

**CHILDREN'S PERCEPTIONS OF THE NATURAL ENVIRONMENT: CREATING
CHILD AND ENVIRONMENTALLY FRIENDLY CITIES**

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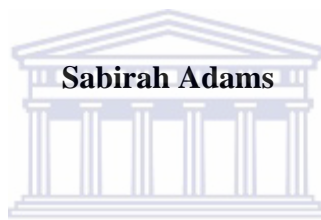
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ABSTRACT

A child friendly city (CFC) is the embodiment of the rights of the child manifested in the policies, programs, and laws of a city. A critical aspect in the creation of a CFC is the consideration of the natural environment (NE). Premised upon a child participatory perspective, this study explored the manner in which adolescents perceive and attach meaning to the NE, as there is limited research concerning this. The primary aim of the study was to investigate children's perceptions of the NE, and within this process to elucidate the meanings that children attach to environmental issues, and how these meanings contribute toward the creation of CFC's. This study employed the broad epistemological position of social constructionism, and the theoretical framework of the Person-environment (P-E) fit theory. Methodologically, a qualitative research design was adopted, employing focus group interviews as the method of data collection. The study was conducted in an impoverished community on the Cape Flats in the Western Cape Province of South Africa. Four focus group interviews were conducted with two groups of 8 children between the ages of 13 and 14 in grade 9. Thematic Analysis was utilised to analyse and interpret the findings. The findings indicate that the participants perceive the NE through the lens of safety as natural areas in the community are characterised by crime, violence, pollution, and a haven for gangsters. The participants' worldviews appear to be permeated with this milieu of danger which is pervasive in their community. Although the participants express the need to engage in the NE, their mobility is greatly restricted due to their own, parental, or guardians fears of threat. There is evidently incongruence between the participants' expectations for the NE, and the reality of the unsafe nature of the NE. The participants thus fall outside the prevailing categories of the social and cultural construction of childhood, as they undergo an immense burden of adversity and suffering which breaches what childhood is supposed to signify. Along with many children in South Africa, the participants are exposed to an escalating level of crime and community violence which has a negative impact upon their sense of well-being, their ability to negotiate their mobility and to freely explore NE's, and engage in child-led initiatives to counteract impending safety and security concerns within their communities. It was also found that the participants consider the natural world as crucial in the creation of a CFC. Ultimately, the participants revealed that their community is not child friendly, and thereby suggest the requirement for a child and environmentally friendly city. The participants therefore proposed that environmental education (EE) be incorporated into the school curriculum to instil a greater awareness of environmental issues among their peers.

DECLARATION

I declare that the research *Children's perceptions of the natural environment: Creating child and environmentally friendly cities* is my own work. It has not been submitted before for any degree, or examination at any other university. All the sources I have used or quoted have been indicated and acknowledged as complete references.



Sabirah Adams

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Chapter One: Background and rationale

A child friendly city (CFC) is the embodiment of the rights of the child manifested in the policies, programs and laws of a city (Gleeson & Sipe, 2006; UNICEF, 2009). Within a CFC children¹ are able to freely explore their environments with safety as an innate and integral feature. The child is given the voice to participate both in a social and cultural context in their communities (Wilks, 2010). The focal points of a CFC are the contributions and active involvement of the child toward the “social, cultural, political, and environmental sustainability of their own cities” (Bridgman, 2004, p.338). In so doing, the quality of life for every citizen is enhanced (Bridgman, 2004). International (see Chawla, 2007; Driskell, 2002; Hart, 1994, Gleeson & Sipe, 2006; Kjørholt, 2002; Wilks, 2010) and local scholars (see Savahl, 2010; Kader, 2006; Mniki & Rosa, 2007) in fact advocate the sharing of responsibility between children and adults. This responsibility concerns integrating child rights into city planning, decision making, and distributing key resources to the underprivileged in the city.

A CFC is further exemplified by a city, or any local system of governance, devoted to fulfilling children’s rights (Horelli, 1998). It is a city where children are safe and protected from violence and exploitation, and have access to all basic services, including housing and water. The United Nations Children’s Fund (UNICEF) conveys CFC’s as projects which are undertaken to recognise children as citizens who have the right to express their needs and expectations (UNICEF, 2006). These aspects should be considered in decision-making processes impacting local communities as well as the country as a whole (UNICEF, 2006). The CFC’s concept is especially significant in those 191 countries, including South Africa, which have ratified the Convention on the Rights of the Child through municipal action (Chatterjee, 2006). The topic at hand cannot be considered in isolation from the historical significance of the apartheid regime in South African. With a long history of “political violence, oppression, abuse and suffering” (Savahl, 2010, p.6) attributable to the apartheid rule, engaging with the concept of CFC’s is fundamental in fostering the protection of children’s rights and dignity.

¹ The terms children and adolescents are utilised interchangeably to more broadly refer to every child between the ages of 0 to 18 years. This position is consistent with the United Nations Convention on the Rights of the Child (UNCRC), as well as the Constitution of South Africa wherein a child is defined as any individual between 0 and 18 years.

A critical aspect in the creation of a CFC is the consideration of the natural environment (NE) (Bridgman, 2004; Chawla, 1994). The NE refers to those regions or areas which are typified by natural elements such as trees, plants, mountains, and water (Grieve, 1987). The NE may also be manmade, varying from container plants to artificial lakes and parks situated within cities (Grieve, 1987; Heimstra & McFarling, 1978). While a great deal of research deals with the environmental attitudes and behaviour of adults in the international literature (see Chawla, 1999; Tanner, 1980; 1998), there is a paucity of research exploring the perceptions of children (Evans, Juan, Corral- Verdugo, Corraliza & Kaiser, 2007). Exploring children's perceptions of nature is crucial as it would allow the determination of whether children and young people have a sense of being connected to nature as this may shape their attitudes toward the appreciation of nature. This relates to the finding that the degree to which an individual believes they are components of nature has been shown to be correlated with positive environmental attitudes (Schultz et al., 2004, as cited in White, 2004). Thus, the manner in which children feel a child friendly environment can be created should include the manner in which the NE can be sustained in this process.

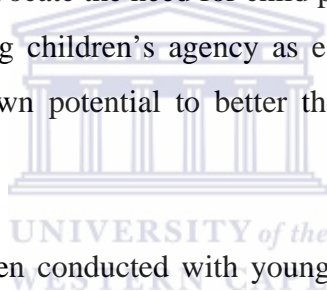
In accordance with the previous account of CFC's, it is useful to define environmental child friendliness. According to Horelli (1998), environmental child friendliness is a product developed by the community which is created, but not limited to, local structures expanding further than the individual level. Subsequently, environmental child friendliness consists of a system or network of places with significant activities in which both the young and elderly may encounter or experience a feeling of belonging. This sense of belonging of children and the elderly may be individual or collective. Additionally, the CFC concept has its roots in the children's rights discourse, where children's participation in the development of society is advanced. The participation of children in influencing their settings has an essential function in creating and developing child friendly environments (Hart, 1992; Moore, 1986). Therefore, in this study, children are "regarded as active social agents capable of changing structures and processes around them" (Haikkola, Pacilli, Horelli & Prezza, 2007, p.320). As children play a pivotal role in society their attitudes and perceptions relating to the NE are significant (Wilks, 2010). The manner in which children are educated about the NE plays an important role in their future behaviour as adults (Wells & Lekies, 2005). A study such as the current is imperative, especially in South Africa, as there is a scarcity of research regarding children's perception of the NE and the creation of CFC's.

Among international scholars (see e.g. Horelli, 1998, 2004; Haikkola et al., 2007; Moore, 1986), research pertaining to the topic at hand has been ongoing for years. Research from the middle of the 1990s to the early 2000s revealed an emerging pattern of children spending less time outdoors (see Moore, 1986; Tanner, 1990; Horelli, 1998; Valentine & McKendrick, 1997). Accordingly, contemporary literature from the 21st century contends that children are spending less time outdoors as their access to nature is swiftly waning (Kahn, 2002; Karsten & van Vliet, 2006; Kellert, 2002; Louv, 2005; Pyle, 2002; Spencer & Woolley, 2000). The culture of children playing outside has almost come to an end, and daily living has shifted indoors. The direct, unstructured, and spontaneous contact with nature is rapidly becoming an absent aspect of the childhood experience for an array of reasons (Malone & Tranter, 2003).

A prominent factor which has limited children's play in nature is the pervading amount of social hazards in children's neighbourhoods and communities, both in developed and developing countries (MacDougall, Schiller & Darbyshire, 2009; Malone & Hasluck, 2002; Swart-Kruger & Chawla, 2002; Wals, 1994). Due to these hazards which are present in children's lives, they are not able to exercise their right to play safely within the NE. As a result, children's regular unsupervised play in nature has diminished in past decades. Therefore, there is a growing consensus among international and local scholars that societies' responsibility to advocate and guard children's rights to survival, protection, and development warrants special precedence in developmental initiatives and human rights work (Himes, 1993). For this reason, Hart (1992) has emphasised the need for children to be part of meaningful projects with adults, as it is "unrealistic to expect them to all of a sudden become mature, participating adult citizens at the age of 16, 18, or 21 devoid of previous exposure to the skills and responsibilities involved" (Hart, 1992, p. 5). For children to comprehend and appreciate the importance of democratic participation and gain the self-assurance and capability to participate, the gradual process of practically carrying this out is necessary as it cannot be taught as an abstraction (Hart, 1992).

It should be noted however, that there have been concerns regarding the rhetoric of participation (Reid, Jensen, Nikel & Simovska, 2008). Hart (2008), and Carlsson and Sanders (2008) draw attention to this concern and contend that particular participatory approaches are premised upon naive understandings of the concept. The most prominent faulty assumption relating to the challenge of participation is that structural barriers are automatically overcome by increasing stakeholder participation, or the participation of the marginalised (Hart, 2008;

Carlsson & Sanders, 2008). Power, which is implied in these circumstances, is uni-dimensional in nature and considered as the powerful versus the powerless, wherein the reallocation of power is deemed the primary objective of participatory approaches. A shortcoming of this type of logic is that shifting the relative proportions of power may result in reinforcing or reinventing the barriers referred to above (Hart, 2008; Carlsson & Sanders, 2008). Stephens (1995) rightfully contends that the UNCRC is considered legally binding for ratifying states and not merely a universal statement of good intent. Quintessentially then, it is obligatory upon government representatives, especially in South Africa, to take a more pronounced position and action in bettering children's environments and taking into account their rights as stated in the UNCRC. The impact of the countless challenges which children in South Africa are exposed to on a daily basis demands theorisations of children's participation to be mindful of the manner in which socio-economic conditions shape and hinder the degree to which children are able to participate (Moses, 2008). Chawla (2008), Hart (1997), and Driskell (2002) among others, advocate the need for child participation within each and every community. Thus, acknowledging children's agency as essential in empowering them and enabling them to realise their own potential to better their own and others lives in their community.



While empirical studies have been conducted with younger and preschool children around this topic, there is limited research within the adolescent phase of development which directly addresses the research question of this paper (Ho, 2009). Thus, the current study focuses on the developmental stage of adolescence, and the manner in which adolescents perceive and attach meaning to the NE and environmental issues. The participants in the study were between the ages of 13 and 14 years. The factors which were explored related to the NE were issues of pollution, litter, greenhouse gases, the use of green energy, and power. In light of the current global environmental crisis, research in this sphere is essential as it has the capacity to raise awareness among children about sustaining the nature. Furthermore, the participants were able to express the manner in which they feel the NE can be sustained while creating CFC's. In this study creating CFC's goes hand in hand with the sustainable use of the NE, such as the manner in which parks can be made more child-friendly. This study further provided insights into the manner in which children's perceptions of the NE may shape and influence environmental concerns and ecological actions (Littledyke, 2002). Therefore, the timing of environmental education (EE) is important, as early misconceptions

and misinformation can be difficult to correct later in adulthood (Palmer, 1995, as cited in Ho, 2009).

1.1. Aim of the study

The primary aim of the study is to investigate children's perceptions of the NE. Within this process the study aims to elucidate the meanings that children attach to environmental issues, and how these meanings and perceptions contribute to the creation of CFC's.

1.2. Objectives

1. To investigate children's perceptions and understandings of the NE
2. To investigate the meanings that children attach to the NE
3. To investigate how children's perceptions and meanings- contribute to the creation of CFC's

1.3. Chapter summary

This chapter provided the background and rationale for the current study, indicating that research pertaining to adolescents' perceptions of the NE is an under-researched area. The next chapter, **Chapter Two: Literature Review**, presents a comprehensive review of the relevant international and local literature about children's perceptions of the NE, and creating CFC's. It is evident from the literature review that there is a lack of research exploring children's perception of the NE and CFC's within the same study. The various literature findings are then synthesised into a summary of the literature. The epistemological position and theoretical framework of the study are additionally explicated in this chapter. Subsequently, **Chapter Three: Method**, provides the methodological and ethical considerations of the study, detailing the study design, the selection of participants, method of data collection, procedure, data analysis, and validity and reflexivity. **Chapter Four: Analysis and interpretation**, then provides an analysis and interpretation of the findings, as well as a discussion of the findings. The final chapter, **Chapter Five: Conclusion and Recommendations**, then affords the conclusion, limitations, and recommendations of the study.

Chapter Two: Literature review

2.1. Introduction

The review proceeds with an exploration of international and local literature pertaining to children's perceptions of the NE, and creating CFC's. International research which has been conducted in relation to the key concepts explored in this study is discussed. Emphasis is then shifted to local scholars who have undertaken and addressed research regarding the NE and CFC's.

It is evident in the literature (Phenice & Griffore, 2003) that the manner in which children are familiarised with the NE is pivotal in their relationship with it, which is inclusive of the way they feel about recycling and other environmentally sustaining behaviours. In addition to how they feel about these pro-environmental behaviours, they can assist in creating CFC's. The fact that children have historically been excluded from project design and participation in many spheres which impact upon them embodies a limited view as children represent the prospects of a country (Driskell, 2002). Thus, opportunities must be reserved for providing children with the possibility to actively participate in decision-making, whether it is on a social, environmental, or political level (Driskell, 2002). A number of scholars (Alexander, 2011; Horelli, 1998; Phenice & Griffore, 2003; Simmons, 1994; Swart-Kruger & Chawla, 2002; Wals, 1994; Wells, 2000) have conducted studies with children promoting their active participation within varying socioeconomic contexts around the world. Research of this nature has predominantly been conducted in developed countries where resources are available to carry out initiatives of this type. However, there is currently a growing tendency in developing countries, such as South Africa, with the ratification of the UNCRC and the implementation of the new Children's Act of 2006, to initiate programmes which enable children to meaningfully participate in domains and projects which influence their own lives, and that of their communities. The following section will provide a review of relevant international literature about children's perceptions of the NE.

2.2. Children's perceptions of the natural environment: International literature

It is posited within ecopsychology that children are born with a sense of being connected to their environments (Phenice & Griffore, 2003). By means of socialisation, children then acquire a sense of disconnectedness between the social and NE (Phenice & Griffore, 2003). The child's developing sense of self may then become separated from the NE. The ensuing

growth of the self is associated with the development of an independent psychological self, apart from nature. “If this intrapsychic outcome of individuation” continues and is reinforced as the child develops, then nature may come to be perceived as something to be dominated and manipulated for self gain (Phenice & Griffore, 2003, p.168).

As a result, a staggering divide has come to place between children and the environment, the consequence which Louv (2005) terms a nature-deficit disorder. The notion of a nature-deficit disorder refers to the estrangement and separation between children and the NE. This estrangement between children and nature is believed to negatively affect children. Among the consequences which it may have for children is the diminished use of the senses, attention difficulties, as well as increased rates of physical and mental illness. Thus, it is imperative to expose children to nature, thereby fostering their innate sense of being connected to nature, and enabling them to acquire information to assist them in understanding and appreciating nature (Phenice & Griffore, 2003).

The following international quantitative and qualitative studies have examined and explored children’s perceptions of the NE, and natural aspects within their neighbourhoods. The findings of these studies reveal that children perceive nature as significant, yet they do not only associate it with positive aspects (Wals, 1994). A recurrent theme in many of the studies is that nature is viewed as both a threatening and fascinating place (Evans et al., 2007; Phenice & Griffore, 2003; Simmons; 1994; Wals, 1994). The bewilderment and fear found to be related to nature accentuates the importance which context plays in the NE’s in children’s communities and neighbourhoods. With the above in mind, cross-cultural variations in environmental and self-reported behaviours among children in Western and European countries have been examined (Evans et al., 2007). Accordingly, within samples of children in these countries it was found that children reveal high levels of pro-environmental behaviours (Evans et al., 2007). Additionally, natural aspects and components within the home have been found to have a crucial effect on children’s cognitive functioning, where elevated levels of cognitive functioning were found to be linked to greenness within the home (Wells, 2000). In essence, it is direct experiences within nature that fosters an appreciation of children for the NE which has drastically decreased in current times. What follows is a review of literature that has explored children’s perceptions of the NE.

Simmons (1994) conducted a qualitative study focusing on urban children's preferences for the NE. The goal of the study was to describe how urban children perceive natural settings, what intrigues them, how they distinguish environments, and what concerns them about exploring nature. The results indicated that children observe distinct disparities in NE's. The *school site* and *urban nature* educed the highest preference ratings, and were settings which epitomised the built environment. The lowest preferences were afforded to wild nature such as the deep woods. The children's descriptions of their likes and dislikes revealed that they like natural components such as trees, particular animals, open space, and the presence of water which they seem to take pleasure in (Simmons, 1994). It is important to note that their views of nature were not all positive. The children articulated fear and apprehension related to nature. The children's concerns highlighted three broad categories, namely potential natural hazards, people, and inconveniences. The concern for potential natural hazards emphasised real and imagined dangers within the natural setting. It is evident that settings present specific opportunities for children, and that the children in this study have strong preferences for nature and settings including nature (Simmons, 1994). The author concludes that the responsibility is on the environmental educator to offer the necessary imagery by developing upon the general positive viewpoint of nature held by children, and simultaneously alleviating any fears which they may have (Simmons, 1994).

