability of a specific range of organic, earth-friendly, or cruelty-free products. Locally, however, the 'Industrial Policy Action Plan' has been put into place to aid in the development of green industries and improve energy efficiency, such as local plant and crop growth projects and recycling opportunities (DTI, 2013).

d. Environmental projects and opportunities are limited

Environmental projects and opportunities are deemed as rather limited to date, according to five participants. Clearly outlined by a further participant, was that participants' involvement is limited as a result, and that information regarding available projects and initiatives remain limited to date, specifically renewable energy initiatives. It should be noted in this regard, that renewable energy from South Africa's first wind and solar (photovoltaic) projects created an astounding R800 million in net financial benefits in 2014. Among the advantages of this renewable project were the reduction in financial fuel costs by the IPPs involved, resulting in addition in saving Eskom's power system R3.7billion in diesel and coal fuel costs (Khuzwayo, 2015). This is according to an independent study conducted by the CSIR (Khuzwayo, 2015). This suggests that an increased awareness with regard to available environmental projects should be encouraged.

e. City life limits opportunities

Participants did not seem to face major limitations or challenges engaging in their environment sustainable practices, as a result of residing in urban Gauteng. The only point which stood out, was that some ERB practices and initiatives take place outside the city, making it more difficult for participants to support or know of such endeavours. Further, urban activities, or regulations, might limit what activities

participants could be involved in. This includes readily available recycling facilities and waste disposal depots, to be covered in the next theme.

f. Environmental support projects might be a scam

Focus Group Participant One raised the topic of possible environmental scams, which could be linked to existing pro-environmental initiatives, including purchasing armbands to support a cause. No further animosity was expressed by participants regarding the poor or suspicious intentions of external organisations to gain monetary value from running environmental projects which require funding. In the next section however, participants do outline money as contributing toward their ability to behave or act more environmentally responsible.

g. It is expensive living an environmentally friendly lifestyle

Evident from some of the responses is that living an environmentally friendly lifestyle would require one to have the sufficient financial means. When asked what an ideal society would be like for my participants, Online Participant Three's response was, '*a society where each building is powered using renewable energies **that an ordinary citizen could actually afford**, people realise that to be sustainable you don't have to ride a horse and cart and that the cars on the roads are electric or hybrids **and affordable***'.

This implies that finances, to a degree determine the extent of pro-environmental activities my participants engage in, and could act as a potential barrier in living more environmental sustainably.

5.3.5 Promotion of environmentally sustainable awareness and behaviours

The responses, in relation to the themes covered, provide an indication that an active engagement between various role players, as well as the further promotion and awareness of environmental sustainable activities is required. This is to enhance green practices, and vice versa the well-being of local citizens, and to further develop our communities and the local economy henceforth. In addition, the themes discussed clearly provide an extensive summary of the activities and behaviours by South African youths, explored in this study.

As part of my secondary research question, the aim was to determine how environmental sustainable awareness and behaviours could be further promoted by means of engaging in an exploration, and in addition, to discover ways of actively engaging with my participants, as well as their communities in general. Both focus group and online responses outlining my participants' environmental sustainable practices and views in this regard were categorised according to the most suitable themes, and in relation to my research question and aims. The table below clearly illustrates responses in this regard, as well as my researcher comments, similar as in the previous sections, to ensure for more open ended responses and to include any self-reflexivity on account of the researcher. Important to note in this regard is that online responses were quite limited with regard to the themes; 'Family exposure to environmental tasks', 'Friend or peer exposure to environmental tasks', as well as 'Creating internet awareness' and 'Working on an individual level'. The discussions, from which these themes derived, were raised solely in the focus group sessions; hence only focus group responses were coded in this regard. A detailed discussion, based on each category in Table 3 below will follow.

Table 3: Promoting environmental awareness and activities

THEMES	RESPONSES
First interest in recycling and supporting environmentally sustainable practices in general	<p>Online Participant 1: <i>'My friend asked me if I would participate'. 'The growing need for the human race to start looking after our home'.</i></p> <p>Online Participant 2: <i>'I believe in nature conservation and environmental awareness and preservation. It's a personal observation that a majority of humanity is extremely wasteful and if everyone just tries a little bit we can make a difference'.</i></p> <p>Online Participant 3: <i>'I am interested in partaking in this study because it is imperative that we debunk what the reason is for our society not giving enough attention to the environmental crisis at hand'. 'I heard about this study at a ""green economy"" seminar hosted by TUT and the City of Tshwane'.</i></p> <p>Focus Group Participant 1: <i>'Yes so, ahm so I started recycling about 3 years ago, and then started throwing my</i></p>

	<p><i>organic waste into the compost heap. [.....]’.</i></p> <p>Focus Group Participant 2: <i>‘Ahm, in terms of environmental, ahm I just decided one day that I would start recycling and starting a compost heap with all my, ahm what you call that kind of rubbish’.</i></p> <p>Focus Group Participant 3: <i>‘Recycling, make sure that your taps aren't running things like that, to make sure that you can do it for another 100 years without having to worry about this going wrong or that’.</i></p>
<p>Supporting pro-environmental committees or activities in the community, place of work or university</p>	<p>Online Participant 1: <i>‘Yes, I would be running it! The University of Pretoria, representing South Africa at Conference of Youth 11 (COY 11), at Conference of the Parties 21 (COP 21) in Paris in December, Coordinate the Fossil Free Pretoria campaign on behalf of 350.org, numerous events through the environmental society, start an environmental leadership programme where I offer workshops to students on environmental issues, represent the interests of the YouLead Collective at the University of Pretoria, become a member of the Green Youth Network and attend conferences to further my own knowledge namely: Centre for Climate Innovation Inaugural Conference, The Green Youth Indaba, Sustainability week and the International Conference on Innovation for Sustainability under Climate Change and Green Growth’.</i></p> <p>Online Participant 2: <i>‘yes, I would support it any movement at least’.</i></p> <p>Online Participant 3: <i>‘Yes. I would support any and every cause. I currently work with an Non Profit Organisations (NPO) called Ban Animal Trading, as well as UNEP projects’.</i></p> <p>Online Participant 4: <i>‘Yes’.</i></p> <p>Focus Group Participant 1: <i>‘Has anyone here been to "Africa Burn"? Ok basically, it's ah the regional of "Burning Man" (a large concert in the US that can be compared to Oppikoppie) (a local music festival), they have a "free trade community", it just pops up sometime in April in the desert and people go down there it's very expensive to go because it's, the tickets are like a R 1000 for one! But it's basically, it's a really cool way to see how they live because they basically "work on</i></p>