While Simmons' (1994) study investigated children's preferences for nature, Wells (2000) conducted a quantitative study entitled *At Home with Nature: Effects of "Greenness" on Children's Cognitive Functioning*, which focused upon the manner in which the NE impacts upon children's cognitive functioning between the ages of 7 and 12 years. As the study was based on a pre-test- post-test longitudinal design this eliminated the effects of a number of extraneous variables which have limited previous studies. The study also explored the association between the naturalness of the home environment, and the cognitive functioning of low-income urban children. Both before and after relocation objective measures of naturalness were applied in conjunction with a standardised instrument measuring the participants cognitive functioning. It was found that the nearby NE plays a far more pertinent role in the well-being of participants living in poor urban environments than has formerly been acknowledged (Wells, 2000). The results also indicated that participants whose homes enhanced the most in relation to greenness following relocation were more inclined to have the highest levels of cognitive functioning subsequent to the move. The study proposed that the effects of natural elements within the home environment have a critical effect on

children's cognitive functioning. This reinforces the importance afforded by children to nature as was found in the previous study by Simmons (1994). As children identify features in the physical environment which can make a difference in their lives, this presents valuable insights for policy makers, public housing authorities, architects, and planners, allowing them to make a difference. Simple interventions, for example, preserving existing trees when homes are constructed, planning tree-planting efforts in urban neighbourhoods, or including grass areas in housing complexes which would have a significant impact on children's welfare. These small changes may bring about bigger changes and provide opportunities for children to prevail over disadvantage by participating in their settings and be able to make a difference.

While the previous studies consisted of adolescent participants, a study conducted by Phenice and Griffore (2003) explored young children's perceptions of and relationship to the NE. Children were interviewed at a university-based laboratory preschool and in head start classroom, both of which were located in an urban setting. The study consisted of 123 participants of which 62 were male and 61 female. The ages of the children ranged from 32 to 72 months. The interviewers were child development professionals and were familiar to the children. The results indicated that the participants' understanding of the location of the human being in nature is not complete, but continually being constructed. Thus, the educational encounters of children can promote and enhance the understandings of children as belonging to the natural world. Assisting children to notice the interrelated relationship of nature to the self is essential. This finding is crucial as the studies discussed previously (Simmons, 1994; Wells, 1994) which explored adolescents perceptions of nature revealed that they perceive nature as a crucial aspect of their surroundings. Accordingly, despite the large age discrepancy between the participants in the study conducted by Phenice and Griffore (2003), the NE was found to be fundamental in their understanding of themselves to nature, as part of nature. The following study similarly investigated adolescent children's experiences of nature in relation to urban environmental education (EE).

Wals (1994) carried out a study exploring young adolescents' perceptions of nature within the context of urban EE. This three-year qualitative study took place in four primary schools situated in the Detroit metropolitan area. The rationale for conducting the study was due to the growing body of research which promotes the notion that minority groups, and working-class individuals reside in areas which are directly exposed to environmental threats.

Additionally, the individuals who are directly exposed to environmental hazards are those who do not acquire appropriate EE, or education for transformation. Finally, there is a lack of research relating to the manner in which inner-city youths view nature and environmental issues (Wals, 1989). The interviews conducted with the participants revealed that each of them were able to forge a relationship with nature. Their perceptions about particular issues, experiences, and narrative accounts of nature were also obtained. Many of the participants ascribed meaning to nature through their own experience of nature. There were eight experiences of nature articulated by the participants, more specifically, nature as: entertainment, background to activities, a reflection of the romantic past, a place for learning, a place to think or reflect, challenging place, threatening place, and as a threatened place. Nature as a threatening place was a recurrent aspect whereby participants emphasised the lack of safety in the community generally restricting participants' exploration of the outdoors and nature. This finding was consistent with that of Simmons' (1994) as children were found to associate nature with fear. It is evident then that children's experiences of nature builds the foundation necessary for participants to learn about environmental issues.

Whereas Wals' (1994) study focused on children's experiences of nature, a study conducted by Evans et al. (2007) contrasted the environmental attitudes and self-reported pro-environmental behaviours of children aged 6 to 8 years from America, Mexico, Spain, and Austria. The rationale for the study was to investigate the possibility of cross-cultural variations in environmental attitudes and self-reported behaviours among the children from the different research sites. The results indicated that children from America have a lowered attitude toward sustaining the NE than participants in Mexico, Spain, and Austria. It was also found that participants from all four research sites had high levels of behaving in an environmentally responsible manner. The absence of any association between the participants' environmental attitudes, and their self-reported environmentally sustaining behaviours is consistent with the authors' previous findings, which could be attributed to methodological issues (Evans et al., 2007). These methodological shortcomings are accounted for by the authors as due to the self-report nature of the instrument utilised, as well as the behavioural indicator which may not adequately grasp the accuracy of children's engagement in environmental behaviours of this age group (Evans et al., 2007). The authors propose that further research is required to understand the comprehensive nature of children's environmental attitudes and behaviours to sustain the NE.

The following section reviews South African literature pertaining to children's perceptions of the NE.

2.3. Children's perceptions of the natural environment: South African literature

A number of developing countries, such as South Africa, are encountering high levels of urban development owing to poverty and limited job prospects within rural areas and informal settlements. This development takes place at the border of the city, and is referred to as peri-urbanisation (Graham, Corella-Barud & Avitia-Diaz, 2004). For the duration of the process of peri-urbanisation, natural landscapes and vegetation, in and about cities, are severely devastated as land masses are cleared and prepared for new housing and infrastructure. As a result, trees and tree products, for instance fuel wood, wild fruits, and medicinal products, are eradicated by the escalating urban population (Cilliers, Müller & Drewes, 2004; Berry, Robertson & Campbell, 2005). Deforestation and the removal of natural vegetation has several damaging environmental impacts, such as the loss of biodiversity and genetic resources, soil erosion, the exhaustion of water resources, the disruption of microclimates, and the disturbance of the carbon cycle which are important factors to consider especially in the South African context (Bewket, 2003, as cited in Parkin, Shackleton & Schudel, 2006). Therefore, the prospect of enhancing the vicinity and condition of the NE is possible by affording communities the necessary knowledge of the possible positive influence they may have on the urban and NE, and income.

As many of the suburbs in South Africa are of a low socio-economic status, the planting and preservation of trees can present opportunities for income production via the sale of tree products such as fruits, medicines, dyes and fuel wood (Long & Nair, 1999). Therefore, endowing the public with EE is significant for three reasons (Chapman & Sharma, 2001). Firstly, it provides environmental awareness that creates a will to act; secondly, it provides the environmental understanding that enables the formulation of action plans; and finally, it produces environmental skills that enable action plans to become a success. However, although people may be environmentally educated and aware, many do not engage in proactive behaviour (Kollmuss & Agyeman, 2002). There are numerous factors that constrain the implementation of environmental knowledge through practical actions including institutional factors, economic factors, levels of environmental knowledge and awareness, motivation, values, attitudes, responsibility and priorities (Kollmuss & Agyeman, 2002). As South Africa still displays the devastation which the apartheid regime imposed upon many

individuals lives, the investigation of children's perceptions relating to the NE has come second to crucial issues such as crime, violence, poverty, and abuse to name a few. Thus, there is a lack of literature surrounding this topic.

Following the importance which has been afforded to the exploration of environmental issues in many developed countries, ensuing South African studies reflect the limited amount of research which has been conducted in this context exploring children's perceptions of the NE. The findings of these studies reveal that National Arbour week activities contribute significantly to children's tree planting habits, as well as parents identifying arbour week activities in their youth to have contributed to their knowledge about the benefits of trees. Although children may be conscious about tree planting, many have not carried this knowledge over to the home environment (Parkin et al., 2006). It was also revealed that children living close to a state-administered forest had limited environmental knowledge which raises concerns about the ecological stability of the area in the future (Alexander, 2011). This concern is warranted particularly within the South African context as the escalating low socio-economic levels across the country, particularly within rural areas, implies that many individuals have become more dependent on the NE for survival and thus should be knowledgeable about it in order to live sustainably from it. These studies are explored in more detail below.

Parkin et al. (2006) conducted a study centred upon the impact which National Arbour Week (NAW) activities have upon grade 7 learners' household practices concerning tree planting and urban forestry within three schools in Grahamstown, situated in the Eastern Cape Province of South Africa. The learners were assessed in relation to their tree planting knowledge. Additionally, the learners' parents were interviewed to ascertain whether the information acquired by the learners within the school environment was carried over to the home environment. A control group consisting of adults either with no children, or with children who were not school going age were also assessed. The results indicated that the Arbour Week activities were generally effectively taught in the three schools. Most of the learners attributed their knowledge about trees and the benefits thereof to school activities. In spite of the above, many learners could not recall the activities in which their schools participated in the previous year. While most learners were conscious of the significance of trees, few had encouraged tree planting within their home. Moreover, over one-fifth of the adults asserted that their knowledge of the advantages of trees were due to Arbour Day

activities when they were young. Both the adults and children identified a number of limitations to tree planting within the home environment. The most common limitations to tree planting asserted by the learners was limited space and falling leaves making their yards untidy. As the focus of the study was upon children's tree planting knowledge, it did not pay adequate attention to the activities which children carry out within the school environment to make it greener. It is crucial to note that although individual efforts are tremendously important in promoting environmentally sustainable behaviour. The assistance of the wider community and large organisations is also needed as systems of support in order for greening initiatives to be successful (Parkin et al., 2006).

While Parkin et al. (2006) were interested in exploring the effect of arbour week activities on children within the home environment, Alexander (2011) conducted a study, for her master's thesis, investigating the cultural environmental narratives of children from two rural villages in the Eastern Cape Province of South Africa. The study sample included children in grades 4, 7 and 10. Adult family members, as well as local experts, and village elders were included in the study to enable comparisons to be made between the children's and adults narratives. Additionally, the study aimed to recognise what Local Ecological Knowledge (LEK) was passed on to children. The manner in which children use the environment for play, and in developing their sense of place are vital aspects in determining children's environmental narratives and perceptions were examined. It was found that both local experts and community elders possessed an extensive amount of cultural environmental narratives. However, these narratives were not necessarily being conveyed to children. Changing household structures and other socio-economic factors were found to impact upon cultural environmental practices within the participants communities, which accordingly influenced their cultural environmental narrative. Parents' fear pertaining to the threat of safety immensely impacted upon children's access to the environment, a finding which was consistent in studies by Simmons (1994) and Wals (1994). This obstacle in accessing the environment produced gendered environmental knowledge. The differing environments produced similar cultural environmental narratives, leading to new understandings in community-environment relationships. The study also revealed that children living in close proximity to the state administered forest had significantly less environmental knowledge, bringing about questions of sustainable bio-cultural diversity in the future. Acknowledging cultural environmental values is particularly imperative in the rural areas of South Africa. These areas have been wrought with unemployment and increased poverty levels resulting in

greater dependence on natural resources for social, economic and cultural purposes. The author recommended that local cultural environmental narratives and landscape perceptions should be incorporated into community conservation and EE policies and programmes. This will provide local solutions to the problem of biodiversity conservation in local contexts (Alexander, 2011).

The next section to be explored is international literature concerning creating CFC's.

2.4. Creating child friendly cities: International literature

Environmental child-friendliness consists of a system of places with meaningful activities enabling both the young and the elderly to experience a sense of belonging, either individually or collectively (Horelli, 1998). The participation of children and young individuals in the processes of moulding and transforming their surroundings plays a crucial role in the creation of child-friendly environments (Hart, 1992; Moore, 1986).

Within the frame of research, participation has been the least recognised of the three "Ps" as declared in the UNCRC, the other "Ps" being provision and protection. In line with the above contentions, Chawla (1997) argues that impediments to children's participation, which contributes to the marginalisation of children, is increasing across the world. The individuals who are the objects of this marginalisation are termed "environmental stepchildren". This includes children and youth who do not have a voice in their daily contexts, as well as those caring for children and their development such as parents, teachers, social workers and youth counsellors (Horelli & Vepsä, 1994; 1995, as cited in Horelli, 1998).

International quantitative and qualitative studies which have been carried out concerning the broad concept of CFC's are reviewed below. The results of these studies reveal that a combination of both built and NE's are crucial in the creation of a CFC (Beneker et al., 2010; Haikkola et al., 2007; Horelli, 1998; Nordström, 2010; Pretty et al., 2003; Sener, 2006). Direct experiences in nature were also found to be necessary as EE alone does not ensure that children will retain this information and act accordingly (Hashimoto-Martell, McNeill & Hoffman., 2011). The participation of children in decision-making and planning a child friendlier city was also a significant finding. The lack of safe places and spaces to socialise with peers was a concern which children in these studies additionally indicated (Haikkola et al., 2007; Horelli, 1998; Nordström, 2010; Pretty et al., 2003). For this reason, the children in

these studies assert the need to bring about positive change within their communities by including children in key decisions which affect their lives, in collaboration with adults (Beneker, Sanders, Tani & Taylor, 2010; Sener, 2006). This suggestion by children in these studies resonates with the sociology of childhood's contention of children as capable beings possessing rights (MacDougall et al., 2007).

Additional challenges which the children in these studies identified was traffic congestion and a lack of safety and security which results in limited mobility in many of their neighbourhoods. Children residing in urban areas also felt that their areas are significant for recreation and not education (Beneker et al., 2010; Haikkola et al., 2007; Horelli, 1998; Nordström, 2010; Pretty, Imison & Reimann, 2003). In comparison to rural children, children living in metropolitan areas have been found to have more boundaries due to real or imagined danger, predominantly impressed upon them by their parents (MacDougall et al., 2007). With limited mobility and a lack of sense of security, the ability and likelihood of children directly experiencing nature is an important consequence which has developed from the impediments which children face. Although the children in the subsequent studies have expressed nature as a vital factor in the creation of a child friendlier neighbourhood or community, the burgeoning amount of threats in children's lives reveal that children's exposure and engagement in nature is declining both in developed, and developing countries. These studies are discussed in more detail below.

A comparative qualitative study conducted by Haikkola et al. (2007) employing structured questionnaires, analysed the interpretations of 11 and 12-year-old children, their mothers or fathers, elderly people, and professionals in Helsinki and Rome which have two varying styles of urban planning. The results indicate that both Finnish and Italian children identified recreational services, family, friends, the community, the features of the built environment, and green areas as the most significant in creating environmental child friendliness (Haikkola et al., 2007). The children's perceptions regarding the positive features of their neighbourhoods were found to be consistent with those of children in studies conducted by Lynch (1977), and later replicated by Chawla (2002). These studies focused upon determining the characteristics of good environments for children and revealed that children's perspectives of child-friendly environments are very similar across the world and across time. Additionally, the children's interpretations were found to be similar to those of the adult participants, indicating that children's environmental aspirations and perceptions are not

disparate but in fact synonymous with those of the adults in this study. It was also revealed that both adults and children conveyed the necessity for the autonomy of children, not only in playing and recreational activities, but also in the planning of a CFC. Based upon children's interpretations in this study, it can be concluded that a child-friendly urban environment is a setting which fosters playing outdoors and socialising with new friends, as children have identified the lack of safe public meeting places dedicated to children.

Whereas Haikkola et al. (2007) investigated the factors which children perceive as important in the creation of a CFC, Malone (1999) conducted a study in Frankston which formed part of the Growing Up in Cities initiative (discussed in detail in the section below titled Child-friendly Cities: South African literature) in collaboration with the Frankfurt City council. The purpose of the study was an attempt to create a participatory environment for young people. The results reveal that young people felt marginalised and disadvantaged in the suburban city of greater Melbourne. Additionally, consistent with many other studies (Bjorklid, 1992; Bannerjee & Driskell, 2002; Kearns & Collins, 2008; Malone & Hasluck, 2002), heavy traffic flow and a dearth of public meeting and socialising areas for children were identified as some of the reasons impeding the friendliness of this city. Many of the adults in the community perceived youth with suspicion and distrust. This resulted in the Mayor of the city and the Community Safety Management Team (CSMT) initiating the Community Safety Plan in 2000 which led to the development of a Youth Safety Management Team (YSMT). The aim of this management team was to contribute to both the development and implementation of policies, programs, and projects pertaining to community safety and crime prevention. The management teams revealed that there is a need for children's participation to be rooted in community contexts. However, children's participation and community development initiatives need to be facilitated by support structures at the level of central and local government (Malone, 1999).

While Malone (1999) was interested in creating a participatory environment for children, Pretty et al., (2003) examined the role of children's sense and use of place as they face challenges in their daily life. The participants, aged 13 to 18, completed questionnaires that assessed sense of place aspects related to the participants identity, attachment and dependence, and completed short essays on their favourite places, and the places they decided to go when feeling troubled or dejected (Pretty et al., 2003). They also specified their knowledge and use of 'youth programs' constructed for their assistance and entertainment

(Pretty et al., 2003). The results indicated that access to public sites, both natural and built, are significant to the daily coping schemes of children in the study. A few participants differentiated between the place they associate most with comfort and their favourite place (Pretty et al., 2003). Although particular sites were illustrated in terms of social support and activities, many places were specified according to their physical surroundings (Pretty et al., 2003). This is indicative of the manner in which the NE, inclusive of the man-made environment, is deemed essential in the participants' lives as it is symbolic of a safe retreat in the face of adversity in their lives. Consistent with the importance attributed to the natural world by children in studies by Evans et al. (2007), Wals (1994), Simmons (1994), and Wells (2000), children in the study conducted by Pretty et al. (2003) identified the significance of nature in the creation of a CFC. The NE is crucial in a CFC as it enhances children's cognitive functioning, provides a space for children to play and essentially build a fondness for nature which will result in pro-environmental behaviours in later life.

While Pretty et al. (2003) determined the sense of place of children in their study, Horelli (1998) provided a synopsis of case studies in three European countries related to children's participation in neighbourhood improvement. The aim of Horelli's (1998) article was to examine the literature on children's participation, or impediments to children's participation. Horelli (1998) identified a scarcity of research pertaining to children's participation in urban planning more than a decade ago. The case studies which she explored were those in Kitee, Finland; Locarno, Switzerland; and Darnetal, France. The Kitee project was employed as a special club for 7 to 12-year-olds facilitated by two teachers twice a week after school. In Locarno, a primary school which focused upon 10-year-old children was included in the study. In Darnetal an elementary school consisting of 130 learners aged 7 to 11 was included in the case study.

The results indicated that the most critical challenge which was established across the three countries was the danger of traffic, similar to the findings of many studies (Bjorklid, 1992; Cosco & Moore, 2002; Malone & Hasluck, 2002). Traffic was believed to hamper the free movement of children creating a sense of fear among many children (Horelli, 1998). The degradation of the physical environment (such as litter, pollution, or noise) was another challenge which was identified among the learners of the three countries, especially among the Swiss and French children. The children were also aware of the deficits of the social environment, such as the lack of spaces to play or meet friends, as well as a lack of sense of

community. The subject matter of neighbourhood improvement was categorised into structural elements (play, equipment, buildings, etc.), nature, pathways, and the social setting (cafes, hobbies). Structural elements were found to be the most common solutions in all the case studies. An effort to enhance the NE with flowers, trees, and bushes, was a prevalent theme among the Finnish children, but not among the Swiss and French children. Additionally, children realised the large-scale obstacles in the implementation of solutions to the challenges they identified (Horelli, 1998). Owing to the research conducted in Finland, the citizen initiative pertaining to traffic safety was implemented according to the plans of the children, such as ramps, tunnels, bicycle paths, etc. In Locarno, subsequent to the project, the traffic had calmed down, and the local authorities had constructed traffic stops and ramps which were demanded by the children. In Darnetal, one year after the project, a neighbourhood sports ground and new play area with contemporary equipment was built according to the children's ideas. The case studies indicated that the creation of child-friendly environments with children necessitates a shift toward more ecological and socially encouraging situations with prospects for the inclusion of various groups (Horelli, 1998). Along a similar disposition of including various groups in ecologically and socially responsible behaviour, the following study by Sener (2006) describes an initiative to include children in architecture within Ankara, Turkey. This study is discussed in greater detail below.

A study conducted by Sener (2006) centred upon the "Meetings" and the "1000 Architects in 1000 Schools" programme implemented in Ankara, Turkey, initiated by the Ankara Chamber of Architects forming part of their Children in Architecture Project. The underlying goal of the Children and Architecture Project was to introduce the fundamental concepts of architecture to children. The meetings mentioned above refer to the gathering of children and volunteering architects in out-of-school surroundings. The meetings began with workshops to promote children's participation, and children conveying their opinions, which eventually culminated in children being included in the General Assembly of the Chamber of Architects. The children discussed aspects such as their aspirations for a healthy and safe city for children to play in which should include green parks, safe streets, and colourful buildings (Sener, 2006). Similar themes of problems identified by children in studies by Malone (1999), Beneker et al., 2010, and Horelli, (1998) were evident in Sener's (2006) study. Children revealed that traffic congestion, and danger due to traffic was a major challenge throughout Turkey, as well as the lack of safe playgrounds, and insufficient opportunities to

experience the NE in urban life. The initiative was extremely successful within Turkey. It included various activities such as conferences and seminars in which children were able to participate and make a contribution according to their perspectives. It advocated the child participation model highlighting the rights and significance of the collaboration with children.

One of the projects conducted at Kalaba primary school which was collaborative and qualitative in design, involved a group of students meeting for one hour a week in an architecture class facilitated by an architect. The focus of the class was centred upon a huge garbage dump which was present at the front of the school. The children identified that it caused potential health risks for both learners and teachers, and that no action had been taken to remove it. The office of the president of the municipality was informed about this particular project and within days the garbage dump was removed from the front of the school. This project reflects the full participation of children who initiated the project, and whose efforts resulted in action and cooperation from adults (Sener, 2006). Many other projects undertaken at schools, which form part of this initiative, have emphasised the improvement and renovation of schoolyard environments. It has been suggested that schoolyards be enhanced for physical exercise and sports, play, informal learning with peers, environmental studies, and as important resources for their communities (Bartlett, Sheridan & Hart 2002, as cited in Sener, 2006). A significant outcome and achievement of the project was that the suggested education programme was accepted by the National Ministry of Education, and subsequently implemented in grade one to three Life Sciences classes.

While Pretty et al.'s (2003) study was centred upon children's sense and use of place, MacDougall et al. (2009) carried out a comparative qualitative study exploring metropolitan and rural children's perceptions about places, spaces, and the communities which they inhabit which impacts upon their experiences of, and engagement in play and physical activity. A key question addressed in the study was what are the participant's rules and boundaries, and who appoints them? The first study site was in an inner metropolitan Adelaide school, and the second site was a rural school on Kangaroo Island off the South Australian coast. The authors employed three methods of data collection, namely focus group interviews, drawing or mapping, and finally photovoice, to yield a rich, diverse perspective of the participants' experiences. The study contrasted 33 children between the ages of eight and 10 years. The results revealed that metropolitan children have more stringent boundaries, and required adult supervision to make use of facilities which rural children could use unsupervised. The rural

children were found to negotiate their mobility by taking into consideration broad principles of safety. It was also evident that the rural children value nature.

Additionally, prospects for play in the city centres upon gardens, parks, playgrounds, and structured activities, in comparison to rural children who played in large open spaces and expressed their ability to explore the NE. Rural children, many living on farms, articulated that there are minimal limits on their movement provided they negotiate with their parents about safety issues which was predominantly related to the NE in this area. The photographs captured by rural children corresponded to their picturesque accounts of their NE by presenting imagery such as large open spaces, rivers, the ocean, playing, and riding bicycles. The pictures comprised of few adults or built qualities. Photographs by metropolitan children demonstrated a much more limited geographical area, and array of activities. The results of this study enhanced the author's understanding of how the participant's distinguish movement in their communities, and thereby proposed policies and environmental transformations to enhance freedom of mobility. The findings of the study also advance concerns relating to the way in which the environment is designed for social planning, and the significance of the participants' familiarity and experience within nature. This finding relates to other studies which have identified a lack of places for children to socialise with one another safely (Pretty et al., 2003; Sener, 2006), as well as the dearth of safe natural settings to explore and play (Haikkola, et al., 2007; Nordström, 2010).

While other studies have focused on children's use and sense of place, van der Hoek (2009) conducted a study in Vombsänkan in Southern Sweden more broadly exploring child friendly landscapes, and landscape planning of 233 children aged seven to twelve years. The data collection tool which was utilised was an assignment for the school children. The rationale for the assignment was to examine the participant's rural landscape preferences, and their perceptions about the landscapes in their neighbourhoods. The participants were asked to draw and answer five questions. Furthermore, the study emphasised the need of rural children. The results indicate that landscape planning in the area of inquiry is unsustainable as the participants needs and preferences are not considered. The participants were generally eager to articulate their opinions to decision makers. The participants also proposed that more activities be carried out in conjunction with, and in preservation of nature, such as planning an obstacle course which is safe for children to play and challenge themselves. Essentially, the participants indicated that the area does not fulfil their needs for safe spaces to play and

socialise. Additionally, it was communicated that a deficiency exists in children's ability to make decisions which will benefit their needs and preferences. It was also found that authorities in the area do not take children's need and preferences for landscape planning into account. However, authorities in the area present views which are consistent with that of children in relation to the need for a diverse landscape. As children are more restricted than adults in relation to accessibility issues, it is critical to gain children's perspective as their experiences differ to those of adults in the same area. The author thus suggests that children be included in decision making processes within their areas or communities. Decision makers should thus develop practical manners of implementing this and consider children's input as important in decision making in any area.

Similar to the comparative study conducted by Horelli (1998) exploring children participation, Beneker, Sanders, Tani and Taylor (2010) explored children's visual representations of various environments in four countries utilising a 'Cities quiz', based on a method used by Taylor (2009). Activities in the booklet comprised of a word association task, drawing a view out of a window in a city, and writing a postcard describing a city they knew. There were also asked certain short questions pertaining to students' views of the city. In addition to these main questions, the participants were asked for biographical and socio-demographic details. The research took place in England, Finland, Netherlands, and the United States of America (USA). A consistent feature across the results of the four countries was the drawings of the specific cities which were characterised by high rise buildings, skylines, roads, traffic, and the 'big, busy city' representation (Beneker et al., 2010, p.123). Most of the participants responded with mediated or stereotyped images, as opposed to actual representations of the areas they live in or cities in their country. The presence of high rise skylines evident in the participants' drawings indicated the impact of media, rather than local experience, especially in Finland. The participants' personal experiences of local landmarks, for example to represent Rotterdam or London, were revealed to be larger than it is in reality, perhaps overemphasising their professed significance (Beneker et al., 2010).

In general, negative images of the city were distinguished in relation to environmental and social issues, such as congestion and crime. Positive associations and connotations were commonly ascertained in areas such as parks, green spaces (leisure activities), beautiful buildings (landmarks) and shopping areas (Beneker et al., 2010). This finding reiterates the importance and preference which children afford to the NE. The participants appear to

represent cities as a place for recreation, for example shopping, sports, eating, and entertainment, but not education. This is evident as no schools were depicted in the participants' drawings. Of the four countries, Finnish children's drawings have a larger degree of media influence. As nature and countryside have traditionally been perceived as normal environments in Finnish culture, this may have influenced the Finnish participants' ideas of cities as the other, namely a place of troubles (Beneker et al., 2010). On a larger scale, the four site study can be used to inform the planning of school geography teaching. The pictures drawn by the participants can be utilised to understand their experiences of the city as an area of leisure and consumption. The authors conclude that the study promotes an innovative move toward exploring the participants' local environments in the context of geography education, which should be a goal of any project considering similar aspects (Beneker et al., 2010).

Nordström (2010) conducted a study relating to children's views of child-friendly environments in varying geographical, cultural, and social neighbourhoods in Stockholm, Helsinki, and Rome. The aim of this qualitative study was to establish how the dimensions in a theoretical framework developed by Horelli (2007) for environmental child-friendliness are applicable, and to apply it to responses concerning child-friendly environments from 12-year-old children living in geographically, culturally and socially different urban neighbourhoods. Written responses were gained from the participant's via an open-ended questionnaire. The written responses of children to the question of what they perceive a child-friendly city to be, was analysed according to these dimensions. The results indicated that three specific dimensions are applicable to the children's responses, namely: 'safety and security', 'urban and environmental qualities' and 'basic services'. A child-friendly outlook on cities taking children's age into account seems to entail a local perspective on environment which reflects a necessity for transformation in current city planning practice. The dimension of safety and security was identified as important to the suburban children owing to a possible lack of fundamental emotional and social security. This dimension represented an emotional aspect which is of critical psychological significance for children's well-being. Some children also accentuated the significance of the conservation of the NE. A limitation which this study faced was the disproportionate sample drawn from the three study sites. Child-friendly environments, as reflected in this study, symbolise the relationships between children and parents, as well as the concern about children in the community in which they live. This reinforces the importance of the collaboration between children and adults to bring about

positive social change which benefits children, as was evidenced in the study by Sener (2006).

Hashimoto-Martell et al. (2011) conducted a quantitative cross-sectional study, similar to the study by Wals (1994), exploring the effect of an urban ecology program on participating primary school students' comprehensions of science, and pro-environmental attitudes and behaviours. The data was collected from pre- and post- survey data from four classes, with a sample of 39 students. A significant gain in scientific knowledge was found among the learners, however, no significant changes in student beliefs regarding the environment were found. Subsequently, the researchers interviewed 12 learners to better understand their beliefs. The learners' responses revealed that they had learned discrete content knowledge, but lacked any ecological understanding of the environment, and had ambiguous perceptions about the relevance of the urban ecology course in their lives. Although the learners reported carrying out pro-environmental behaviours, they attributed these actions to influences other than the urban ecology course. The analyses thus reflected disparities between the course, the environment, and the effect on the learner's lives. This alludes to the significance of distinguishing the implications of context, culture, and identity development of urban youth. The authors suggest that learners be afforded explicit associations, experiences, exposure, and skills in urban environmental programs. This can be done by engaging learners in environmental scientific investigations which allow them to identify their environmental concerns which may enhance student engagement, motivation, and self-efficacy in behaving in an environmentally sustainable manner (Hashimoto-Martell et al., 2011).

2.5. Creating Child friendly cities: South African literature

While a substantial amount of international scholars have undertaken studies addressing the notion of a CFC, over the past decade in Johannesburg, South Africa, researchers have conducted studies pertaining to this topic. In 1999, the Greater Johannesburg Metropolitan Council (GJMC) passed a resolution to make Johannesburg child friendly. In accordance with this, the mayor of Johannesburg signed a partnership agreement with UNICEF to initiate the project (Swart-Kruger & Chawla, 2002).

As the United Nations Convention on the Rights of the Child (UNCRC) espouses that children have the right to make explicit their opinions in relation to decisions which impact their lives, a core motivation for the mentioned project was the idea to incorporate children's

perspectives into city structures and policies. In August of 1999, the GJMC commissioned members of UNESCO's Growing Up in Cities (GUIC) initiative to further previous research in Johannesburg. This in turn was believed to facilitate children in articulating their views about their lives within four specific communities in Johannesburg. The GUIC initiative was premised upon engaging and including children in assessing their urban environments, and planning how to advance the circumstances of children's lives. The fundamental aim of the initiative was to impact upon municipal policies via the inclusion of children's perceptions. It also endeavoured to construct general partnerships between individuals who are dedicated to carrying out action on behalf of children, in both community-based and non-governmental organisations (NGO), and through various divisions of government (Swart-Kruger & Chawla, 2002).

The results of these local research studies about CFC's indicated that children face the challenge of restriction of mobility due to an array of threats in their neighbourhoods (Chawla, 2000; Griesel, Swart-Kruger & Chawla, 2002; Swart-Kruger, 2000; Swart-Kruger & Chawla, 2002). This finding is consistent with a number of international research studies discussed above (Beneker et al., 2010; Haikkola et al., 2007; Horelli, 1998; Nordström, 2010; Pretty et al., 2003). The social hazards which children identified as impeding and restricting their movement in their environment was the problem of traffic; lack of safe transport; no police station in their area; lack of adequate municipal services; and the possibility of being sexually harassed among other types of abuse which are rife in the study sites (Chawla, 2000; Griesel et al., 2002; Swart-Kruger, 2000; Swart-Kruger & Chawla, 2002). These findings reflect the growing number of social challenges which the majority of South African children are currently facing. The children in these studies also revealed the importance of nature to them (Swart-Kruger, 2000; Swart-Kruger & Chawla, 2002). Although many of children in these studies were not able to access safe natural spaces to socialise and play, they still show an appreciation for the natural world (Chawla, 2000; Swart-Kruger, 2000; Swart-Kruger & Chawla, 2002). In essence, these participatory studies reveal strides which are being made in the genuine participation of children and the inclusion of children in planning and decision-making initiatives in South Africa. It also reveals the future aspirations of children to create a better life for all children by collaborating with adults and key stakeholders. On evaluation, it has also been found that the GUIC projects have been beneficial and rewarding to children engaged in them by developing their self-confidence and creating a greater awareness of the

rights and capabilities among children (Griesel et al., 2002). These studies will be discussed in more detail below.

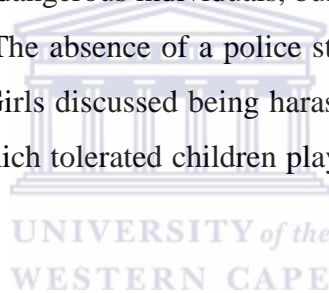
Building upon previous research in the Johannesburg area relating to children, the result was a four site study conducted by Swart-Kruger and Chawla (2002) in Greater Johannesburg consisting of differing geographic and socioeconomic areas, namely: Western Joubert Park (in the inner city), Riverlea Extension, Malvern/ Kensington, and Pimville. Among these study sites, participatory methods were employed in working with children between the ages of 10 and 14. These methods allowed the participants to communicate their opinions relating to the conditions of their lives (Swart-Kruger & Chawla, 2002).

In Western Joubert Park, the results indicated that children felt limited to the confines of their homes due to dangers outside of it. Girls especially felt more threatened, and returned home directly from school due to this danger. It was found that boys conveyed being able to explore the outside world to a larger extent than girls. Both girls and boys identified park security as a prime concern (Swart-Kruger & Chawla, 2002). While Joubert Park is the main recreational area in the neighbourhood, many children describe a feeling of vulnerability when there. Although there is sufficient provision of green space in terms of municipal records, this is not always synonymous with adequate access to safe recreational spaces for children (Swart-Kruger & Chawla, 2002). Additional challenges which children identified in their neighbourhood included problems associated with safe transport to school, other social threats such as being robbed, street children who pickpocket them and others, people who were intoxicated with alcohol posing a threat to their personal safety, sexual harassment as identified by the girls, violence, and bullying. Essentially, children faced the challenge of locating areas to socialise and play safely (Swart-Kruger & Chawla, 2002).