	<p><i>trade, there's no money". The only thing you can buy there is "Ice", because it's the only thing with real value in the desert (laughs all around). Ahm further than that you walk around and people hand out things and you hand out things and it's a really cool way to see "how the world could work if there was no money"</i>.</p> <p>Focus Group Participant 2: <i>'Um, I would support it. I think one way to support it would be to lend a voice to their plans and stuff like that. Like sign off on their petitions and stuff and go to their events and things like that. And ja (yes) then if you want to get more involved you could actually join and be like part of the inner circle of the team and help them organize things and come up with things'. 'And also for raising awareness, ja (yes)'</i>.</p> <p>Focus Group Participant 3: <i>'There is an environmental society, it's called Green Line, and they offer cool projects that you can be involved in um, that seem to run pro-environmental behaviour and change in the campus and stuff'. 'I am a registered member but I don't have time to do any of their projects because of my own societies that I am involved in'. 'Ja (yes), so I get their newsletters and I have attended one or two of their meetings, but I am not involved in any of their ongoing projects'.</i></p>
<p>Family exposure to environmental tasks</p>	<p>Focus Group Participant 1: <i>'Ah ok well, basically I got out of school and started studying and then I was like no I need to start doing some sort of charity work, and ahm the first sort of option that was available was "Blue Palm" (laughs). And it was semi my family because my dad helped Justine with starting out and ahm I said that we should start to get involved and start an "Open Window" site'.</i></p> <p>Focus Group Participant 2: <i>'And then also I got my parents to start doing it, now they are doing it, ja (yes) um so it's nice'.</i></p> <p>Focus Group Participant 3: <i>'I was motivated by my parents who have always lived a very eco-conscious lifestyle. The extent of my environmental sustainable practices have increased since starting my journey with Miss Earth South Africa, as we have been exposed to more information and sustainable processes'.</i></p> <p>Online Participant 1: <i>'I live with my parents and they do not want to recycle or have a compost heap, I'm working on a</i></p>

	<p>wormery (a work farm, where composting occurs)'. Interviewer: <i>'Basically when I was a very little girl, my grandfather always made me aware that you are never supposed to throw anything on the ground because I grew up on a farm, and ahm growing up on a farm, it's not acceptable to throw plastic into the bushes or grass or ah cigarette buds because number one they can catch fire, and number two, they just don't "biodegrade", ahm so that's something that my granddad has taught me since I was young. Ahm throughout the course of my life I've learnt not to ahm, or to actually pick up things that people throw on the ground, because that's something that my parents have also always taught me. So I think mainly family have encouraged me throughout the course of my life to engage in environmental activities'.</i></p>
<p>Friend or peer exposure to environmental tasks</p>	<p>Focus Group Participant 1: <i>'Um it's only recently been bothering me because Mika showed me about the litter. I never really saw it. I don't like it because I used to smoke and throw my cigarettes out'.</i> Interviewer: <i>'So for me it was a case of when I met my fiancé he made me aware of the fact that it is not on to just throw anything on the ground'.</i> Focus Group Participant 2: <i>'Ja (yes) sorry, I made him, well I didn't make him but like I talked so much to him that he gave his sprinkle pops to the hobo standing there, but like, because I was talking to him about the [Karma] thing and the next day he got, he lost his friend's guitar and the next day he got it back – and he was like no this is the karma from giving up my sprinkle pops and I was like, he's even become vegetarian now so I am literally like transferring all my knowledge and it's actually, it wasn't my decision to give the pops, it was his decision but through me telling him that he did it'.</i></p>
<p>Internet creates awareness</p>	<p>Focus Group Participant 1: <i>'That was actually based on the internet and stuff like there's a lot more ahm, how do you say it, like socially conscious videos and stuff. And I was reading that combined with some other things that were going on in my life, ahm ja (yes) almost like an epiphany.</i> Focus Group Participant 2: <i>'I could see even especially from the internet the way that we are affecting our animals and</i></p>

	<p><i>ecosystems with ahm, destroying plants and putting oil into the water and like putting plastic (louder tone) in the water. I mean I saw a turtle that got stuck in a piece of plastic and grew, like basically around the plastic. So it completely deformed the shape of the turtle. And it really just hits there you know (touching her heart)'.</i></p> <p>Focus Group Participant 3: <i>'You know what we should actually look at (incomprehensive). It's an app, ok I don't know how we're gonna (going to) get it running in the interview time, but I think it's called Panorama or something, but it shows you. You take your phone like this and you can do this (demonstrates with phone) and the whole of Tokyo or wherever you want to be in the world it shows you what's underneath the city'.</i></p> <p>Focus Group Participant 4: <i>'It can, we can use apps ahm that can be linked to your personal info and give you daily personal information on your type of products and your brands that you consume, and use and how to fix your health and the environment'.</i></p>
<p>Working on an individual level</p>	<p>Focus Group Participant 1: <i>'[.....]. I feel like ahm, that really refers to "at an individual level", what that person is doing to cut down their kind of footprint they're leaving and that's probably the small things like recycling ahm, disposing of your organic waste, the compost heaps, closing the taps. Ahm planting stuff'.</i></p> <p>Focus Group Participant 2: <i>'Integrity is definitely one of them, um, you know I feel in life what you put in is what you get out really and so you don't have a lot of time in this world, and I want to experience a lot and I want to grow a lot and that's why I put so much into my life because I expect to get um equal amounts of what I put in out'.</i></p> <p>Focus Group Participant 3: <i>'I like the idea of being like in control of myself and like my thoughts and muscles and processes, everything'.</i></p> <p>Focus Group Participant 4: <i>'I was thinking more in terms of, I thought, when I first thought of "sustainability" ahm, in terms of "environmental practices", I was thinking of stuff that we ourselves put into practice and is sustainable for us to continue doing, like for ever and ever. So things like watching our "electrical resources" and saving water ahm, ja</i></p>

	<p><i>(yes) I think "solar power" is a good one to work with as well and cutting down on "Fuel consumption" in cars like pacing to the robots instead of just racing up to and putting on your brakes and stuff like that. And bicycles that would also be good'.</i></p> <p><i>Focus Group Participant 5: 'Um ja (yes) I think I would definitely get involved; I would try to get involved as much as possible. I would probably like try to be one of the participating members because to me it is like, to me I watched a movie the other day and I said, stop everything, let's focus on earth right now, I don't want anything else, I just want to focus on the planet like we don't have time. That needs to be the number one focus right now, so, I would prioritize everything to do with the planet on my highest list, because I feel that money or anything like that is going to disappear, but if the earth disappears then it's terrible for, well it won't disappear but I mean [.....]'.</i></p>
Educating the general public	<p><i>Online Participant 1: My ideal society would be a society where all citizens are educated from a young age about the effects of our choices towards the earth. We should realize that the earth is not a separate entity from us humans, but that we are of the earth.</i></p> <p><i>Online Participant 2: I want to start a school where children are taught how to grow their own food. This is something that the government has to implement in the system as children are losing touch with nature</i></p> <p><i>Focus Group Participant 1: 'It's unhealthy, and everyone must bring your own containers and stuff to the grocery store but then someone's going to have the "mentality" to say ok now let me go buy 50 containers, and once I've used it I can now throw my containers away so, like I agree with what you say (talking to Mika). It's very good ahm to wait and try and tackle the problem, but I think it comes down to like the individual themselves, unfortunately people don't see the wrath of that and those are the people that you have to try and educate you know'.</i></p>
Working as a community and continuation of future community	<p><i>Interviewer: Alright, okay, I would like to add and say I would like to get involved should I have the opportunity but I would need to have constant support from likeminded individuals that would be in a similar type of position, that feel the same way and that can kind of remind me and encourage me on a</i></p>

collaborations	<p><i>frequent basis to actually stay involved and you know, even though you are having a tough week or month, they give you a phone call and say listen we need to meet up. I know it has been a long week but we need to meet up and make time, because time to me is very limited, always. So ja (yes) I think I would love to, just need to make the time to do so and I need the support system to be able to do that.</i></p> <p><i>Interviewer: And when I think of "environmental activities" or "pro-environmental behaviour", ahm I would think of now aside from what I know the actual definition of the terms are, ahm the first word that comes to mind is ahm "community". Ahm if we could all live in a "community" where we encourage each other to think "like-minded" ahm I think we are much more better off than if we try as "individuals" on a daily basis to ahm "make a difference", [...].</i></p> <p><i>Focus Group Participant 1: 'discipline, sense of community, abide by the law, conscientiousness, open minded, tolerable'.</i></p> <p><i>Focus Group Participant 2: 'But that's also it comes back to the thing of "we're not one unified community, with one unified goal". If we all had this idea of we're running a country together. We want our community to be clean. We should make sure that we don't put the factory that can do that or you know. We wouldn't be in such competition with each other or like community'.</i></p> <p><i>Focus Group Participant 3: 'I think a community could "encourage each other to think more pro-environmental number one and make it the norm, acceptable", ahm you know and that thing "spreads ahm to other communities", that's why I would say community'.</i></p>
Creating general awareness	<p><i>Online Participant 1: 'I believe in [.....] environmental awareness and preservation'.</i></p> <p><i>Focus Group Participant 1: 'And also for raising awareness, ja (yes)'.</i></p> <p><i>Focus Group Participant 2: '[.....] I think that is like a big thing; I think we spoke about it last time about you know [unclear 07.17.7] so maybe it is an awareness problem. They don't know the impact it actually has on the environment even though they [unclear 07.24.8] like aware of it'.</i></p>

	<p>Interviewer: <i>'And then ahm any examples I would consider pro-environmental behaviour or activities, ahm well number one just "creating awareness", ahm in the sense of telling others about how you feel about pro-environmental behaviours and how the "world is going about doing this", ahm so that would be my main reason to be more "pro-environmental".'</i></p>
Cultural differences	<p>Focus Group Participant 1: <i>'I'd like to, ahm the whole thing about littering, the thing is I'm not sure if it is a cultural thing but I guess that there are a lot more loitering in black townships compared to white townships and even though they kind of receive the same education they don't have the same background and I think culture really matters. White people compared to black people, if you go to a township like a black one outside of the city, they don't have grass and that's something that really bugs me because I like grass and they don't have grass, and apparently that's only because people are scared of snakes and they can see the snakes go into the house, but I can't think of another reason literally'.</i></p> <p>Focus Group Participant 2: <i>And it was like, that there was the cultural differences. I don't understand (short pause), you know what was the difference between my upbringing and their upbringing, because they teach you that it's ok that they can just dump things'.</i></p>
Influencing others	<p>Focus Group Participant 1: <i>'Like I came out of there really motivated to walk the life really, and I think in the future I am going to be finishing Varsity fairly soon, I would like to, I would like to go over to the East and then start influencing people over there'.</i></p> <p>Focus Group Participant 2: <i>'So I want to influence the minds of people and people around them, not just doing things on my own but people's mind sets'.</i></p> <p>Online Participant 1: <i>'Be happy with what you have, appreciate the small things and don't live in such a way that you negatively impact others'.</i></p>

a. First interest in recycling and supporting environmentally sustainable practices in general

Based on the questions, why online participants were interested in taking part in this study, and further, what motivated them to start engaging in environmental sustainable practices, a variety of responses were obtained. Two participants indicated that they were referred to the study via a friend, whilst one mentioned that they heard about my study at a "green economy" seminar hosted by the Tshwane University of Technology (TUT) and the City of Tshwane. Focus group participants were asked similar questions to those posed to the online participants, namely what motivated them to start engaging in environmental sustainable practices, although their initial interest in the study was replaced with the question, 'How did you initially get involved in your work or advocacy?'. A variety of codes or categories were established, to capture responses obtained in this regard, to be discussed separately under each coded heading.

The following online excerpts support the view that, increased awareness, as well as a general lack of responsibility by the public constituted the major motivators to engage in environmental sustainable practices, along with a sense of personal responsibility to better the world; **O P 1:** *'[.....]. The growing need for the human race to start looking after our home'*; **O P 2:** *'I believe in nature conservation and environmental awareness and preservation. It's a personal observation that a majority of humanity is extremely wasteful and if everyone just tries a little bit we can make a difference'*; **O P 4:** *'I am interested in partaking in this study because it is imperative that we debunk what the reason is for our society not giving enough attention to the environmental crisis at hand'*.

Noted therefore, should be that a general sense of disregard, and lack of previous responsibility by others, specifically by local government, are used as motivators to act more environmentally responsibly. US survey by Metz and associates (2010), the majority of the youth, namely 51% expressed their concern with current environmental conditions, labelling it a serious problem. In support of the responses above, this survey indicated that the youth surveyed blamed mainly previous generations. Of these respondents, 73% indicated that the responsibility remains

with the upcoming generations to fix the damages previously caused to the natural environment.

Focus group participants, in light of the above highlighted only their engagement in recycling practices, including, water saving, composting and organic waste recycling. The remainder of their motivations to engage in environmental sustainable practices, and how they initially got involved in ERBs are outlined in the remaining categories below.

b. Supporting pro-environmental committees or activities in the community, place of work or university

All of the online participants, and three out of five focus group participants responded rather positively, and extensively, regarding their participation in -or support of pro-environmental committees or activities either in their community, place of work or university. Activities and initiatives discussed included among others the following: Supporting the Green Line environmental movement; Coordinating the Fossil Free Pretoria campaign on behalf of 350.org, as well as supporting the YouLead Collective at the University of Pretoria; Attending conferences to further one's own knowledge, such as representing South Africa at Conference of Youth (COY) 11 at the COP (Conference of the Parties) 21 held in Paris in 2015, attending the Centre for Climate Innovation Inaugural Conference, the Green Youth Indaba, Sustainability week, and further, attending the International Conference on Innovation for Sustainability under Climate Change and Green Growth; Attending social events such as Africa Burn; Establishing one's own environmental organisation in the community; Joining environmental initiatives and NPO's, such as Ban Animal Trading and initiatives run by the United Nations Environment Programme (UNEP). The responses in the table above clearly summarise the above.