In Malvern, the children indicated that the neighbourhood is perilous. The fundamental concern identified by the children living in Malvern was to better the quality of the open space in the vicinity of their school as it is characterised by pollution, and people who are intoxicated with alcohol. Consistent with the findings in Joubert Park, children stated that the polluted field was the only communal space accessible to children in the area. A lack of municipal services in the area contributed to the challenges which children face, such as defective traffic signals making it hazardous to cross the road, and a long response time from police in the area to attend to the social problems which children face.

Riverlea, an area characterised by unemployment, and alcohol and drug abuse, was also classified by the children as lacking safe recreational spaces devoted to children, a finding consistent with children's perceptions in international studies about CFC's (Haikkola et al., 2007; Wals, 1994). Children emphasised that they felt a heightened sense of insecurity as the area did not have a police station. However, the community initiated a policing forum to address social problems in the area. The *bultjie*, a small hill located behind the recreation centre, was a space where children were able to play. However, this hill was frequented by drunken individuals, teenagers who smoke marijuana, and have sexual relations in the bushes. Additional aspects in the area which troubled children was the high incidence of rape and harassment, pollution, large mine dumps, and an unsafe railway line.

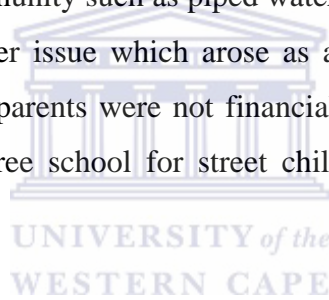
In the final site Pimville, children identified traffic to be a challenge as defective traffic signals were problematic and dangerous. Other risks which children identified in the area which impeded their safety were dangerous individuals, bullies, a public swimming pool with no lifeguard, and waste dumps. The absence of a police station in Pimville also presented a problem in the neighbourhood. Girls discussed being harassed by young boys and men. The children also mentioned areas which tolerated children playing safely which offered a retreat in their hazardous context.



In essence, when considering the results from the respective sites, it is clear that children in Johannesburg live harshly restricted lives as a result of the pervasive risks and challenges encountered on a daily basis. The problems which children face are not to be perceived in isolation, as they in fact affect one another. The aspects which influence the lives of children are thought to consist of children's right to participate in decision-making, green areas which are safe and enhance children's relationship with nature, as well as the rights to participate in play, recreation, participation in culture, and the development of both mental and physical abilities as advocated by the UNCRC. The four-site pilot study implied that children are able to assess their immediate environments, as well as suggest approaches to improve upon them.

A study conducted by Swart-Kruger (2000), also forming part of the GUIC international project, explored children's perceptions of the resources and risks in their urban environments. The project also endeavoured to enhance these environments in line with the participants' suggestions, using participatory research and planning processes. The study sample included 15 children between the ages of 10 to 14 years living in the Canaansland

informal settlement in Johannesburg, most of whom were female (N=10). This study site was chosen as the community was forcibly removed from their homes, and relocated. The data collection tools which were used were visual techniques such as individual and collective thematic drawings, individual interviews, group discussions, and charting of daily activities. In terms of mobility, a finding which was consistent with many international studies was the limited range of children's movement in their neighbourhood (Beneker et al., 2010; Haikkola et al., 2007; Horelli, 1998; MacDougall et al., 2009; Nordström, 2010; Pretty et al., 2003; Swart-Kruger, 2000). Factors which contributed to children's mobility being restricted in this study was heavy traffic; the high level of child abuse, such as rape of young girls; and *muti* (traditional medicine) killings of girls and boys for their body parts. From the children's thematic drawings it emerged that the NE was included in these depictions. The natural aspects within the children's environment, although limited, was identified and appreciated by them. The children in the study also expressed their dissatisfaction with the lack of basic services in the community such as piped water, garbage removal, sanitation, and electricity. Schooling was another issue which arose as a challenge to the children in the study as some of the children's parents were not financially able to pay for schooling, and most of the others attended a free school for street children about half an hour walking distance from home.



Stigmatisation by the broader community was another challenge children faced. Other social hazards which the children were exposed to was lack of security, as the area was not fenced off which allowed criminals to escape the police; shelters which were easily destructible by changing weather; and preference given to adults in the area. It was also found that although the children in the study faced many challenges, they took pride in their homes. Within the research process the mayor of Johannesburg, at the time, was approached and initiated and hosted a workshop to give the Canaansland children a voice. Local mayors, urban planners, and policy makers from GJMC, NGO's, other institutions, and children from Canaansland were invited. This resulted in an encouraging climate for children to provide their perspectives about the issues affecting them (Swart-Kruger, 2000).

Accordingly, Chawla (2000) compiled a report based on an assessment of the *Growing Up in Canaansland: Children's Recommendations on Improving a Squatter Camp Environment* written and edited by Jill Swart Kruger. The report by Chawla (2000) focused upon Canaansland, the Promised Land in Johannesburg, considered the most deprived of the eight

sites of the GUIC initiative projects worldwide. The participants of the project were between the ages of 10 and 15 years. The assessment drew upon the significant and secret spaces within the lives of children in a Johannesburg informal (squatter) camp utilising: drawings, interviews, walking tours through their neighbourhood, among other activities. The participant's depictions of their homes implied that the dwellings in which they lived were perceived as areas of temporary stability despite their current living circumstances. Some of the participants' drawings reflected trees and flower beds outside their homes, whereas these were not apparent in their immediate surroundings. This reveals the future aspirations and the potential which these children believe is possible for the informal settlement in which they live. One of the participants incorporated a recreational park into his drawing, although the closest park in the area was 40km away, subsequent to the inhabitants of the informal settlement being evicted and relocated to an isolated area 40km away. While the participants stated that their homes were overcrowded and confined, they took pride in their families' efforts to fashion the available space into a comfortable and liveable area. The drawings of the participants in Canaansland allows the reader to remain cognisant that while children may live in precarious environments, the safe and secure centres which parents create are distinctive, auspicious, and special places. Chawla's (2000) essay focused on those children who are culturally and literally out of place in their society as a reminder that the special places of childhood need not be kept secret and apart from adults. Although it is true that children need places where they can create worlds of their own making, similarly, they need opportunities to work together with adults to create better shared worlds (Chawla, 2000).

A study conducted by Griesel et al. (2002) focused on the evaluation of the Johannesburg sector of the GUIC, more specifically in Canaansland and Ferreirasdorp. The sample consisted of 15 girls and boys between the ages of 10 and 15 years and their parents. Both participants and their parents' perceptions were explored using questionnaires or interviews relating to the value and impact of the project (Griesel, Swart-Kruger & Chawla, 2002). Children were assessed on scales of self-esteem, locus of control, and self-efficacy, and subsequently contrasted with control groups. The qualitative aspects of the study revealed that the GUIC was beneficial for the children who participated. Children mentioned that the GUIC initiative made them aware of the dilemmas of the urban environment, by emphasising their own role and that of others, in addition to building their self-confidence, and self-efficacy (Griesel, et al., 2002). Particular accent was placed upon the need for children to articulate their views and to develop their environment by participating in the process of

designing new places to live. A core shortcoming of the project was that it was not found to have an influence on the participants psychological functioning, despite the benefits which the participants mentioned. Another shortcoming was that the instruments did not produce significant indicators of transformation in children's lives due to the GUIC. The self-efficacy of children from the GUIC displayed a partial decrease. The authors attribute this to the lack of substantial action by officials. In conclusion, the direction and development of the GUIC at the sites discussed, revealed that children have a greater awareness of their environment, rights, and capabilities to express their opinions about the conditions of their neighbourhoods (Griese et al., 2002).

In accordance with the creation of a CFC, and advocating the rights of children in South Africa, Mniki and Rosa (2007) presented an account of the Dikwankwetla project- a group of child advocates involved in the legislative negotiations and considerations which resulted in the adoption of a new Children's Bill in South Africa in 2005 and 2006 utilising a case-study analysis. The Dikwankwetla Project began with the aim of facilitating children's genuine participation in the adoption of the new Children's Bill. The Children's Bill is an example of child-centred legislation anticipated to replace the out-dated Child Care Act no.74 of 1983. It spans across issues of parental rights and responsibilities, children's rights, protection from neglect and abuse, and court systems to mention a few. The project was designed to undergo three implementation stages, which were: an entry and buy-in stage, a developmental stage, and an advocacy stage. Within the first stage, 12 children between the ages of 12-17 years living in the context of HIV/AIDS, poverty, and currently working with NGO's were chosen by affiliated organisations in four provinces to participate in the project. In the developmental stage of the project, the children were presented with participatory workshops.

One of the crucial outcomes of the advocacy process of the project was the opportunity the children were given to make a presentation to Parliament, when civil society was encouraged in August 2004 to provide input on the first aspect of the Children's Bill. The Dikwankwetla process began as an adult-led process which ultimately enabled collaborative decision-making with children. As the children in the project cultivated their advocacy skills and started making decisions about the process, the facilitators of the project placed their activities at

level seven of Hart's (1997) ladder of participation ², although specific activities were at level eight, by children initiating processes, and inviting adult participation (Hart, 1997). An illustration of this was a 17-year old member of Dikwankwetla planning a Human Rights Celebration Event with a group of friends. Consequently, other children from the neighbourhood were encouraged to come and learn about children's rights. Adults were also invited to come and speak about children's rights, and the process of the Children's Bill. In essence, the action taken by Dikwankwetla to promote and put forward their needs, efficiently exhibits children's capabilities to make decisions about issues relevant to national policy (Mniki & Rosa, 2007). The child-led activities and initiatives exemplify their agency, empowered stance, self-efficacy, and level of possession of the processes carried out.

2.6. Summary of the literature

In the midst of the twentieth century scholars became increasingly concerned around issues pertaining to childhood environments, and the critique of the traditional construction of childhood as progressing according to fixed, linear developmental stages as identified by Piaget (1977). Scholars such as Lynch (1977) in *Growing Up in Cities*, Ward (1977) in *The Child in the City*, Hart (1979; 1987; 1997) in *Children's Experience of Place, Children's Participation in Planning and Design* (in Weinstein & David, 1987), and *Children's Participation: The Theory and Practice of Involving Young Citizen's in Community Development and Environmental Care*, Moore (1986) in *Childhood's Domain: Play and Place in Child Development*, Mayall's (1994) edited book entitled *Children's Childhoods: Observed and Explained*, and Chawla (1997) in *Growing Up in cities*, and *Growing Up in an Urbanising world* (2002), building on the research of Lynch (1977), are key proponents in the repositioning and movement toward breaking the mould and limits of the socially constructed child perceived as an inferior adult developing to become a mature, responsible adult. The impetus of these authors was no longer the taken-for-granted armchair research which had occurred in the past whereby children were the dependents of adults with no unique contribution to make; to be seen not heard. Instead there was a growing interest in the manner in which children construct their environments, the secret spaces and places of childhood

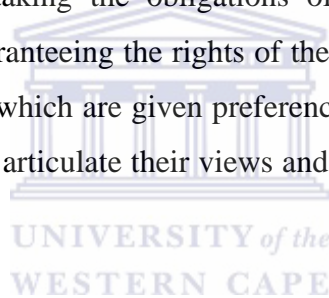
² Hart's (1992; 1997) ladder of participation, adapted from Arnstein (1969, as cited in Chawla & Heft, 2002), states that there are different levels of child participation (1997). The concept behind the ladder implies that the higher one goes up the ladder, the more meaningful participation becomes. The ladder consists of 8 rungs, the lower 3 rungs are often presented as participation but which Hart (1992; 1997) considers as nonparticipation, namely manipulation, decoration, and tokenism. True participation starts at the 4th rung of the ladder until the 8th which are ascendingly: assigned but informed, consulted and informed, adult-initiated, shared decisions with children, child-initiated and directed, and finally child-initiated, shared decisions with adults.

which adults have otherwise been unaware of. This shift toward the sociology of childhood, with a focus upon children's creative participation in learning, was evident in Moore's (1986) study detailed in *Childhood's Domain: Play and Place in Child Development*, as well as the edited book by Mayall (1994). Mayall's (1994) book highlighted issues such as whether childhood belongs to children or adults, whether children's understandings of childhood can function as a premise for reconstructing childhood, what the challenges are facing the collaboration between children and adults in creating an environment for communication, and enabling children to share their perspectives on topics relating to childhood.

To holistically understand the literature which has been discussed in this review, it is fundamental to integrate and assimilate the results in terms of the global issues surrounding the topics of CFC's, the NE, and child participation. More importantly, it is imperative to understand the bearing of these crucial topics within the South African context with its distinct history in relation to political, psychological, and socio-economic effects of an apartheid regime which still displays the lingering effects. In comprehending child agency, it should be recognised that children have continually participated and actively engaged in both private domains, such as the family and household arena, and public domains, such as the social arena which is inclusive of schools, communities, and government (Moses, 2008). Children have constantly been involved in meaning-making, by playing a role in processes in their social context, although it may not be acknowledged. In South Africa specifically, young people became renowned for positioning themselves audaciously in opposition to the apartheid regime. The June 16 uprising in 1976 exemplified the essence of child agency, where school aged children and youth protested against inequality and injustice by taking a political stance as political advocates in their country (Brittain et al., 1987, as cited in Mniki & Rosa, 2007).

Children growing up in the context of poverty in SA, owing to the legislative backdrop of apartheid which was impervious to fundamental human rights and the legal participation of children in the public domain, were thus driven to take ownership of these spaces in aggressive manners. In SA particularly, the consequences of HIV/AIDS has resulted in child-headed households, and thereby not allowing them to actively participate as children in their communities as they are thrust into adult roles due to the burden of this disease, among other challenges. Children in SA are also exposed to an escalating level of crime and community violence which has a negative impact upon their sense of well-being, as well as their ability

to negotiate their mobility, explore NE's, and engage in child-led initiatives to counteract safety and security issues within their communities. Considering the above research review, it can be argued that children's participation is a prerequisite for successful strategies in working with children at every level of society. Through participation, children and young individuals are no longer deemed passive receivers of services, or victims of resolute social and political forces. Children and young individuals can thus be perceived as stakeholders possessing specific and genuine interests in policy making and the creation of CFC's (Sener, 2006). Due to the aforementioned constraints which children in South Africa and many other nations face, they have been restricted to the role of being passive and obedient to adults. The status and positioning of children in many contexts, including South Africa, reveals that they are marginalised within society, even in contemporary times. This is evident in many research endeavours which still consider children as subjects and objects of research, rather than conducting research with children. With the ratification of the UNCRC SA in 1995, the government conceded to undertaking the obligations of the Convention by committing themselves to protecting and guaranteeing the rights of the child which have come second to a growing amount of challenges which are given preference. This has culminated in the lack of agency afforded to children to articulate their views and exercise the rights which they are entitled to.



From the literature it is also evident that both the concerns of the NE, as well as CFC's (encompassing both the natural world and the built environment) are crucial issues which are being studied in contemporary times. However, the marriage between the two fields and advocates within them has been minimal, especially within South Africa. With the Growing Up in Cities initiative in Johannesburg, these concerns, mentioned above have been considered holistically. While the GUIC initiative has been undertaken in Johannesburg, the rest of South Africa is in dire need of initiatives of this nature which advocate for children's rights and their active participation within research and decision-making in their communities. Initiatives and programmes which encompass the participation of children on a level which is in keeping with the UNCRC have yet to be accomplished.

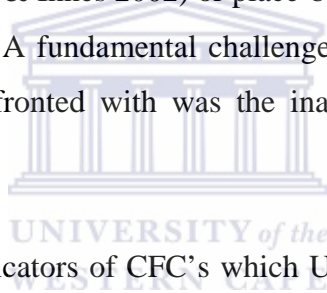
A major challenge is that many children are unaware of the rights which they possess as active participants in their communities. Another challenge is that a large proportion of children in South Africa reside in informal settlements which face inadequacies of education; sanitation; basic services, such as clean water sources, refuse removal; transport; and access

to food (Stats SA, 2010). Thus, many children in South Africa are not afforded the opportunities of discovering and exploring the "secret spaces of childhood" (Chawla, 2000, p.6) which enables them to envisage worlds distinct from adult supervision and prying, "such as the empty space under the table, the corner under the staircase, or the tree-house concealed in the leaves." (Chawla, 2000, p.6). Chawla (2000) allows the reader to reflect upon "...the many children in the world who have no hedges, no trees, no houses with empty spaces? Where do they find special "spaces of childhood?" (Chawla, 2000, p.6). This deliberation in essence sums up the plight of the majority of children in South Africa, as well as in many other countries which share a similar socioeconomic status, and disparities in wealth and resources. As is evident from studies by Griesel et al., 2002; Swart-Kruger & Chawla, 2002; and Chawla (2002), children in South Africa fall outside the prevailing categories of the cultural construction of childhood. The findings echo the contention of the sociology of childhood that children are, and must be perceived as dynamic in the creation and fortitude of their own social lives, the lives of individuals around them, and of the communities in which they live. These children undergo a colossal burden of adversity and suffering which breaches what childhood is supposed to signify, as children dwell on streets or in shacks assembled from scavenged scrap material, or on land which is frequently unlawfully occupied which defies what home should represent. Yet they are children, the most valuable asset of humankind's future, who warrant the care of their respective communities, and the global community (Chawla, 2000).

2.7. Theoretical framework

In an attempt to locate a theoretical framework which is suitable to use with children, Horelli (2007) identified a particular shortcoming in the literature. This inadequacy pertained to a shortage of holistic theories concerning child friendly environments (Horelli, 2007). Whilst a great deal of research in this area considers the "micro environment" (the immediate environment of the child) (Bronfenbrenner, 1973; 1993), there is a lack of consideration of the impact of numerous social, political, and historical factors. Due to the scarcity of appropriate theories which consider the significance of the child's perspective, a group of researchers developed a cluster of studies to ascertain the extent and likely criteria for environmental child friendliness, and its relationship to planning and governance (Horelli & Prezza, 2004).