Evident is that, out of ten participants, eight in total seemed to have a general knowledge and awareness regarding pro-environmental activities and initiatives. A lack of awareness and interest in getting more involved was not presented in this study. The majority of participants however, highlighted activities or initiatives they could potentially support, including the Green Line initiative. Out of ten participants only two participants confirmed their current involvement in environmental

sustainable initiatives. This calls for a further investigation as to how motivations and interests can turn into action, by means of a joint collaboration with me, the researcher and my participants' communities. A What's App and email group have been established on an ongoing basis with my focus group participants, to enable the further promotion and awareness of environmental sustainable practices and engagements in the local context.

c. Family, friend or peer exposure to environmental tasks

With regard to family exposure and their involvement in environmental sustainable practices, only one online participant indicated that their parents, despite the participant's personal involvement, are not interested in partaking in environmental practices. Two focus group participants highlighted that their family played a large role in influencing their own environmental views, in part, motivating their behaviours and practices further, as is clear in the following two quotes; **FG P 1:** *'[.....] the first sort of option that was available was "Blue Palm" (laughs). And it was semi my family because my dad helped Justine (focus group participant) with starting out and, ahm I said that we should start to get involved and start an "Open Window" site';* **FG P 3:** *'I was motivated by my parents who have always lived a very eco-conscious lifestyle'.* On the contrary, one focus group participant emphasised, having played a role in motivating their parents to start considering an attitude shift, and start engaging in pro-environmental activities, as is evident in this excerpt; **FG P 2:** *'And then also I got my parents to start doing it, now they are doing it, ja (yes) um so it's nice'.* No further views were available in this instance, although two focus group participants, who are dating shared their views regarding friend and peer exposure. Evident was that knowledge was transferred vice versa between both participants, resulting in both participants acting more environmentally responsibly. An element of educating one's peers was also present in the discussion regarding this topic, as is clear in the following excerpt; **FG P 1:** *'Um it's only recently been bothering me because Mika showed me about the litter. I never really saw it'.* My self-reflexive views regarding the knowledge transferred to me via my fiancé' were also included in this regard. Attitudes expressed toward individual pro-environmental practices, are discussed more in depth below.

d. Internet creates awareness

In support of the New Climate Economic Report (GCEC, 2014), participants outlined numerous applications and technologies to aid in reducing the effects of climate change. The report explored the benefits of emerging structural and technological initiatives in the global economy to reduce climate change risks, and in this study, the Panorama application, as demonstrated by one focus group participant, clearly demonstrates the amount of waste located underneath a city, in this instance Tokyo. A clear link was established in the responses relating to technology, between the growing capabilities of modern technology and its ability to expand our existing environmental awareness and hence activities, as is evident in this quote; **FG P 4:** *'It can, we can use apps ahm that can be linked to your personal info and give you daily personal information on your type of products and your brands that you consume, and use and how to fix your health and the environment'*. Also outlined herein was the role the internet plays in generating more awareness on the state of our environment, and how as humans we are actively contributing toward environmental degradation. In terms of local ERB practices and attitudes, human social relations are linked to specific goal pursuits according to Westaby, Pfaff, and Redding (2014), who suggest that we should be fully aware of how our attitudes affect our behaviours. Responses clearly demonstrate the important role the internet has played thus far in line with this.

e. Working on an individual level and influencing others

Out of ten participants, two focus group participants and one online participant agreed, that influencing others to engage in environmental sustainable practices is important to take into consideration. Responses in this regard were limited, although all of my focus group participants shared their views regarding individual environmental sustainable practices. Clearly expressed was that, individual responsibility and starting by building on one's own practices, are the key to expanding environmental attitudes and practices, and transferring knowledge to our communities. Recently, the social sciences have highlighted, however that social and individual identities are in fact constructed, not "given". Despite this, and in this instance, my participants might not all be aware of the historical, social and political ways in which their identities have been constructed (Alexander, 2006). Roberts and

Bacon (1997) suggest replacing an individual behaviour change approach with alternative strategies found outside our individual awareness. This is important, as according to these authors, this allows one to refrain from following a 'blaming the victim' approach. Alternatives suggested are covered in the previous themes, and include for example macro conditions resulting from the failure by companies to provide ecologically friendly products and government inactivity. The themes previously discussed, however support the view that the majority of my participants feel that both individual, and community engagements in improving the natural environment, and hence our well-being are important.

f. Educating the general public and creating general awareness

Participants firmly believe that education is important, specifically with reference to the youth. Creating awareness in the general public was also outlined, to further encourage the general public improve the state of our environment and tackle climate concerns. To support this, a genuine concern was expressed with the lack of awareness currently present in local communities, resulting in limited involvement in environmental sustainable practices. As previously emphasised, knowledge and an awareness of environmental problems are of utmost importance for the development of moral norms and attitudes, which influence the outcome of ERBs and associated attitudes or activities (Bamberg & Möser, 2007). This implies that knowledge and environmental sensitivity are important prerequisites for ERB (Bamberg & Möser, 2007; Mobley, Vagias, & DeWard, 2010). The link outlining the importance of community efforts to further promote awareness and environmental sustainable practices was clearly evident in this section and responses associated herewith are addressed further below.

g. Working as a community and continuation of future community collaborations

The responses obtained whilst discussing community engagements strongly support my secondary research question, as well as the aims of my study. Participants gave a general indication that a potential engagement with their communities and me, the researcher is important. Specific reference was on engaging in environmental

practices and attitudes, with the support from like-minded individuals. As the mediator however, I had to probe quite a bit to gain more thorough responses. Means to establish an ongoing collaboration with my participants and their communities are covered in the dissemination section, although it should be noted that in this study an email and What's App group were utilised for this purpose. Apart from exploring existing attitudes and behaviours, the secondary intention of this study was met partially by the responses which were obtained. To elaborate, the aim was to aid in exploring developments across the broad spectrum of the communities that face daily social ills, such as poverty, HIV/Aids and unemployment as a result of a demoralised state of being. Overall, responses indicate, that participation in environmental sustainable practices could potentially increase, if communities, possibly with similar goals and views in mind, work together, and when participants have the ongoing support of their communities. Suggestions were made to increase community engagements in this regard, although challenges or views pertaining to daily social ills, as highlighted, were not addressed. In line with this and the secondary aim of my study, participants were encouraged to make full use of this study's results to aid their existing practices, once shared with them. This was to encourage an attitude shift in my participants, as well as their fellow human beings they associate with, who currently live in a state of demoralisation and who are generally affected by the social ills present in South Africa.

h. Cultural differences

The topic of cultural differences was raised by two of the participants, whereby the majority emphasis was on the difference between Caucasian and black upbringings. This perception by Focus Group Participant One '*they kind of receive the same education they don't have the same background and I think culture really matters*' demonstrates that as humans we are constructed by means of historical and cultural artefacts, suggesting that our environment and other external factors, and relationships form our perceptions of the world around us (Gergen, 1985). Furthermore, the RPM states that the circumstances that people find themselves in, to a large extent determine the outcome of their behaviours (Kaplan, 2000). This could imply the particular attitudes participants posed, regarding the behaviour of an

individual of a different cultural upbringing. This notion however needs to be further investigated.