The design of the study cluster was dualistic in nature. Initially the amalgamation of studies encompassed an analysis of pertinent literature and research concerning general theories and concepts of good environments, and a content analysis of the global bibliography on CFC's by UNICEF (2002). Secondly, it comprised of numerous empirical and comparative studies which evaluated the implicit and overt knowledge of good environments in varying contexts. Each of these studies accordingly funnelled into the defining of environmental or urban child-friendliness. While countless theories and concepts on environmental quality exist, they approached the field from different stances by accentuating only a select number of dimensions. A few of these theories are *substantive*, describing the content from varying perspectives: e.g., ecological, socio-cultural, ethical, political (Massey, 1995), economic (Harvey, 2000, as cited in Horelli, 2007), psychological and phenomenological (Bachelard, 1964), or aesthetic and physical. Other theories are *procedural* which deal with the process and mechanism of planning and implementation, such as regime and governance theories, communicative planning (Booher & Innes 2002) or place-based politics (Harcourt & Escobar, 2002, as cited in Horelli, 2007). A fundamental challenge which many of these theories of environmental quality were confronted with was the inadequacy in addressing children's perspectives (Horelli, 2007).



The resulting definitions and indicators of CFC's which UNICEF (2002) extracted from the findings of the study cluster, from developing and developed countries, was then synthesised. The findings indicated that a number of the variables, or criteria of environmental child friendliness, for instance a unified community identity, provision of activity settings, and safety and free mobility, are alike regardless of time or area. These findings were confirmed by Chawla (2002), Driskell (2002), and Horelli (1998), who have worked on the Lynch follow-up study, *Growing Up in an Urbanizing World* (2002). On closer inspection of the results through the lens of locality, it became apparent that the merits of a good local environment entail, particularly in Finland, serenity and cleanliness, spaces for an array of youth activities, educational services, communal transport, and nearness to nature (Horelli, Kytta & Kaajä, 1998, as cited in Horelli, 2007).

The participants within these studies were of the perspective that the aforementioned qualities should be present in the current environment. It was also revealed that social events involving children are considered as participatory and a manner whereby various modes of child and youth culture can be brought closer. The social and cultural feature of the environment refers

to friends and family with whom children want to form good relationships with. The participants also mentioned the development of leisure places to interact with peers. The joint views and consensus of children does not suggest that children are a homogenous group (Horelli, 2007), even though they may share and identify particular similarities and parallels relating to their environmental prospects. In essence then, cultural diversity plays an influential role in the forming of those needs, and the moulding of environmental practices. From the holistic analysis of the findings, the research cluster identified two core criteria, and subsequent theoretical frameworks relating to child friendly environments, more specifically distinguished as the Person-environment fit (P-E) and the Collective Environment Fit. This study will focus on the P-E fit theory.

The history of P-E fit theory can be traced to Parson's (1909) congruence concept in vocational guidance (as cited in Spokane, Meir & Catalano, 2000). This notion of congruence echoed the social and cultural context in which Parson's (1909) wrote (as cited in Spokane et al., 2000). However, in 1959, a more detailed and intricate version of congruence as posited by Holland (1959) was evident, drawing on principles of P-E psychology. Osipow and Fitzgerald (1996, as cited in Spokane et al., 2000), in a synopsis of Holland's theory, consequently declared that the aspect of relations between P-E fit, namely congruence, and contentment remains unsettled. The model of congruence has continually progressed and persists as significant in directing research, and practice in vocational psychology. The congruence relationship is stated plainly in what Meir (1989, as cited in Spokane et al., 2000) calls a mapping sentence. This mapping sentence embodies the core of the congruence model, in that the level of congruence is closely related to an individual's well-being. Although the P-E fit theory was utilised predominantly in the vocational field, a shift occurred whereby the model was used increasingly in other psychological spheres, such as in environmental psychology. The P-E fit theory, the theoretical framework to be employed in this study, originated from environmental psychology, and incorporates *conservation psychology*, *ecological psychology*, and *ecopsychology*. *Conservation psychology* refers to an area of applied psychology concerned with conservation initiatives and behaviour change to safeguard the NE (Saunders, 2003; Saunders, Brook & Myers, 2006). *Ecological psychology* concerns environmental perception and cognition, subsequent to the work of Gibson (1966, 1979, as cited in Horelli, 2007), Barker (1968, as cited in Horelli, 2007), Bronfenbrenner (1973). *Ecopsychology* refers to a holistic perspective concerning humanities and cultural studies, person-environment connections, including well being.

The P-E fit theory was also significantly influenced by Lewin's (1938) supposition that behaviour is an outcome of the interaction between the person and environment (as cited in Sekiguchi, 2002). In this framework, design and planning are considered as the source of support to "communicative transactions" that strengthens the fit (congruence) concerning the aim of the users and their environment (Horelli, 2007, p.285). The assumption of this approach involves a "transactional eco-logical perspective", which in essence refers to the development and behaviour of children, as well as the improvement of child-friendly settings which can be understood by the diverse contexts where children live (Horelli, 2007, p.285). The child's environmental perceptions is not viewed as static, instead it emphasises an array of factors which impact upon it. It is posited that if the fit between the person and environment is poor, the outcome may be experienced as stressful and demanding. Environmental stress can be reduced if the child perceives even a slight opportunity of influencing their circumstances, and managing the stressful sources of the environmental stressor. Thus, potential difficulties which a child may experience within the home, school, or community environment may enhance environmental stress. Thus, if the child perceives a slight possibility of being able to influence their environment, for example by creating a more CFC, community, or neighbourhood, this may in turn lessen their environmental stress. It is however posited by Kaplan (1983, as cited in Horelli, 2007), that the ultimate control of one's environment is idealistic. Instead the P-E fit should be considered by ascertaining the manner in which the environment encourages goal accomplishment. This framework has been utilised with research conducted with children thus making the applicability of this framework apparent (Cassidy, 1997; Horelli, 2007).

An essential aspect of the P-E fit theory is that adjustment is linked to the 'goodness of fit' involving the characteristics of the individual and the disposition of the environment (French et al., 1974, 1982, as cited in Conway, Vickers & French, 1992). Surprisingly, relatively few studies have been carried out in which this framework has been applied to children and their settings. Various theorists operationalise P-E fit distinctly. These definitions will be explored below.

According to Stokols (1979) perceived congruence is a purpose of the relation between actual and ideal levels of environmental support, as well as the motivational importance of the desires which are fostered by the environment. Therefore, the experience of congruence is operationalised as the perceived supportiveness of the environment in relation to personal

goals. While the characteristics, sequences, or structures of the environment have not been explored by Stokols (1979), this fundamental definition may be applied as the foundation for the key criteria of quality in environmental transactions with children and young people (Horelli, 2007). As a result, Wallenius (1999) applied Stokols' (1979) model to investigate perceived environmental fit, and its bearing on young adults in their 30s. Wallenius (1999) operationalised P-E fit as the perceived supportiveness of the environment, defined as opportunities for actualising personal projects of motivational importance, encouraged by the behaviour circumstances of daily life (Little, 1983, as cited in Horelli, 2007) expresses that personal projects are symbolic of the prototypic connections with the environment, and should be the point of departure for studies on congruence, even with children.

While Vygotsky (1978) and Lawton (1980) did not write specifically about P-E fit, their work reveals that the P-E-fit may not be adequate as such (as cited in Horelli, 2007). Quite the opposite, they assert that children and elderly people require a challenging environment (as cited in Horelli, 2007). Vygotsky (1978) postulated the concept the zone of proximal development (ZPD), which refers to the discrepancy between the individual and the potential level of development (as cited in Horelli, 2007). The individual level corresponds to the mental functions that are the outcome of previous developmental processes. The potential level of development implies the level which the child could attain with the direction of an adult, an older peer, or a supportive environment. Thus, the ZPD delineates the activities which are maturing, and the impending desirable development. As a result, these approaches develop on the concept of P-E fit in that it should not only include a pleasant and balanced experience, but consists of suitable challenges and difficulties which are reliant on the context and aspirations of the child under consideration.

Kyttä (2003) operationalised children's person-environment congruence by applying the concept of affordances. *Affordance* is an essential construct in ecological perceptual psychology. Conventionally, it has been defined as the functional opportunities and dangers which a creature perceives when behaving in a particular context (Gibson 1979, as cited in Horelli, 2007; 1986; Heft 2001, as cited in Horelli, 2007). Reality is then perceived as significant for opportunities, either good or bad in context. As an illustration, the environment affords grasping, twisting, throwing, and climbing, yet also emotional, social and cultural opportunities. The concept of affordance involves environmental and individual aspects, and can therefore be considered as truly transactional (Chawla, 1992; 1997; Kyttä, 2003, as cited

in Horelli, 2007). The environment consists of an endless amount of potential affordances which individuals or groups realise as they perceive, make use of, or mould them. Designed affordances may represent an endeavour to convey and draw the affordances of the current environment and those of the ideal one nearer (Kytta, Kaaja, & Horelli, 2004). Various individual, social, and cultural characteristics, guidelines, and practices govern which affordances can be employed or moulded, taking into account when, where, and how this is completed (Kytta, 2003). The accessibility of preferred affordances and the opportunity to utilise, mould, or design (actualise) them can be deemed an indicator of the perceived P-E fit. The actualised affordances of the existing environment which is a small portion of all potential affordances, aligns with Stokols' (1979) environmental facilitation of the individual's activities. The motivational significance however, can be assessed, by children's personal preferences for affordances.

Contemporary operationalisations of the P-E fit were assessed on the foundation of a series of studies (Horelli et al. 1998, as cited in Horelli, 1998; Horelli, 1998; Kytta et al. 2004), proposing that a good environment from children's perspective entails an adequate P-E fit. Haikkola (2001) applied the contrast of real and ideal conceptual maps in order to operationalise the P-E fit of children. An alternative way to operationalisation was to use children's own understandings of a child-friendly environment, or setting as a criterion with which to evaluate their neighbourhood by ranking the comparison on a scale from 10 (excellent) to 1 (poor). Elevated congruence between the ideal and the actual neighbourhood alluded to a good P-E fit (Haikkola & Horelli 2004, as cited in Horelli, 2007). Although the P-E fit principally refers to the quality of the relationship between the child and their environment, the experience of congruence means that it in addition refers to *the perceived quality of that environment*. Taking the above arguments into consideration, the evidence indicates that the "perceived P-E fit or congruence can be applied as a dynamic, individual criterion of environmental child-friendliness" (Horelli, 2007, p.276) It also signifies the effect which good environments provide, such as their encouragement of personal goals or projects which is reciprocally linked to contentment with life or well-being (Wallenius, 1999).

This contemporary operationalisation also suggests a transactional eco-logical perspective, refers to the development and behaviour of children, inclusive of the improvement of child-friendly settings which can only be comprehensively understood in terms of the multi-dimensional and multi-level context in which children live. Bronfenbrenner's (1993) model

of environmental transactions and development is valuable at this point. It is impacted by direct involvement with the micro-setting, such as the home or the school; exchanges within the meso-system, such as the home-school-youth club; exo-system, such as adult workplace relationships, organisational collaboration, and local governance; as well as by the macro-system, such as cultural, religious, and societal traditions, and national governance. Utilising the current operationalisation of the P-E fit theory, this study endeavours to interpret the participant's perceptions, understandings, and constructions of their NE, as well as their ideas about the child friendliness of their neighbourhoods in terms of whether the environment reflects their own ideas and ideals of a safe, ecologically sensitive and sustainable environment or not. As Horelli (2007) and Kyttä (2003) have utilised and identified respectively, the suitability of the P-E fit theory to children, the appropriateness thereof in employment with children aged 13 and 14 is substantiated. Just as the concept of environmental child friendliness does not restrict children to particular settings; neither does the P-E fit theory. This theory encompasses the child's entire environment made up of an array of levels and sectors as significant for children, such as the participants of this study who reside in a low-socioeconomic status community characterised by low levels of literacy, employment and high levels of crime, gangsterism, and violence.



2.8. Epistemological position of the study

This study uses social constructionism as its epistemological position which is at times called a movement, sometimes a position, a theory, a theoretical orientation, an approach; (Stam, 2001), or a shared consciousness as opposed to a movement (Gergen, 1985). At a broad level it functions as a label signifying a series of positions that have been expressed subsequent to the publication of Berger and Luckmann's (1966) prominent work. The social constructionist position has been influenced, modified, and refined by other intellectual movements such as ethnomethodology, social studies of science, feminism, post-structuralism, narrative philosophy and psychology, post-foundational philosophy and post-positivist philosophy of science, and more (see Burr, 1995; Stam, 1990).

From the social constructionist stance, childhood is a social institution and a cultural invention (Ariès, 1962). What it means to be a child, and what a child experiences in one area or era, is rarely identical in another (Brannen, 2004). Thus, there exists various childhoods which symbolise its variability and different meanings (Mayall, 1994). Aligned with this, most contemporary commentary on the theoretical conceptualisation of childhood inexorably

gravitates toward the idea that childhood should be considered as a socially constructed phenomenon (Savahl, 2010). This idea of childhood appeared following decades of “dissenting whispers and critical voices”, to afford a theoretical account of childhood which emphasises the social, historical, cultural, and political particulars, and simultaneously contemplating the impact of developmental and socialisation theory (Savahl, Dawes, Malcolm & Slembrouk, 2011, p.1). These articulations appeared more compellingly in the latter part of the twentieth century, exemplified in the work of Jenks (1982), Stainton-Rogers (1989) and in the renowned publication by James and Prout (1990).

The ‘socially constructed child’ then came to find a “conceptual home” in the ‘new social science of childhood’, a theoretical cluster which accommodated diverse approaches to comprehending the basis of childhood (Savahl, et al., 2011, p.1). The origin of these approaches was philosophical positions which opposed the existing positivist trend (Gerring, 2003; Shah & Corley, 2006). These positions, resolutely situated in the postmodern tradition, posited that knowledge is subjective and contextually situated, which played a role in the discursive turn in the social sciences. In the midst of various theorists querying the foundation and conceptualisation of traditional theories of childhood, contending that childhood be considered as an historical construction, others have crafted a comparable paradigm shift and proposed a cultural construction (Dawes, 1999; Stephens, 1995), a political construction (Coles, 1986) and a social construction (Jenks, 1982; Prout and James, 1990; Savahl, 2010; Stainton-Rogers, 1989). This perspective then also maintains, owing to the pioneering work of Wittgenstein (1978), developed upon by many theorists, that truth may be conveyed through language. It has however been established that there is no association between world and word, and that in fact there exist a number of possible accounts of any given situation. From this notion as a point of departure, the social constructionist epistemological position enabled the researcher to engage with the participants as co-collaborators in the research, and advance a greater depth of exploration and understanding into the way participants construct their perceptions regarding the NE and the creation of a child friendly neighbourhood. More so, this lens of inquiry allowed for the explication of the processes by which the children in the study came to describe, explain, and account for the world in which they live (Gergen, 1985).

The essence of the socially constructed epistemological position of childhood advances the notion that childhood does not exist in a finite or identifiable form (Burr, 1995; James, Jenks

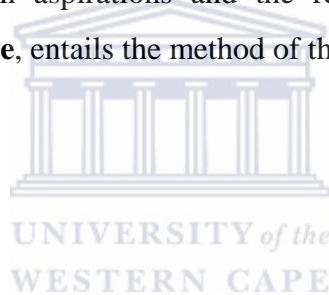
& Prout, 1998). It places emphasis on diverse perceptions and locations of childhood. Childhood is thus conceived of as “an actively negotiated set of social relationships within which the early years of human life are constituted” (Prout & James, 1997, p. 7), and not as a life phase characterised by the linear progression from infancy to adulthood, initially originating in the work of Piaget (Savahl, 2010). It is within this locale that it becomes imperative to determine the ways in which children negotiate meaning. This fundamentally makes it possible to engage at the level of discourse, which transfers the emphasis to the role of language in the construction of meanings (see Wittgenstein, 1978). Thus, if one investigates the behaviour and actions of children, “it is the shared social language regarding their behaviour that effectively determines the interpretation” (Savahl et al., 2011). The focus on children and the environment steers us in the direction of a more intricate awareness of the material consequences of social constructions and discursive regimes and, therefore towards a re-conceptualisation of analytical distinctions between the discursive and the material, the symbolic and the physical (Stephens, 1994).

The inclusion of children in creating CFC's is significant in the current epistemological position, complemented by the theoretical framework, and the research method employed in this study. As children are perceived as change agents, capable to recommend and take action by voicing their opinions about the NE in their community and how to go about creating a child friendlier community, their perspectives are crucial. By implementing the child participation model, the child is empowered as co-researcher, and is urged to articulate their perceptions of how positive change can be brought about in their community and society as a whole. The discourses on 'children and participation' reveal new visions of childhood, proposing to empower a disenfranchised group in society, supplanting the idea of the helpless and needy child, with the competent child who possesses the right to authentically participate in society, particularly in the issues which affect them. This transformation in the construction of childhood is additionally expressed as an acknowledgment of children as 'human beings', instead of 'human becomings' (Qvortrup, 1994). The accentuation on children's rights to impact society, and to be active and dynamic participants in public arenas is put forward decisively as an additional and expected stride of development in late modernity towards a more humanitarian, and child-friendly society (Kjørholt, 2002). This elucidation makes clear the appropriateness of the social constructionist epistemological position in enabling the researcher to understand, through language construction and

narratives, how the participants comprehend nature and the child friendliness of their neighbourhoods.

2.9. Chapter summary

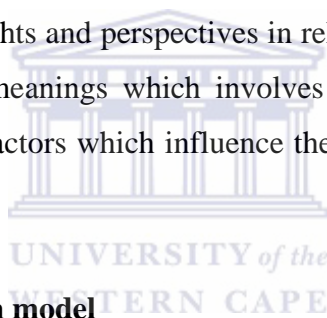
This chapter provided a comprehensive overview of both international and local literature relating to the topic of focus in this study. An important aspect which emerged from the literature is that there are no studies which entail a focus on both the NE and CFC's, accentuating the importance of the current study to contribute to understanding this phenomenon from children's perspective. A synthesis of the literature findings was given to enable the reader to grasp and better understand the results in light of global environmental and child rights issues. The focus of the chapter was then shifted toward the theoretical and epistemological positions of the study revealing that the orientation of this study is that childhood is a social construction, and that distress may arise for children if there is incongruence between their own aspirations and the reality of their environment. The following chapter, **Chapter Three**, entails the method of the study.



Chapter Three: Method

3.1. Design

The study adopted a qualitative research design to determine the perceptions and meanings attached to the NE by young adolescents, as well as their perspectives on how to make their community more child-friendly. This design aligns well with the theoretical and epistemological considerations outlined in the previous chapter. In view of the above, the sampling, data collection method, and analysis, to be discussed, is consistent with this framework. Qualitative research endeavours to study human action from the emic or insiders' perspective (Babbie & Mouton, 2003) and is furthermore concerned with the manner in which individuals "make sense" of their worlds and realities and how they perceive it (Willig, 2001, p. 9). The goal of qualitative research is then to provide an in-depth exploration and investigation into the inner feelings and perceptions of individuals. The data collection method which was employed, namely focus group interviews, similarly allowed for the journey into the participants insights and perspectives in relation to the topic at hand. It is the understanding of these unique meanings which involves the construction of the meaning process, as well as the array of factors which influence the manner in which these meanings are shaped.



3.1.1. Child participation model

A developing methodological trend in research with children is the recognition of children's agency (Savahl, 2010). In this study the qualitative research designs lent itself well to the model of child participation employed. This model has its genesis in children's rights discourse espoused by the UNCRC, and has received a strong following from contemporary child researchers in the field of psychology, sociology, and law (see Haikkola & Rissotto, 2007; Moore, 1986; September & Dinbabo, 2008). Child participation is generally defined as the process in which children actively contribute to, and are incorporated in all decisions which impact upon their personal lives and the communities in which they live (UNICEF, 2002). Within this model, a child is perceived as an individual possessing rights, capable of constructing and communicating their own views, as well as contributing and participating in decision-making practices. Children are perceived as able to mediate as co-researchers and collaborators in the course of social transformation, and participating in the construction of democracy (Pais, 2000). The participation of children can take a number of forms, such as: children taking part in adult-initiated and facilitated programmes and interventions, formal or

structured; adults consulting and eliciting children's perceptions relating to a particular topic; children's civic participation; children participating in informal activities arranged for children, by children; as well as children's autonomous and facilitated decision-making (Moses, 2008).

The acknowledgement of children's function and capacity in social movements more extensively challenges the prevailing manner in which children are represented in the psychological literature (Cahill & Hart, 2007). As opposed to perceiving children as inadequate, emphasis should rather be placed upon children's ability to bring about transformation in their communities through their unique insights (Ginwright & James, 2002). Given the above, this study aims to incorporate this model as a basis for the enablement of children to incorporate their perspectives in a meaningful manner within their communities, and on a larger scale to have an impact upon decision-making processes within their cities. Of importance in this research model are the three Ps, namely: *Provision, Protection and Participation* of children. *Participation* confirms children's right to participate in societal life by being given the voice to articulate their concerns and suggestions. Additionally, the child is envisaged to play a role in the improvement of their own, as well as society's living conditions (Haikkola & Rissotto, 2007). The objective is to encourage effective relationships between children (participants) and the researcher, whereby the child is deemed a fundamental component of the research process and advocated to participate (Savahl, 2010).

3.2. Participants

The study was conducted in a disadvantaged community situated on the Cape Flats area in the Western Cape Province, roughly 15 km from the Cape Town central business district. The Cape Flats is an extensive area of flat land positioned on the periphery of Cape Town, and encompasses a substantial amount of Coloured and Black townships³ (Savahl, 2010). These townships are epitomised by high levels of unemployment and crime, as well as deficient infrastructure. Furthermore, the research site is exemplified by low levels of education, as well as high levels of unemployment, poverty, substance abuse, crime and gangsterism (Savahl, 2010).

³ The terms 'Coloured' and 'Black' were employed as racial categories within the Apartheid era to reinforce a segregated society (along with the other racial category, namely Indian), to refer to those who were not afforded the same benefits as Whites in this era. These terms are used here merely for descriptive purposes, and does not imply acknowledgement of these terms by the author.

The sample consisted of 16 participants, 8 males and 8 females, between the ages of 13-14 in grade 9, attending a secondary school in the aforementioned area. The motivation for including this age group, namely adolescents, is due to the identification in the literature of this age being a period whereby children are more likely to assess their own behaviour, and the impact of their actions upon the environment (Wilson, 1996), as well as a dearth of literature including adolescents perceptions of the NE and the creation of CFC's. Additionally, Wilson (1996) states that children living in low-income areas are more likely to be negatively affected by environmental damage, such as air pollution, noise, and congestion. Another reason for the inclusion of this age group within the research is that legally, according to the South African Constitution (1996), the Children's Act of 2005, as well as the UNCRC, ratified by the South African government in 1995, the participants are regarded as children.

The school was selected via purposive sampling which is considered suitable in the qualitative paradigm, as the aim is not to generalise from the sample to the population (Babbie & Mouton, 2003). The power of purposive sampling is embedded in the selection of information rich cases for in-depth analysis associated to the topic being explored. The selection criteria for the sample were age, area of residence, submission of signed consent forms, and willingness to participate. The assistance of the life skills teacher was paramount in recruiting potential participants who met the above criteria, and organising the focus group interview sessions which best suited the schedules of the participants.

3.3. Data collection method

The model of child participation maintains that children are given a voice and allowed to participate collaboratively with adults. The focus group interview technique is the favoured technique in this regard, and is characterised by a moderator facilitating and engaging a small group discussion between selected individuals regarding the proposed topic (Catterall & Maclaran, 1997). This method of data collection is based upon the sustained contact model (Savahl, 2010), wherein 2 focus group sessions were conducted with two groups of participants as it was believed that saturation would be reached at this point (Howitt, 2010). Each group consisted of 8 participants, consisting of four boys and girls in each. The focus group discussions were audio recorded after gaining the permission of the participants who felt comfortable being recorded. In addition to the audio recording, the co-facilitator took notes of key points which the participants emphasised. The facilitator also noted non-verbal

cues of the participants. The audio recording was then transcribed and subsequently analysed using thematic analysis (discussed later). This technique is well suited to the aim and objectives of the study (see p.5) as it promotes the direct interaction and communication with children allowing them to respond more freely due to a more relaxed environment (Smithson, 2000). Furthermore, the participants were given a platform, namely the focus group, to express their unique perspectives regarding the NE, and the creation of a child friendlier neighbourhood or community. Owing to this method, the researcher, as facilitator, was then able to explore the intended themes of the research, in addition to allowing the participants to identify and discuss issues and topics they considered significant in relation to the research topic (Smithson, 2000).

3.4. Procedure

The research was conducted at a secondary school in an impoverished community on the Cape Flats in the Western Cape Province of South Africa, following ethical clearance from the Senate and Higher Degrees Committee of the University of the Western Cape, with a registration number 11/3/33, as well as the Western Cape Education Department. These clearance letters are attached as APPENDIX IV and V. Consent was obtained by the head master of the secondary school prior to research being conducted. As the participants are considered as minors according to the South African Constitution, consent was acquired from the parent or guardian of the child in the form of a signed informed consent letter, in addition to the child consenting to participate. The information sheet and consent forms for the child and parent are attached as APPENDIX I and II respectively. The initial meeting with the potential participants outlined the topic and purpose of the research. Other relevant aspects of the study were additionally discussed with the potential participants. Consent forms were then given to the children to consider participating in the study. The potential participants were ensured, by the researcher, that their responses in the focus groups would remain completely confidential and anonymous.

Subsequently, the learners who were interested in participating submitted their completed consent forms, one form signed either by their parent or guardian and the other by the participant themselves, to their life skills teacher with whom the researcher liaised. The focus groups were then conducted with the participants who provided both consent forms, on the school premises during school hours within the last two periods of school. As asserted above, the focus group sessions were audio recorded with the participants consent. The focus group

interview guide which was used in the focus groups is attached as APPENDIX III. The participants were urged by the researcher to keep any information which was discussed in the focus group strictly within the confines of the focus groups. When sensitive and personal issues arose, the researcher again reiterated the importance of not divulging the information outside of the focus group. At times, the focus groups ran outside of school times, and thus in order to maintain the safety of the participants, those who required it were provided with secure transport to their homes. Additionally, the participants and their parents or guardians were informed that the data collected will be kept in a secure area, to which only the primary researchers have access.

3.5. Data Analysis

This study utilised the thematic analysis technique as outlined by Aronson (1992) and Krueger (1994). Thematic Analysis is an approach to handling data which entails the generation and application of ‘codes’ to data (Dey, 1993). The data which is then analysed may take a number of forms such as the following: an interview transcript, field notes, policy documents, photographs, or video footage. The term coding’ refers to the production of categories in relation corresponding to data.

There are important theoretical concerns to consider on embarking upon a thematic analysis. One of the fundamental positions associated with qualitative research relates to the notion of interpretivism. Gibson (2006) outlines core interpretivist principles to consider in relation to thematic analysis. Firstly, individuals are interpretive in their actions, and in understanding the actions of others. Secondly, individuals impress meaning on the world. Finally, individuals live in cultural worlds, and engage in cultural practices which are delineated by shared, collective interpretation. Consistent with the interpretivist notion of understanding, language is deemed a prominent aspect of the ways in which individuals make sense of their experiences of the world. This resonates with Wittgenstein’s (1978) renowned conjecture that ‘the limits of my language are the limits of my world’. His conjecture draws attention to the idea that language forms a tangible context for individual’s actions. These are crucial principles to consider when undertaking a thematic analysis.

According to Aronson (1992) the first step in thematic analysis is collecting data. Secondly, the data which corresponds to the established patterns are determined. The third step would be to merge the established patterns into subthemes. Themes are denoted as patterns

originating from within, for example: conversation topics, vocabulary, recurring activities, meanings, feelings, or folk sayings and proverbs (Taylor & Bogdan, 1989, p.131, as cited in Aronson, 1992). This type of analysis was well suited to the research as it allowed the researcher to categorise the themes which emerged from the focus group interviews. This analysis technique is also consistent with the epistemological and methodological design.

As a great amount of themes emerged from the participants responses within the focus group discussions, stimulated by the focus group interview guide, these themes were further placed in two thematic domains, namely children’s perceptions of the NE, and creating CFC’s. The focus group interview guide was developed in consultation with a researcher specialising in qualitative research. The transcription notation which was used for the participants’ responses from the focus group discussions, presented in chapter 4, are as follows:

<i>F:</i>	Facilitator’s questions and responses
MR:	Male respondent
FR:	Female respondent
[]	Tone of utterances
...	An indication that material is omitted
AR	All participants respond
Group 1, Session 1	The location of the extract in the focus group transcription

3.6. Ethics

Ethics in research requires the researcher to adhere to a strict set of rules, thus maintaining the humanity of the individual. It is the obligation of the researcher to protect the rights of the child at all times (Babbie & Mouton, 2003). The core ethical concepts include beneficence, non-maleficence, trustworthiness, responsibility, integrity, justice, confidentiality, anonymity, informed consent and respect for human rights and dignity (Babbie & Mouton, 2003). Throughout the research process the researcher endeavoured to fulfil the abovementioned core ethical concepts. As the participants are under the age of 18, the permission and consent of their parents, in addition to their own consent was obtained (Babbie & Mouton, 2003). The purpose of the research was made clear to the participants. Due to the nature of focus groups interviews, the researcher could not control the participants divulging personal information. The participants were accordingly assured that their confidentiality and anonymity was a key priority, and was thus upheld. The participants were

also informed that they may withdraw at any time, without prejudice or negative consequence.

3.7. Validity and reflexivity

Validity can be understood as the manner in which the research describes, measures, or explains what it aims to describe, measure, or explain. As a result of the flexibility and open-endedness of qualitative research methods, it presents validity issues to be addressed (Ray, 2000). Thus, it is the degree to which the researcher is able to ensure that data collection, and analysis appropriately address the research question. Creswell and Miller (2000) suggest that validity is influenced by the researcher's perception of validity in the study and their choice of paradigm assumption. Accordingly, many researchers have developed their own concepts of validity, and have often developed or adopted what they consider to be more suitable terms, such as, quality, rigor and trustworthiness (Davies & Dodd, 2002; Lincoln & Guba, 1985, as cited in Golafshani, 2003).

Reflexivity in qualitative research is concerned with the “politics of location” between the topic at hand and the “voice of research” (Holliday, 2002, p. 146). It also encompasses the manner in which the researcher deals with, and gains from the intricacies of their particular presence in the research setting in a systematic manner. Research must therefore be carried out with the utmost sensitivity to the “nature of the setting” (Hammersley & Atkinson, 1983, p. 17, as cited in Holliday, 2002). Holliday (2002) purports that the researcher should in fact attempt to understand the impact of their presence, rather than attempt to reduce it (Holliday, 2002).

3.8. Chapter summary

The methodological considerations of the study were provided in the current chapter. As is evident, the design, child participation model, method of data collection, and epistemological position align well with one another. The next chapter, **Chapter four**, elucidates the analysis and interpretation of the findings, as well as a discussion thereof.

Chapter Four: Analysis and Interpretation

This chapter presents both the analysis and interpretation of the research findings. It provides an in-depth analysis of children's perceptions of the NE, and creating CFC. Specific emphasis is placed upon the manner in which children perceive the NE; the environmental issues children deem critical in creating a CFC; as well as ascertaining children's understandings of the NE and the role it plays in creating a CFC. The emerging thematic domains, and the related themes which constitute these domains, will be discussed to provide a comprehensive understanding of children's perceptions concerning the NE in creating CFC's.

Two thematic domains which were identified through the thematic analysis of the data were *Children's perceptions of the natural environment*, and *Creating Child Friendly Cities*. The first thematic domain addressed the first objective of the study, which was to investigate children's perceptions of the NE. The second thematic domain addressed objectives two and three of the study, which was to investigate the meanings children attach to the NE, and to investigate how these perceptions and meanings contribute to the creation of a child CFC. These domains will be examined and explored below.

4. Thematic domains

4.1. Children's perceptions of the natural environment

The primary themes which emerged from this thematic domain were:

- *Natural environmental components;*
- *Disregard and indifference toward the natural environment;*
- *Environmental preservation and degradation;*
- *Cleaner environments and communities; and*
- *Safety, violence and crime in the natural environment*
- *Inadequate municipal services*

This domain addressed objective 1 of the study (see p. 5). These themes were influenced and shaped by the social context. Desensitisation may also have contributed to the participants' perceptions within the community owing to its violent, crime-ridden, and perilous milieu. Although the focus of the discussions with the participants related to the NE, it was apparent

that a clear link is evident between children's perceptions of the NE and safety issues which they are confronted with on a daily basis.

4.1.1. Natural environmental components

The participants were asked what comes to mind when they think about the NE. Their responses are explicated in the following extracts indicating that for the participants the NE includes components such as plants and animals. A crucial feature of the NE which the participants revealed is the ethos of destruction and violence toward the NE by community members and peers. These findings are examined below.

F: When you think about the natural environment what kind of things come to mind?

FR: Plants

AR: [responds] Animals, people,

MR: [responds] People they damage plants

FR: [responds] And kill things

MR: Pollution

So do you think that people in your community consider the natural environment?

AR: No.

FR: Because they litter.

FR: Because they cut down trees.

MR: Because they dump things anywhere they come.

MR: Burning copper wire.

FR: Increasing their carbon footprint

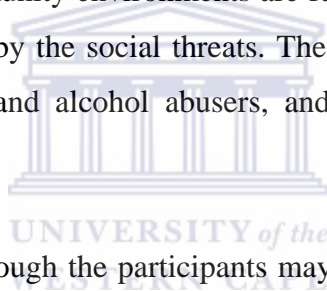
(Group 1: Session 2)

Extract 1

From the above extract it is apparent that the participants associate the NE with plants, animals, people damaging plants and killing things, and pollution, all which inevitably result in increasing their carbon footprint⁴. The participants' recognition of pollution as ultimately affecting the well-being of the Earth displays that they are environmentally conscious, and aware of the human impact on the NE. As the participants associate the NE with factors which damage it, this suggests the perception of indifference toward nature by community

⁴ A carbon footprint refers to the amount of carbon dioxide emitted into the atmosphere.

members. The third participant's conjecture that "*people damage plants*", progresses to more violent behaviour carried out by individuals in the neighbourhood as they "*kill things*", which is mentioned by the fourth participant. The adjectives used by the participants to characterise their NE such as "*kill*", "*damage*", "*cut*", "*dump*", and "*burning*" have negative connotations which allude to the violent conditions which govern the participant's lives in the context they live in. The use of the adjectives above illustrates the aspects which the participants instinctively associate with their community, which is violence, degradation, and numerous threats to children. This moreover demonstrates the way children have internalised the violence, and devastation of the menacing behaviours of individuals in their community. Due to the unsafe demeanour which the participants attribute to the NE in their community, they do not identify with it or feel a sense of belonging to it. These internalisations in turn have trickled into the participants worldviews which is represented by the dangers which they are exposed to, and experience daily. These counterproductive features of their social and community environments are furthermore associated with the NE as green areas are characterised by the social threats. These natural areas in turn serve as a haven for criminals, substance and alcohol abusers, and gangsters who pose a threat to children.