5.4 Rigour and inter-rater reliability in the analysis phase

To ensure for rigour in my analysis, the transcribed responses were compiled and analysed by an external analyst and myself thereafter, followed by a thorough external review of the final analysed data. Transcripts were double-checked by me, as well as my focus group participants, to ensure that all the recorded responses were captured fully, accurately and verbatim. The process of rigor ensured that my study demonstrated certain elements of integrity and competence (Aroni, Goeman, Stewart, Sawyer, Abramson, & Thein, 1999). The process of inter-rater reliability, similar to multiple coding allowed my participants and external reviewer to cross check the codes and themes gained during the analysis process against the data (responses) which was interpreted (Barbour, 2001). Also ensured during the external review of the analysis, was that any discrepancies presented during the participants' review of their verbatim responses were kept to a limit, and that any unrealistic representations or overemphasise on participant accounts by myself were avoided as far as possible (Mays & Pope, 2000).

5.5 Identified obstacles

5.5.1 Language barriers

I have taken into account that both my focus groups and online participants are able to communicate in English, although certain phrases or words in the responses were kept in the original language as recorded, such as for instance 'stompies', which refer to cigarette buds, as well as the term 'ja', meaning yes. As a social constructionist paradigm was utilised, I ensured that both focus group discussions and the online questionnaire took place in a language spoken in general by participants, namely English, as this ultimately allowed for more personally constructed accounts. In addition, I engaged in reflexivity, by reviewing my own home language, German, as well as my personal background as having an impact on and contributing to my research study's outcome. Personal views were included during the focus group sessions and are labelled as Interviewer Responses in this chapter.

5.5.2 Socio-cultural and biological differences

I initially realised that differences in race, class, gender, age, or sexuality could influence the different meanings in the field I intended to explore. To enhance credibility in my study, I focused on an element of Multivocality, a form of interpretation using a variety of different methods, and by remaining aware of cultural differences between myself and participants (Online Oxford Dictionary, 2014). This process includes multiple and varied voices of my participants in my qualitative report and analysis, and additionally allowed me to gain an empathic understanding and provide space for a variety of opinions. On this note, qualitative researchers do not put words in members' mouths, but rather attend to viewpoints that diverge with those of the majority or with the author (Tracy, 2010).

5.5.3 Unrealistic expectations

Another identified obstacle I initially identified, were the unrealistic expectations my research participants might have with regard to the study's outcomes. Participants might feel that immediate positive changes and alleviations of some of the issues they mentioned during our meetings will take place, although it is quite evident from the results that some of the suggested environmental solutions may only be achieved after a prolonged period of time. Simon (2010) points out, that there cannot be a simple or universal strategy to reduce urban footprints. He implies that local conditions such as biophysical, structural, socio-economic and cultural factors produce specific constraints and opportunities in each context. This statement is also made evident in my literature review and supports my social constructionist and qualitative viewpoint.

5.5.4 Discontinued participation

The major obstacle in this study constituted that of discontinued participation in the focus group discussions due to the occurrence of a sudden unexpected events or time constraints, resulting from the examination period in progress at the time of the sessions.

5.5.5 The nature of the focus group questions: psychological aspects

Once I conducted a pilot questionnaire prior to the commencement of my focus groups, in addition to having carefully considered and probed the value and depth of the questions posed during focus group discussions, I noticed that although the questions asked during the discussions, in fact answered the two primary research questions I previously posed, a certain element of psychological content was excluded in this instance. Future research psychologists or other professionals, who intend to implementing similar studies in the South African context specifically, should therefore take this obstacle into consideration. How questions are posed pertaining to the field of environmental sustainability and practices in reality, should be carefully considered and should include certain psychological elements to establish, how these participants are affected on a psychological level, specifically when engaging in environmentally sustainable practices. Although most existing “sustainability” management tools and systems have evidently been written by environmentalists and social scientists (Doane & MacGillivray, 2001), noted should be that social dimensions pertaining to the study of sustainability, remain largely under-assessed (O’Riordan, 2012).

5.5.6 Overcoming the power gap as researcher/ unrealistic participant responses

Due to the nature of my data collection procedures, I noted that participants might react in an exaggerated fashion in terms of their actual knowledge, expectations, as well as intended behavioural changes, resulting henceforth in a distorted and unknown outcome. As a researcher I was concerned that I might not be able to communicate with participants on their level in order to collect a natural and rich account of their stories and the data, although to address this, I included personal views to the focus group discussions.

5.6 Dissemination of research results

Whilst addressing the support of local community, university or public initiatives, it was clear that, although the majority, namely eight out of nine participants, expressed their interest in and support of such initiatives and activities. Only two

participants however, confirmed their current involvement in environmental sustainable initiatives. This suggests that a need exists, to further investigate the linkage between the youth's motivations, interests and taking action. A joint collaboration with researchers, communities, and other organisations that focus on ERBs, could be established in this regard. In this study, a What's App and email group have been created to further promote, on an ongoing basis, environmental sustainable engagements, as well as create awareness in the local context.

To foster pro-environmental attitudes and behaviours, it is essential to expand awareness on, and knowledge regarding existing behaviours and attitudes. In addition, the outcome of green activities for instance, is an important element under consideration in South Africa. The expansion of local green activities could contribute towards a greener economy and further, green job developments. These could in part encourage more positive outcomes associated with our personal, professional and psychological developments and hence, our overall well-being, as suggested previously (Houdmont, Kerr, & Addley, 2012).

The Ekurhuleni Metropolitan Municipality's Integrated Development Plan (Olivier, 2004 as cited in DEAT, 2005) for sustainable development in particular, has highlighted the importance, to place more focus on the economic and social aspects, associated with improving the natural environmental and sustainable well-being. This association was supported in this chapter, by listing local negative impacts of environmental degradation, particularly those present in the province addressed in this study, Gauteng. Participants supplied a variety of shortcomings, limitations and current environmental concerns, experienced in their communities. These associations clearly demonstrated the importance to further address social aspects, and the challenges experienced with ERBs, which in turn affect the conditions -of and improvement our local natural environment, and the well-being of local communities overall.

Located in the Free State, the Matswathaka school project is a good example of a joint, multi-disciplinary local initiative. The establishment of this outreach project for the Bohlokong area has aimed to create awareness, grow trees, and supply fresh vegetables, herbs, medicines, food gardens, as well as establishing workshops and nurseries to inspire school learners, the community and surrounding schools and

clinics to engage in more pro-environmental activities. Similar to this study, the main vision of this initiative incorporates the aim to reduce overpopulation and high unemployment, by means of creating awareness, supporting -and engaging with schools, communities and the youth in promoting increased environmental sustainable practices (Food and Trees for Africa, 2007). The Zimbabwean study by Matsvange, Sagonda, and Kaundikiza (2016) supports this, and suggests that as a result of locally driven initiatives, including tree planting, use of alternative sources of energy and the building of fire barriers and bee keeping, nearly 75% of locals believe that the community now has greater control over their forests.