The extract also reveals that although the participants may be environmentally aware, many of them do not engage in pro-environmental behaviour which displays an *attitude-action gap* (Kollmuss & Agyeman, 2002). This bridge between attitude and action may be assigned to the fact that knowledge alone does not result in behaviour change, even though the new behaviour may hold distinct benefits compared to the old behaviour. As direct experiences in nature have a greater influence on people's behaviour than indirect experiences, the lack thereof in the participants' lives may additionally contribute to the gap between their environmental attitude, and pro-environmental action. This non-action may be attributable to the unsafe circumstances of the NE in the participant's neighbourhoods. The deficiency in normative influences to protect the NE such as social norms, cultural traditions, and family customs which mould children's attitudes may also be playing a role in the absence of environmentally sustainable behaviours. For instance, if the dominant culture propagates a lifestyle which is unsustainable, environmentally preserving behaviour is less likely to occur, whereby the gap between attitude and action is widened. This may have occurred within the participants lives as the imagery which they have provided of their community is that of disinterest in the NE. In essence then, it may be posited that the participants are drawing from

internal factors such as motivation, environmental knowledge, awareness, values, attitudes, emotion, locus of control, responsibilities and priorities, as there are no set external factors, such as institutional, socioeconomic, or cultural aspects in place to harness environmentally conserving behaviours (Kollmuss & Agyeman, 2002). Similarly, the aforementioned internal factors may not only be lacking in participants, but community members as well which exacerbates the destruction and lack of action to conserve the NE (Kollmuss & Agyeman, 2002). Fundamentally, given the focus of the group discussions and the hazardous context of the participants' community, this suggests that community members may be preoccupied by other daily challenges, such as high levels of crime, violence, and poverty, and thus do not afford much attention to common sense notions of the NE (Swart-Kruger & Chawla, 2002).

4.1.2. Disregard and indifference toward the natural environment

The next emerging theme, *disregard and indifference toward the NE*, is most appropriately exemplified in the following extracts. The participants were asked why they think people in their community pollute the NE. The participants' responses epitomise an attitude of disregard and indifference toward the NE by community members and peers.

FR: I see people everyday just throwing their papers everywhere. There's a bin standing right there but they'll walk just so past and dump it there anyway coz they don't give a damn about it.

FR: [responds] I don't know they probably just don't have any respect for the environment

MR: [responds] They think people is just there to clean after them.

FR: [interjects] Yah they use others coz they just think the council should just pick it up, in other words they can just throw it where they want to

(Group 1: Session 1)

FR: [responds] Uhm because they just don't respect the natural environment. They litter, they dump, they do all kinds a ugly...they even shit [laughter] like on corners and like stuff like that or they just don't respect the environment

(Group 2: Session 1)

Extract 2

The above extract reveals that the participants perceive community members to disregard the NE as they consciously pollute the community, with no concern for the consequences of

these behaviours. This finding is consistent with Horelli's (1998) in ascertaining that degrading behaviours toward the NE, such as litter and pollution, are challenges which hinder the protection of the NE. A subtheme which emerged from the above extract is the responsibility of the municipal council to maintain a clean environment in the area, thus locating the task of protection of the NE as external to the individual. As the participant's have not been afforded the opportunity to attain an affinity for nature due to social hazards, nature has become the 'other' to them. Nature is the place out there in the neighbourhood, yet close-by, where they cannot play without the contemplation of an array of dangers lurking around. Nature is also constructed by the participants in the study as 'other', as the images of nature they imagine and desire is the ideal of a tranquil, safe, child-friendly, green open space, which is manifestly dissimilar to that which they are accustomed to in their neighbourhoods (Kong, Yuen, Sodhi & Briffett, 1999). It is crucial to note that the fear which the participants associate with the NE is not borne out of fear for nature itself, such as the fear of animals and insects, which is what was found in a study by Kong et al. (1999). Nature is thus deemed to be unsafe, troublesome, and a place which the participants attempt to avoid although they express the need to become more familiarised with it. According to the P-E fit theory, it is evident that there is incongruence between the participant's expectations of the NE and the behaviours they perceive community members to be displaying.

The first participant expresses that they "*see people everyday just throwing their papers everywhere. There's a bin standing right there but they'll walk just so past*". This reinforces the participant's discontent and disbelief of the community members' behaviour. This disbelief points more implicitly to the participant's dissatisfaction, as well frustration regarding the environmentally degrading behaviour of community members. More so, embedded in the participant's perceptions is that their social environment is not supportive of their aspirations for a safe and environmentally friendly community. Therefore, their life satisfaction, perceived quality of life, and well-being is negatively influencing their lives due to the incongruence between the participant's desired environments, and the actual circumstances in which they live (Wallenius, 1999; Marans, 2003). As direct experiences in nature are advantageous, it would instil a greater sense of life satisfaction, quality of life, and well-being in the participants' lives (Wallenius, 1999). Implicit in the first participant's response is that they do not feel that the environment of the community is conducive to implementing sustainable environmental behaviour, as structures or grassroots organisations have not been put in place to do so.

The participants' emotive use of words to represent their feelings toward individuals who pollute the NE displays their abhorrence of these behaviours. This abhorrence is further illustrated by the expressive language used by the last female in the extract conjecturing that *"They litter, they dump, they do all kinds a ugly...they even shit [laughter] like on corners and...they just don't respect the environment"*. A motif which is evident in the above extract is the disposition of individuals in the participants' community to degrade the NE without considering the impact thereof. The advancement of the participants' discussion from community members littering, to dumping, and then to defecating in the open, illustrates the escalating disrespect for the NE by these individuals. A plausible explanation for the degrading behaviour of the community members is that they may not have obtained EE at schools and other institutions, and hence are not environmentally aware. The individuals who the participants describe as damaging the NE may also be doing so as they lack insight into the tangible consequences of these behaviours, such as littering, dumping, polluting, and the broader environmental effects.

However, if we consider the participants' attitudes toward the NE, and the manner in which they construct their consideration for the NE, it is apparent that they have not received formal EE yet they are environmentally conscious and sensitive. This observed environmental consciousness of the participants may reflect their genuine concern for nature, although, it is uncertain whether they are merely presenting this way in the focus group discussions. Additionally, the participants' accounts in the above extract exemplifies that their construction of reality consists of a complex intertwining of description, explanation, and evaluation of the non-environmental behaviour of their fellow community members (Potter & Wetherell, 1987). The participants discursively constructed the power of criminals, which they reconfigured as representative of weakness and a deficiency of agency. This displays their ability to acknowledge, and avoid attaching power and despair to criminals in the area. The participants' responses indicated that they are seeking more empowering and agentic positions in their community.

The extract is thus fundamentally indicating that the participants' fellow community members have not been familiarised with the NE owing to their disregard for the NE. A growing literature indicates that active care for the environment in adulthood is frequently associated with positive experiences of nature in childhood or adolescence, as well as childhood role models presenting the natural world with appreciative attention (Chawla,

2007). Accordingly, a lack of active care for the environment in adulthood can be attributed to an absence of beneficial experiences of nature within childhood years. As the research site is characterised by an ever-growing number of social challenges, it may be that the generations of community members before the participants, such as their parents and grandparents, may too have had a lack of exposure to the NE, which the participants in the study are currently encountering. A defining feature which may set the participants apart from previous generations is the environmental awareness and consciousness which they displayed in the focus groups. The next theme which was explored is environmental preservation and degradation.

4.1.3. Environmental preservation and degradation

A related theme which emerged within this thematic domain was environmental preservation and degradation. The core codes which made up this theme were protection of the NE, recycling, and pollution, all overlap in terms of the responses provided by the participants. An example of this theme is best illustrated in the following extract.

FR: [adds] **Yah. We just wanna be outside again, be able to play soccer on the field soccer**

FR: **And we need clean air for us as well. So if that's gone then we just burning rubber and everything and all that pollution...**

AR: [add] **Pollutes the air**

FR: [responds] **Then there's no plants to help clean the air then we at the end of the day suffer**

FR: [adds] **Coz we don't litter**

FR: [continues]...**people get uh robbed on that field**

FR: [continues] **They just dirty all over again so you cleaning and they just go over your work and drop their waste there so even if you trying to change and better the area there's the people that brings it down in other words again.**

(Group 1: Session 1)

MR: [adds] **There where I live in the circle there in our circle there's gardens and everything in the, they look actually after our circle, it's never dirty**

MR: [responds] **I feel uncomfortable**

MR: Coz there's just too much dirt there. Just make a person not feel healthy for a persons' self just don't feel happy

(Group 2: Session 2)

Extract 3

The first aspect of this theme which will be examined is environmental preservation. The above extract displays children's enthusiasm to be able to explore and engage in their NE without pollution. The participants' responses more so indicate that they attempt to preserve the NE in their neighbourhood, however, other community members behave counterproductively, which has a despairing effect on the participants. This point is best illustrated in the following quotation by a female participant, *"so you cleaning and they just go over your work and drop their waste there so even if you trying to change and better the area there's the people that brings it down in other words again."* The tone of the above quotation reflects a sense of discontent directed toward individuals who do not preserve the environment. It is as though a continuous struggle is present between the minority of individuals in the community who are environmentally conscious, and those who are indifferent toward the NE.

Additionally, what is reflected in the above response is that the participant attempts to engage in pro-environmental behaviours, but is undermined by those individuals who relentlessly and continuously contradict the positive effects of these behaviours. Kollmuss and Agyeman (2002) concluded that the biggest positive influence on pro-environmental behaviour is attained when internal and external factors act synergistically. Bearing in mind this contention of Kollmuss and Agyeman (2002), a possibility as to why the participants are carrying out environmentally sustainable behaviours is that, the aforementioned, internal factors are contributing to these behaviours. Accordingly, it is argued that as environmental knowledge falls within the umbrella term of environmental awareness, that emotional involvement moulds the participants' environmental awareness and attitude (Grob, 1991, as cited in Kollmuss and Agyeman, 2002). Emotional involvement is defined as the ability to have an emotional reaction when confronted with environmental degradation; hence it is one's emotional investment in the challenge faced. Research has shown that females are more inclined to react emotionally to environmental problems. This finding was observed to be consistent with the responses of the female participants in the study who superficially displayed greater emotional investment in the pro-environmental and degrading behaviours of

others (Grob, 1991, as cited in Kollmuss and Agyeman, 2002; Lehmann, 1999, as cited in Kollmuss and Agyeman, 2002).

The vigour and tone with which female participants verbalised the lack of preservation of the NE, attests to the point that they appeared to be more emotionally involved compared to the male participants. Preuss (1991) and Fliegenschnee and Schelakovsky (1998) posit that emotional involvement is a learned ability to react emotionally to intricate, and at times very abstract environmental problems (as cited in Kollmuss & Agyeman, 2002). As varying degrees of abstraction exist, the lack of knowledge pertaining to the causes and consequences of ecological degradation can result in emotional non-involvement (Fliegenschnee & Schelakovsky, 1998; Preuss, 1991, as cited in Kollmuss & Agyeman, 2002). This notion of emotional non-involvement could explain the lack of environmental care and preservation by community members, which the participants identified as among the greatest factors hindering the shift toward an environmentally conscious community. As most environmental degradation is not directly tangible, the information concerning environmental damage must be transformed into comprehensible, perceivable information, such as language, pictures, or graphs whereby those who are not environmentally conscious can form a sense of sensitivity and awareness toward the NE, which is a point stressed by the participants.

More often than not, the information about preserving the environment which individuals receive promotes their intellectual understanding without harnessing a link with one's emotional involvement, which is another difficulty to pro-environmental behaviour (Preuss, 1999, as cited in Kollmuss & Agyeman, 2002). An additional motive which may be impeding the ability of the community members to carry out environmentally conscious behaviour is a possible cognitive barrier attributable to the gradual rate of environmental change (Preuss, 1991). Owing to the fact that human beings are effective in perceiving drastic and sudden changes, they are often incapable of perceiving slow, incremental changes (Kollmuss & Agyeman, 2002). Although the environmental degradation in the area is described as apparent in the appearance of open fields and pollution within the neighbourhood, this direct exposure to environmental damage has not resulted in individuals in the community taking a greater stance in the direction of preservation. As research has shown, feelings associated with guilt are not adequate enough to prompt individuals to become environmentally conscious, and even less so to change and maintain pro-environmental behaviour (Kollmuss & Agyeman, 2002).

The participants also allude to employing primary environmental care in the extract below (Hart, 1992; 1997). They emphasise the need for the partnership between children and adults in working together in environmentally friendly ways for the sustainable development of the community, and for the genuine concern and protection of nature.

FR: [responds] **I think recycling is good actually, coz there's alota things that you can do with things that you don't use**

(Group 1, session 1)

FR: [continues] **Then like just like a soup kitchen regularly each day and yah. That'll also help and that will give them the the courage to be able to like uhm protect the environment and also work together**

FR: [responds] **Working together as a community helping each other uhm, water gardens regularly, or clean the roads**

MR: [responds] **We can, how can I say, at home like the same but like some people are different man, like you get different type a people. Some people want to be like gangsters, then some people care for the community and they clean the environment where they live in.**

FR: [continues]...**buy plants and things and every week we take turns to check on the garden, or we have people we start a garden together as a community and each one takes a turn to look after it or make sure that it's safe**

Extract 4

The UNICEF (1993, p.1, as cited in Hart, 1992) promotes primary environmental care as a community-based strategy to meet basic needs by means of empowering local communities, while concurrently warranting the preservation and sustainable use of natural resources within the given community. Children are among those requiring precedence as they are deemed most vulnerable and susceptible to urban poverty, which is relevant in this context. Acknowledgement is given by the participants to individuals in their community who aim to clean the environment. On closer inspection of this extract it is "*some people*" who "*care for the community and...clean the environment...*" in which they live. Thus, the efforts of these individuals within the community should be harnessed according to the participants, as they will be able to locate the environmental priorities and challenges which plague their community (Hart, 1997). Thus, a partnership is necessary between community members,

environmental professionals, researchers, and other pivotal stakeholders in addressing these challenges.

A related theme of recycling emerged in the above extract. The participants perceive recycling as a worthwhile initiative as there are many benefits of recycling. Additionally, the theme of recycling falls within the umbrella of sustainable development, which the participants perceive as a significant prospect for their community. As there is much contention around the term “sustainable development”, it is referred to here in accordance with Hart’s (1997) denotation, with an emphasis upon ecological sustainability, inclusive of social and cultural sustainability. The children’s responses pertaining to recycling also signifies that their considerations toward the NE is not solely to benefit human endeavours and interests, but instead to ensure the ecological sustainability of their environments not only for future generations, but for the sake of preserving nature (Hart, 1997).

Although the participants acknowledge and value the sparse amount of natural settings available in their communities, in their opinion not enough consideration is afforded by community members, planners, and decision-makers to enhance and develop spaces in the NE for children to play safely (Bannerjee & Driskell, 2002). Hence, the participants’ perceptions display an intrinsic care for the NE (Kahn & Friedman, 1995). This finding is consistent with that of Chawla (1988), who contends that individuals may convey concern about their environment due to fear for their own safety, or for the welfare of present and future generations. Moreover, the mention of a “*soup kitchen*” in the extract proposes a favourable usage of the NE in the area, which the participant’s believe will create a renewed sense of confidence for community members to engage in behaviours which will result in a more efficient use of the NE. From the P-E fit theory the ability of both participants and other community members to possess a sense of control over their surroundings provides a basis and rationale for influencing their circumstances, and managing the stressful sources of the environmental stressor. In essence, the underlying meaning of the extracts also emphasises that participants sense of well-being, and more specifically their ability to negotiate their mobility, explore NE’s, and engage in child-led initiatives to counteract safety and security issues within their communities which is hampered due to their unsafe environments.

The second aspect of this theme to be discussed is environmental degradation. This theme has emerged continuously in the participants responses. A prominent aspect which is derived

from the extract above is the recognition of the impact of pollution and environmental damage in the participants' community. Similarly, Wals' (1994) indicated that an increasing amount of research advocates the idea that individuals residing in low socio-economic status communities are directly exposed to environmental hazards. As emphasised by the participants, and consistent with Wals' (1994) notion, there is a lack of EE in their school curriculum which essentially constrains the ability for transformation. The absence of the formal channel of EE does not allow for the cultivation of practical means to carry out environmentally conserving behaviour. The participants' community does not enable them to participate in initiatives or projects which facilitate the ability for them to perceive how they can influence, and better their neighbourhood's ecology. This perceived ability to impact their environment may result in a greater congruence between the participants' hopes for their environment, and the actual circumstances in which they live. Moreover, the lack of contact with nature, owing to nature being perceived as a threatening place, does not allow for the development of a foundation for learning about environmental issues.