Despite the social concerns mentioned, Diagram 1 in the literature review demonstrates that between 1991 and 2009, the use of urban land in concentrated areas has declined rapidly, in the Gauteng Province particularly. This demonstrates the increased use of evenly distributed land in urban areas (EnerKey & Future Megacities, 2008), allowing for the more efficient use of land to grow food and plants more sustainably. Waste management in Gauteng however is an ongoing concern. As noted previously, domestic and land waste constitute South Africa's major concerns currently. In addition, although participants suggested means to increase community engagements, limited views were available regarding the challenges or views pertaining to daily social ills. For this sake, a more in depth exploration pertaining to social ills, as associated with daily environmental sustainable practices should be investigated further. Aside from the concerns mentioned which can be addressed by means of better management practices, it is crucial to ensure further research practices are implemented that address the link between our interest, and commitment to engage in the expansion of ERBs, in comparison to our existing practices, and further what motivates us to act more environmentally responsibly. Below a variety of suggestions are listed, which attempt to close this gap and serve as potential suggestions for future researchers to take note of.

It is important, that network formations are implemented in this regard, according to the Dynamic Social Networking Model. These include active collaborations between, for instance governments, the private sector and communities. Evident in the Matswathaka school project and in the responses concerning the support of green local initiatives is that, such networks could contribute towards the improvement of

our natural environment. Not only would this aid in fostering more positive ERBs, it would in addition, promote the generation of cleaner, more sufficient forms of energy in South Africa in years to come. Lastly, the Social Networking Model could aid important role players, including local communities, to implement future social change, and the promotion of continued social action engagements by local communities. As a result of the clarity provided on the formation of social relations and views, this model could be used, in line with the results obtained herein to further enable similar research practices. Suggested therefore by Westaby and associates (2014), is that social networks research could ultimately aid in developing networking charts. These could contribute toward the improvement of environmentally responsible practices and to further promote ongoing environmentally responsible behaviours, which according to the responses, to date are fairly limited in Gauteng, with special emphasis on the general public's views and existing behaviours and practices. Participants however emphasised their dedication to expand their ERBs, either through individual, or community practices, and an increasing number of organisational initiatives have come to the fore in recent years (Langley, 2015). Adams (2013) emphasises that a more positive environmental attitude and greater willingness to make sacrifices more likely lead to the expansion of environmentally responsible behaviours. Despite this, it should be noted that behavioural intention, or the 'willingness to make a sacrifice', combined with a positive environmental attitude, solely do not lead to more environmentally responsible behaviour (Kuhlemeier, Van den Berg, & Lagerweij, 1999). Suggested is therefore that environmental education be used to provide learners with knowledge of -and skills in using environmental strategies, as demonstrated in the Matswathaka school project and responses. The link between environmental problems and learners' personal lifestyles is crucial in this regard. Noted herewith, is that in order to establish an efficient engagement with my youth participants, one should consider and include in further investigations and studies, their communities, broader concerns, as well as external influencers such as local policies and availability of local resources. Despite this, it is stressed that people in general tend to be unaware of the impact of their own individual lifestyles on the environment, mainly as result of feeling that they do not possess the necessary knowledge or skills, in order to make a tangible difference in their environments (Adams, 2013). This study utilised two suitable theoretical models to explore these elements further,

the RPM and Dynamic Social Networking Model, although both community and individual responsibility are crucial to take under consideration herein.

My intention was essentially, to discover daily or frequent environmental sustainable attitudes and practices my participants engage in, and what ultimately motivated my participants to continue engaging in ERBs. Focus group sessions, and the questions posed therein focused strongly therefore, on involving communities in the same process of ERB and similar attitudes. Suggestions provided in the RPM were highlighted in this regard, and questions delved around the implementation of more effective participatory problem solving techniques, which might assist individuals in understanding the issues they are faced with, such as climate change concerns. In this regard my participants were encouraged in the focus group sessions to list their challenges, and to explore possible solutions. Incorporated herein were the elements of understanding, exploration and problem solving, as these constituted important factors for inclusion in the participation and action taking process. In the context of this study, the Dynamic Social Networking Model explored, how our social relations and organisations influence, and are linked to our goal pursuits, to act more environmentally responsible.

From this it can be drawn that, overall my participants' pro-environmental commitments, do not solely stem from their personal efforts. Responses outlined the role families, peers, and the general public, in addition to modern technologies have played in encouraging my participants to act more environmentally sustainable. Government involvement in this regard, was seen as the main support structure, although participants noted this as rather limited to date. In light of this, an engagement in -and implementation of the social sciences, could henceforth play a critical role in resolving problems that stem from human behavioural patterns. Engagements, viewed as currently lacking, should be established, which ultimately could complement the goals set out by those who lead sustainable lifestyles and motivate them to expand their involvement in ERBs on an ongoing basis (Oskamp, 2000). Such engagements, which act as support systems to my participants and others, could include local collaborations with large, as well as smaller stakeholders who are associated with -and knowledgeable about climate concerns. The average South African citizen, for instance, who engages in environmental practices

regularly, as well as fellow environmental research and psychology colleagues, or local communities, SMEs and local municipalities, as well as policy holders should also be considered when collaborations are established. Local, national, and international government entities should be considered first and foremost, as according to the responses, these entities constitute major role players in this regard. Participants highlighted government organisations as the final decision makers, who act as the major authority with regard to the implementation of -and support of environmental practices. To elaborate, local government were viewed as the major link, if individual and community participation and environmental sustainable attitudes and behaviours such as collaborations with local role players are to expand and succeed in South Africa, specifically in Gauteng. The majority of the views expressed, indicate that personal, as well as community and government responsibility, and increased awareness are crucial to the expansion of daily environmental sustainable activities, particularly amongst local youth.

5.7 Chapter summary

Various themes emerged from the data, in light of exploring the pro-environmental attitudes and behaviours of my participants. The results obtained from posing various open-ended questions relating to my main research questions, were categorised and coded using a systematic TA approach. Although broad, the questions proved valuable in closing the gap in current knowledge on local ERB and environmentally sustainable practices and attitudes, in line with the aim of this study. Triangulation herein ensured for an element of internal validity in my analysis, whereby more than one method of data collection was used to answer my research questions, and more than one external reviewer were utilised during the analysis phase (Mays & Pope, 2000). The systematic approach used, encompassed an aide-mémoire of the various stages involved in the design and data analyses of this study (Barbour, 2001). Within the various themes, codes were accompanied by common threads, or topics, which were expressed by the majority of my participants. These included the need for an increased awareness of -and personal pro-environmental responsibility, and the concerns expressed regarding the general disregard by the local public, tertiary, as well as government institutions towards ERBs or environmental sustainable practices. As noted by Van Staden (n.d.), society

in general is prone to take the natural environment for granted, despite its major dependence on nature to survive. Ecosystem services play a large role, however, in catering for our human needs. Despite this, the lack of existing pro-environmental initiatives was also emphasised, although participants expressed a strong sense of interest in -and personal responsibility themselves. Highlighted was that more personal, and community efforts to engage in climate practices such as supporting the Green Line initiative, or attending environmental conferences are a priority, when tackling current climate change concerns, in line with Van Staden's (n.d) statement. Despite this, the motivation to act more environmentally responsible was influenced by certain challenges and counter-productive activities, noted by my participants in light of their daily experiences when engaging in environmental sustainable practices. Particularly the lack of government support was outlined, despite the need expressed for increased government involvement, as well as the limited availability of public recycling facilities. The limited use of alternative energy sources locally to account for the negative effects on our climate and well-being caused by conventional practices such as coal-generated electricity.

Various suggestions were made based on the findings, including the need for ongoing research, regarding what motivates us to act more pro-environmental, and the further promotion of networking research, to establish ongoing pro-environmental collaborations. It was ensured that the analysis remained as rigorous as possible to allow for the results of my study to be easily transferable to other researchers and colleagues in the field. Inter-rater reliability ensured for an external review of the data, minimising possible duplications, exclusions and biases found in the responses which were coded. As outlined, the RPM, and Dynamic Social Networking Model guided the dissemination of results, and various solutions were highlighted therein to aid the expansion of ERB practices locally, both in the individual, community and public domains. Strong emphasis was on increased knowledge -and awareness by the general public concerning ERB practices. These were specifically concerning water saving, and challenges experienced whilst engaging in environmental sustainable practices, which influence climate challenges that in turn affect our well-being and development as a community. Further, as mentioned, the expansion of social networks research, suggested by Westaby and associates (2014), was highlighted as a useful tool in contributing towards the improvement of

environmentally responsible practices and the further promotion of ongoing environmentally responsible behaviours in South Africa, specifically in Gauteng.

6. CONCLUSION

This study explored some the existing environmental responsible attitudes and practices by local youths living in Gauteng. The aim was to broaden the extent of information and sources currently available on the environmental attitudes and behaviours of youths, and to introduce possible participatory action practices for the sake of increasing community awareness and expansion of environmental knowledge and practices in South Africa. As noted, increased attention should be on exploring the attitudes and behaviours, that contradict activities of human impact on the natural environment, on which literature is abundant (Vörösmarty, McIntyre, Gessner, Dudgeon, Prusevich, Green, ... & Davies, 2010). Included in the aims was also an exploration of some of the challenges youths face, whilst engaging in environmentally responsible lifestyles.

A generic, qualitative approach, underlined by a social constructionist paradigm was utilised, whereby important themes were categorised and the codes analysed using a thematic approach. The RPM and Social Networking Model were used to support and guide me in achieving the aims of my study, as well as during the conceptualisation of my research design and analysis. Responses were captured using focus group and online interview techniques, whilst my participants were selected purposively and via snowball sampling. Youths between the ages of 18 and 31 were interviewed who consisted of university students. Elements such as gender, race and ethnicity were not considered in this study. Participants joined mainly due to their interest in -and continuous involvement in environmentally friendly practices. The patterns that stood out, and which repeated themselves throughout the responses, included that of personal responsibility, coupled with a need to live more harmoniously with the natural environment. Participants felt a strong need for the expansion of knowledge and awareness of local environmentally responsible practices, including continued participation in and expanding local pro-environmental initiatives.

Despite the commitment demonstrated by my participants throughout this study, to continue and strengthen their ERB activities, and an increasing number of social scientists, policy makers and laypeople, who have started expressing an interest in the conditions, traits and attitudes which define our quality of life, a need exists to

involve a broader network of role players in expanding environmental awareness and practices in South Africa. Small business enterprises, local municipalities, communities and non-government organisations, should pay special attention whilst, aiming to alleviate environmental concerns and the negative social and other affects these concerns have on our local community, on the networks they associate with, as well as how these affect their attitudes, perceptions and goal orientations on a regular basis (Meyers & Diener, 1995; Westaby et al., 2014).

In light of this study, it should be noted that, although the youth play a crucial role in the adoption of more pro-environmental attitudes and behaviours in South Africa, they should not be viewed as having to solely adopt more responsibility towards the environment. Local and international ecosystems including communities and individuals, as well as governments and businesses should team up to ensure for a better future for all, animals and humans alike. Considering that limited research exists regarding the full complexity and difficulty of “governing consumption globally”, especially with rising global population and consumption, as covered in the results section, one suggestion could be to increase the knowledge base pertaining to how systemic drivers shape the quantities, costs, as well as benefits of producing, distributing, -and disposing of consumer goods (Dauvergne, 2010).

Furthermore, it could be beneficial to increase local involvement by addressing green job developments in collaboration with key departments involved in agriculture and rural development, wholesale agricultural and produce markets at municipal level, as well as supermarket chains, farmer’s associations and sector NGOs (Spencer et al., 2010). The Green Belt Project in Kimberley, as highlighted previously, is one such initiative which has demonstrated the potential of local role players to aid in better meeting South Africa’s environmental, economic and social needs that would essentially contribute towards improved well-being and development (Goosen, n.d.). In light of this, and as part of an answer to my secondary research question, the study also considered the views of implementing a participatory action approach, and continuation of the activities under discussion, especially in the broader context of local community development and the improvement of well-being in general, addressed however, only during the final stages of my analysis and discussion of results. A CBPR approach served as guidance, although, it should be noted that

despite the increased use of this approach, a further investigation regarding this approach is required (O'Fallon, Tyson, & Dearth (Eds.), 2000).

In addition, views regarding domestic and organic recycling were limited, which calls for further investigations herein. This includes an increased focus by municipalities in South Africa, on addressing long-term strategic goals and planning, when deciding on the most suitable waste minimisation, recycling and disposal of domestic and organic waste (Department of Environmental Affairs and Tourism of South Africa, n.d).

As highlighted throughout the responses, environmental responsibility seems to lack in the general public, in Gauteng specifically. How questions are posed pertaining to the field of environmental sustainability and practices in reality, should be carefully considered and should include certain psychological elements to establish, how future participants are affected on a psychological level, specifically when engaging in environmentally sustainable practices, as social dimensions pertaining to the study of sustainability, remain largely under-assessed (O'Riordan, 2012). Research practices should henceforth focus on providing insight on how to integrate nature experience with positive psychology practices. This could then ultimately expand the number of organisations willing to partner on nature work programs, including schools and counsellors. In this way youth could be faced with increasing opportunities to benefit from the experience of nature (Wolf, 2003). In addition, an increase in awareness, with a wider focus by psychological practices should be on, why people form social networks and how these networks influence their actions and attitudes (Westaby et al., 2014). This is, particularly in light of how social relations of individuals and organisations influence, -and are linked to the goal pursuit to act more environmentally responsible. An approach which could generate "multiply desirable choices", was viewed as suitable within the context of my study, to avoid the implementation of forced choices seen as not conducive to a person's self-interest. Choices therefore would need to be available that positively influence the environment and focus on a multiply desirable outcome for all (Kaplan, 2000). Therefore, as suggested by Westaby and colleagues (2014), and is evident in the example of the Matswathaka school project, social networks research could ultimately contribute toward improving environmentally responsible practices, such

as recycling, and promoting further environmentally responsible behaviours that are necessary to alleviate challenges South Africa currently faces, including that of poverty, climate change and environmental degradation (SAFCEI, 2013). As highlighted in the responses, participants felt very strongly that the South African Government is not currently as involved, particularly in creating awareness, and that it should increase its involvement in -and develop policies to promote the expansion of environmental sustainable practices locally, in association with community engagements. In the words of Nelson Mandela, “We owe it to all the peoples of the sub-continent to ensure that they see in us, not merely good leaders waxing lyrical about development, but as the front commanders in the blast furnaces of labour, productive investments and visible change.”

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APPENDICES

APPENDIX 1: Participant informed consent form

Thank you for agreeing to be part of the research project: **‘An exploration of the daily environmentally sustainable practices by South African youths living in urban Gauteng.’**

1. Nature of the study

This study is being conducted as part of the requirement for a masters degree in Psychological Research Consultation at the University of South Africa (Unisa).

2. Participation

Participation is completely voluntary, and you can withdraw at any time during the research process without giving a reason.

3. Research process

Individual in-depth personal interviews will be conducted in a convenient private location. Interviews will be audio-taped and transcribed for my Thematic analysis. The interviews will be between 60 - 90 minutes long.

4. Confidentiality

This study will adhere to the Ethical Rules of Conduct as described in the Health Professions Act (No. 56 of 1974) ensuring confidentiality. A copy of the Ethical Rules of Conduct is available on request or on www.hpcs.co.za. The transcribed interviews will be anonymous and will not reflect your name or link back to you. All data will be strictly confidential.

5. Use of results

The results will be published as a dissertation, as well as used in appropriate articles and presentations. All participants will receive a copy of the summary report containing key findings and themes, and we would appreciate feedback on whether this accurately reflects some of the experiences you spoke about.

6. Contact Information

Claudia Gossow can be contacted on 072 125 5665 or c.gossow@gmail.com. If you have concerns around the research that is not dealt with, you can contact her Supervisor, Professor Monika dos Santos on dsantmml@unisa.ac.za.

7. Consent

I have read the above information before signing this consent form.

The content and meaning has been adequately explained to me. I have been given the opportunity to ask questions and am satisfied that they have been answered. I hereby volunteer to take part in this study and agree to the recording of the interview

I _____ have been clearly informed regarding the nature and objectives of the study, including my participation in it. I hereby give consent to participate in this training which will be conducted by Claudia Gossow, a Masters in Psychological Research Consultation student under the supervision of Dr. Monika dos Santos at the University of South Africa, who can be reached at dsantmml@unisa.ac.za or on 012 429 8577.

I understand that my participation in this study will cause no harm to myself, that my privacy will be protected, and that I have the right to withdraw or refuse to answer any questions at any stage of the study, without any negative impact on me.

Signed

Date

APPENDIX 2: Focus group schedule

I. Basic biographical questions: Questions common to every interview, establishes basic biographical information, provides “warm up” for both interviewer and interviewee, builds rapport, and makes it clear to the interviewee that the interviewer seeks subjective information about the person’s lived experience. Examples:

- A) “How long have you lived in Gauteng?”
- B) “What brought you to Gauteng [if you were not born here]?”
- C) “What kinds of education did you pursue after high school?”
- D) “How did you get involved in your work / advocacy?”

II. Main body of the interview: Two categories.

A) Questions asked of every interviewee

i) On environmental sustainability

a) What are some of the daily environmental sustainable practice you engage in?

b) What motivated you to start engaging in environmental sustainable practices?

c) What are your views on littering?

d) What brands, products or activities do you avoid and why?

e) What do you understand by the term pro-environmental behaviour?

f) What would you define is the ideal society you would like to live in?

g) What would you say are your most important virtues/values in leading a good life?

ii) On the interviewee’s workplace

a) “Please describe a typical day / week / event as a student”

b) “Please describe an illustrative atypical day / week / event as a student”

iii) On interviewee achievements

- a) “What are some of your proudest achievements?”
- b) “What are some of your persistent challenges?”

III. Concluding questions: Opportunity to ask interviewee to comment on what they might hope for in the future and then to wrap-up the interview

A) Questions about the future.

- i) “What kinds of pro-environmental and sustainable projects do you have planned for the future?”
- ii) “What kinds of changes are you planning to implement?”

B) Final interview question:

- i) “Thanks for meeting with me for this interview. I’ve asked all the questions that I had prepared for, but, before I go, I’d like to open it up to you by asking if there are any topics you’d like to comment on that I neglected to bring up, or if you’d like to expand upon anything you said earlier?”
- ii) This question generally leads to another 5-15 minutes of the interview during which opportunities to ask additional follow-up questions arise

Follow-up Questions

Some follow-up questions can be prepared in advance of the interview, but, most often, they arise in the interviewers’ mind in the midst of the interview itself.

Since, by definition, they cannot be predicted in advance, specific follow-up questions that come up during an interview cannot be known; however, the content of such questions often fall into discernible categories, such as:

Questions to clarify an acronym, jargon, specialized term, etc.: Asking interviewees to spell-out an acronym and describe specialized equipment, processes, or concepts aids in clarifying the content of the response.

Questions to clarify a generality: The interviewee responds to a question that “I really liked that project.” The generality here is the word “like,” and one way to help specify what the interviewee means is to ask “You said that you liked this project. What was

it about the project that you liked?” When one gets a response that includes general statements, the interviewer should consider this a possible opportunity to ask a follow-up question.

Questions to pursue a topic in more depth: During the interview, it’s highly likely that the interviewee will respond with information that the interviewer couldn’t possibly have known about beforehand—details about a project, professional dynamic, specialized process, etc. The interviewer may then find opportunities to ask additional questions not on the prepared list that will enable the interview to pursue other topics im

APPENDIX 3: Focus group transcriptions and analysis

All focus group transcriptions, as well as the Excel analysis sheet are stored on a removable and compact hard drive.

APPENDIX 4: Focus group flyer



WHEN: FRI 06 MAR, 13 MAR, 20 MAR, 27 MAR 2015 AT: 15:00 – 16:00

WHERE (TBC/VENUE SUBJECT TO CHANGE): AT MY RESIDENCE - 14 KATBERG STR, THE REEDS, CENTURION 0157

FOCUS GROUP

Description

I would like to invite you to participate in my Focus Group Discussions to be held as part of my Masters study on the exploration of daily environmentally sustainable practices and understanding pro-environmental behaviours in South Africa. Participation is voluntary, you can leave the group at any time and any information shared will be kept confidential to protect your identity.

You can benefit:

If you would like to share your thoughts and ideas on how we can tackle climate issues or just share your daily experiences, this is the group you should be a part of. **This is your chance to bring it on and make a difference!**



INVITATION TO PARTICIPATE IN AN ENVIRONMENTAL FOCUS GROUP



EXPLORING Daily ENVIRONMENTALLY SUSTAINABLE PRACTICES and PRO-ENVIRONMENTAL BEHAVIOURS

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