These unclean and unsafe environments on a broader level relates to a discursive theme of a 'culture of inconsideration' toward the NE which may be attributed to, and exacerbated by the array of social problems which members of the community face, such as crime, safety, and violence. This 'culture of inconsideration' is alluded to in an earlier quotation by a female participant relating that attempts to conserve the NE are fruitless as community members *"just dirty all over again so you cleaning and they just go over your work and drop their waste"*. The participant's response here inherently refers to a circular relationship between polluting, maintaining a clean environment, and polluting again. More so, the participant's apparent attitude toward this continual process of conservation and degradation is objectionable. This finding is consistent with Rosenbaum's (1993, as cited in Freeman, 1995) notion that damage to the environment hurts children, influencing their ability to play within the NE, and hampering the processes of human development (Bonel, 1993, as cited in Freeman, 1995). Thomson and Philo (2004), and Valentine and McKendrick's (1997) findings that children from disadvantaged areas are more likely to play outside is not consistent with the finding in the current study. Hazards in the participants environments, due to burgeoning levels of crime and violence particularly directed at children, does not allow for children to make use of outdoor areas in a safe manner. Contrastingly, their activities are most commonly occurring within their homes or schools. Evidence from Evans (2004) supports the finding that low-income neighbourhoods consist of environments which are of

poor quality and embodied by perilous play spaces, less natural features, poorer services, more traffic and crime, and higher levels of physical deterioration compared to more affluent areas. This point ties in with the next theme to be discussed, namely cleaner environments and communities.

4.1.4. Children's perceptions and recommendations for a cleaner community environment

An additional theme which emerged was children's perceptions of, and recommendations for cleaner communities. The participants perceived their NE's as spaces which they associate with disappointment. This theme is demonstrated in the following extract.

FR: [responds and continues] **For those to come coz there's er many more to come because yah...and I'm sure all of us would like all of our areas to be safe again, where we can actually take as friends and as family to places where it's safe enough to play and coz you can't do that anymore we used to go to parks and have like picnics and stuff, like small...if us as a community can come together to better our community to be child friendly then we can maybe start... planting plants so that we can have more clean air coz with the pollution do people cutting down the trees what we gonna do, so like the carbon thingy that we have now is**

FR: [continues] **Yor! Why must I live here? That's the first thing that comes up to mind. Why here? Why did God put me here in this place like because it's dirty, it's sometimes smelly**

(Group 1, Session 1 & 2)

Extract 5

The second female participant's account embodies disenchantment with the NE. As asserted by Bjorklid (1982), the individual is influenced by their environment, but reciprocally influences their environment. Bjorklid (1982) asserts further that the environment can be modified, altered and shaped by the child, whereby the child has an intrinsic need to influence their environment. This innate need of children to have an effect on their environment is evident in the extract. The first participant's conjecture that: "*if us as a community can come together to better our community to be child friendly*" displays this inherent need to influence their environment. In this instance, the participant wishes to enhance their community in a positive way by adults and children collaborating with one

another. Aligned with this notion, based on the work of Mead (1967; 1974, as cited in Moore, 1986), Bjorklid (1982) emphasises the importance of children and adults taking responsibility for their environment jointly. Thus, as a result of the interaction of people with each other and their surroundings, individuals learn to behave in a socially meaningful manner and to cultivate, through language, a social consciousness. Moreover for children, objects obtain significance and meaning from their use, consequently the environment is not an objective phenomenon but instead is interpreted, reconstructed, and never replicated (Bjorklid, 1982). Therefore, as the participants are unable to access and experience nature as an integral aspect of their lives, pro-environmental behaviour is not fostered, nor the sense of safeguarding the NE (Freeman, 1995). The first female participant's response further indicates a link between environmentally destructive behaviour on part of humans, and the effect on climate and more so global warming. This position is best illustrated in the following quotation of the female participant that "...planting plants so that we can have more clean air coz with the pollution do people cutting down the trees what we gonna do, so like the carbon thingy that we have now is". The above quotation reveals that the participant is aware that pollution, such as the release of greenhouse gases into the air by burning coal, littering and dumping in their neighbourhood by community members, and deforestation referred to by "cutting down the trees" all ultimately increases their community's carbon footprint.

Considering the participant's use of words, such as "*the carbon thingy*", reveals that although she is conscious about climate change owing to the mentioned factors, but there is not a clear understanding of the manner in which the destructive behaviours exacerbate global warming⁵ and may culminate in climate change⁶. However, the participant is aware of the detrimental effects and consequences of the environmental crisis if the Earth's threshold is reached, and asserts "*what we gonna do*". This expression embodies a sense of insecurity, despair, and disaster if community members do not change their ecologically destructive habits. It is also evident that there are no current educational directives informing the participant's understanding of the causes, effects, and mitigating strategies of climate change, which is damaging to the participant's as they observe the degradation to the NE on a daily basis, but do not have adequate knowledge or support from adults to meaningfully address and play a role in changing the negative outcomes of harmful behaviour (Ho, 2009).

⁵ Global warming is the way the average temperature on the Earth's surface is increasing which will result in climate change (Kirby, 2007)

⁶ Climate change denotes a change in the long term average weather variables in a certain region, and also changes of year-to-year variation of weather variables in that region (Harvey, 2000, as cited in Ho, 2009)

The participant's tone and use of words such as "*Why must I live here? That's the first thing that comes up to mind. Why her*", echo's a feeling of despair in relation to the NE. The repetition of the word "*why*" in "*Why must I live here?..Why here?...Why did God put me here?*", reinforces the sense of the helplessness to be able to influence the physical environment. Thus, incongruence exists between the manner in which children perceive the NE, and their capability to influence it. This encapsulates the participants' perceptions of their community as an unsafe space, as they are unable to engage with the NE due to hazards in their community such as violence, gangsterism, and abuse among others. Although the participants' mobility is hindered due to social threats, their strong affiliation to conserving nature defies the usual development of children's awareness of nature through experience. In the above extract, the aspect of religion also filters into the way in which children understand their environments. Thus a significant finding from this extract is that religion is related to the NE as it is suggested that religion may provide solutions to protection of the NE by the community. The participants additionally espouse the need for a cleaner environment as their community is characterised by pollution and dirt.

The focus groups afforded a platform whereby the participants were able to express their insights in relation to issues which they felt were important in their lives (Cahill & Hart, 2007). As is evident in the extract above, the participants construct themselves as being able to better the community by allocating safe spaces for children, and conserving the NE by genuinely appreciating nature (Moore, 1986). Consequently, it is clear that children's political socialisation and civic participation are highly relevant to environmental issues, specifically education (Chawla & Cushing, 2007). Thus, it is crucial that the environment in which children live, both natural and built, should maintain conditions which are conducive to advocating children's interest and engagement in pertinent issues such as pro-environmental behaviours, child rights, and knowledge of how they can influence decision-making which affects their lives both directly and indirectly (Chawla & Cushing, 2007).

A crucial underlying feature which is revealed within this theme is the aspiration of the participants to be able to provide input into the manner in which community members protect the NE, by becoming active participants. The participants recognise that preservation of the environment is not an individual endeavour, but rather a collective effort which community members can assist in facilitating (Alexander, 2011; Chawla, 2008). The last participant's comment once more emphasises the link between the NE and safety, suggesting that children

and adults should collaborate to bring about safety in their neighbourhoods. As with other low-income communities, the participants' responses exemplified the immense burden and hardships which the participants endure, yet they are still able to identify that polluting the NE is unacceptable. The responses of the participants further convey an environmental ethic, which is the perception of awareness and consideration toward the NE, which is vital in prospective preservation and management of NE's and the development of children (Schmidtz & Willott, 2002; Chawla, 1998; Louv, 2005). In essence the participants are cognisant of the effects and impact of pollution on the NE, as well as the related health consequences which pollution presents for human health (Chawla, 2007). Moreover, the participants in the study were also perceptive of the interdependency of humans on the NE, and that the exploitation of the NE is linked to the exploitation of other people, which is associated with the safety issues which children are faced with on a daily basis (Chawla, 2007). This is consistent with the next emerging theme, safety, violence, and crime in the NE, which highlights the unsafe character of nature in the participants' lives.

4.1.5. Safety, violence, and crime in the natural environment

Another theme which emerged, which was prominent both implicitly and explicitly in the participants accounts was that of safety, crime, and violence which serves as a barrier to their mobility in the NE. This theme is best illustrated in the following extract.

FR: [interjects] **You can't even walk to the library**

FR: **Then you scared you watching over your shoulders the whole time.**

FR: **Here in front of the school someone tried to rob the school children**

FR: [adds] **There was already a boy stabbed here also**

FR: [interrupts] **Like at the canal by the canal when they hide behind like in the canal like by the pipe...**

FR: **They used to play in this park here but alot people don't come anymore coz they don't trust people.**

AR: **It's too dangerous**

FR [interjects] **The grade 7's of last year they robbed us and they raped her, they raped her and they like stole everything they held her at knife point and they tied her up and they raped her they left her just so and she was pregnant**

FR: **Here in front of the school someone tried to rob the school children**

FR: [adds] **Coz my pa grew a lawn there for my baby cousin we had a swing but they stole the pole the swing**

MR: **I can't even play outside coz there's no area to play**

FR: [responds]...**like I said the police is so slow they'll come when the thing is long time over. The person can be dying then they still coming.**

FR:...**like they supposed to be there to help you and keep you safe but they just so with the drug lords, with the merchants and everything.**

(Group 2: Session 1)

Extract 4

The most prominent theme which emerged from the participants' responses in relation to the NE was that of feelings of threat, which clearly impacts upon their psychological state. Their NE's presented numerous threats to personal safety of the participants and other children in the community, who were either directly exposed to, or experienced threats to safety. The threats ranged from robbery by peers or adults in the community, to the fear of rape. This description is consistent with a number of studies which substantiate the finding that low-income areas or communities are characterised by violence and impediments to safety (Swart-Kruger & Chawla, 2002; Parkes, 2007; Percy-Smith, 2002). As contended earlier, children equate the NE with safety hazards which is reinforced in the extract in reference to open fields and canals which exacerbate the problem. Percy-Smith (2002) identified a number of social threats which are consistent with many of the safety threats identified by the participants. Among these were concerns about traffic, which further hinders children's mobility; stranger danger; crime; and the fear of being attacked. The manner in which the participants expressed the lack of safety and constant exposure to crime and violence, echoed a sense of these happenings being a norm in their lives.

The following extract illustrates the participants' responses whether there are any specific places for children to play safely in the community. Their responses reflect that there are no spaces for children to play safely in their community. Accordingly, the realities of the safety of participants vary greatly as is evident from responses in the extract below. When asked if there are any safe and environmentally friendly places for children to play within their community, one of the respondents mentioned their yard, another mentioned within their home, and another respondent mentioned that not even the home environment.

So... are there any places...in your community to play safely?

MR: No. Just in your house

MR: [adds] Just in your own yard

FR: Not even in your own house

F: So...if you could make your the neighbourhood that you live in more child friendly, how would you do that what type decisions would you make?

FR: Safety first

(Group 1)

FR: [interjects] We wanna feel safe again to actually go outside again and walk or to er like just to even er a day out just to spend a day out outside or to be in fresh air instead of sitting hours infront of the tv

FR: [adds] Er to like be free and active

FR: [continues] And like just to be free, and not not to worry about oh this guys gonna come rob me, oh that person coming pass might just harm me I better just go home. Just to like just actually trust people, and er have that trust again

MR: They kill people that's on neighbourhood watch

FR: [continues] Work together to make it safer. We should stand together against the criminals that try to harm us and harm the children

FR: And swing and you feel...free man. It's just like you feel safe there for for a moment in time. Then you come back to [the community] again...okay lekker tyd gehad weer terug

FR: [continues] And let our voices be heard coz I think as children, as people in the community we deserve to work in a safe place

MR: [interjects] And it's a very safe circle also, its safe

Extract 6

The delivery of the participants' responses above illustrates the importance of safety issues within their lives. The participants conveyed the absence of a sense of safety within their homes, illustrated in the extract above. As the home is a social and cultural unit where standards of behaviour, values, and ethics are learned, children may learn positive environmental attitudes if encouraged by parents within the home (Grieve, 1987). Traditionally, the home has been characterised as an environment in which a person feels some sort of attachment, a sense of possessed territory, familiarity, belonging, and control, reflecting research investigating middle class nuclear families in the developed world, which

epitomised the concept of home (van der Klis & Karsten, 2005). However, in contemporary times the term home, as with the NE, signifies a multidimensional concept, which represents the diversity of children's experiences shaped by their contexts (van der Klis & Karsten, 2005). The participants' construction of reality is clearly influenced by the social and economic circumstances of the community, such as low SES, gangsterism, violence, substance abuse, and crime. This reflects the increasing disparity between the rich and poor in South Africa, and the array of violent masculinities as a result of the vicious past. While there is an indication of changing masculinities in post-apartheid South Africa, change has come about disproportionately, whereby the increasing economic disparities contribute to impeding change, and aggravating violence and crime. As proposed by Parkes (2007), this may have the effect of children in the context of South Africa, particularly within the research site, to become entwined in discourses of violent masculinities, and thereby making sense of their lives through the perspective of safety, especially when in the NE.

These differing constructions reveal that children within the same context experience various levels of threats as well as limits to mobility, and are thus not able to access play areas. This evidences the diversity of childhoods experienced by children residing in close by neighbourhoods within the same social, cultural and economic system (Jenks, 2005). More so, the diverse responses prompted by nature should not be taken lightly, as responses to nature are dependent upon inter-subjectively shared meanings exhibiting cultural understandings established over time (Kaivola & Rikkinen, 2004). These create landscapes of the mind, or mindscapes, which ally memories and emotions, imagination, and dreams, encapsulates remembered pleasurable and lasting experiences (Kaivola & Rikkinen, 2004). Concepts of nature and special places in nature are not a given, they have to be learned and experienced, along with the "multiplicity of meanings invested in nature which are socially constructed and reflect changing values inherent in society" (Kong et al., 1999, p. 4).

In essence, this reflects the social construction of nature which differentiates between classical and modern conceptions (Olwig, 1984). Olwig (1984) concedes that classical conceptions are anchored in ancient Greek, and Roman thought connoting a process of development, growth, or change. In this notion, nature was likened with the embryonic, the prospective, as opposed to the actual. Accordingly in relation to development and conservation, nature was not viewed as something to be conserved from development, instead it was perceived as an undeveloped potential. This notion is divergent and contrasted to

contemporary conceptions of nature which refer to it as an entity, an actuality, rather than a principle, or a process actualisation (Olwig, 1984). It is this second notion which participants employed in the construction of their realities in relation to nature. This reinforces the worth of unpacking children's subjective experiences, essentially reflecting multiple constructions of childhood.

Benwell (2009) however, indicates that children are aware that crime and danger are not restricted to particular areas, but that it may occur close to, or within the home. This finding is not consistent with that of Bjorklid and Nordstrom (2003) revealing that home is a place of safety and shelter from possible dangers. The context of the current study in comparison to that of Bjorklid and Nordstrom (2003) is a fundamental factor which may have resulted in the disparity between the two findings. The social and political landscape of South Africa is persistently influenced by the disastrous legacies of violence which is manifested in the research site of the study which may have contributed to this disparity. Essentially, this supports James and James (2004) notion that different realities of constructions and experiences of childhood exist in a dialectical relationship framed by the historical, cultural and social on one spectrum, and biological maturation on the other. Thus, the experiences of children is understood and interpreted by taking these systems into account. Consequently, it is critical to consider the role of language in the construction of the meanings participants attach to the NE. With this, it is apparent that children in the study make sense of the NE from the position of safety; this discourse is traced and embedded in every theme and aspect which the study elucidated, which is a seminal finding in this study, elaborated upon below.

The participants' responses moreover reveal that they have experienced exploring and engaging in the NE at a younger age. They also acknowledge that younger children have made use of the NE in the past, however, the areas in the NE which they have utilised in the past is becoming even more limited due to an ever-increasing amount of threats to children. Individuals presenting the most severe threats to children were those abusing substances and alcohol, strangers, and gangsters whom they feared would harass or assault them if they were to venture on their own in their community. A significant facet of safety, crime, and violence was the differences between male and female narratives and experiences. Girls described being more cautious and restricted in their mobility, whereas boys were faced by the same social threats but the restrictions they faced were not as limiting as girls. This is consistent

with the finding of Bannerjee and Driskell (2002) indicating that girls had a limited range outside the confines of the community, whereas the mobility of boys was not as restricted.

It is apparent that the participants are employing an intricate interplay of words to demonstrate the meanings related to the psychological experience of safety (Savahl, 2010). It is clear that the impact of violence on the participants has psychological manifestations incorporating aspects of fear, anxiety, and psychological distress. For instance a female respondent conjectures that, *“they robbed us and they raped her, they raped her and they like stole everything they held her at knife point and they tied her up and they raped her they left her just so and she was pregnant”*. The description of this participant’s experience, namely the graphic depiction of the violent account which transpired, symbolises the manner in which she attach meaning to her environment. The language utilised signifies the intense discontent toward the omnipresent nature of the violence in her neighbourhoods. The reiteration of the words *“they raped her”* emphasises the severe psychological imprint burdening the participant. The participants displayed a sense of uneasiness each time they had to venture in public spaces, and feared for their own, and other children’s well-being in the area. The implication of the perilous environments which the participants inhabit, indicates that they are unable to utilise their NE’s in a meaningful way.

A crucial factor which presents itself in the extract is the deleterious effect of children not being able to participate in a collaborative manner within their community. Children identify the exigency of their insights pertaining to the creation of a CFC, with appropriate consideration afforded to the NE, to be voiced within their community. They recognise that children possess right to contribute, in a meaningful way, to demand safer areas, provide inputs in decision-making relating to issues which affect their lives, and the need for a cleaner environment. The participants accordingly allude to the fact that a clean environment will decrease the level of violence and crime in their community. As the participants are critically aware of the potential sense of influence they may have in their environment, it is likely that this will create better congruence between the child and the NE. Thus, a greater responsibility toward the NE may be attained with this heightened sense of influence over their environment. This is evident in the response of a female participant in the following quotation, *“...if us as a community can come together to better our community to be child friendly then we can maybe start... planting plants so that we can have more clean air...”*. The quotation above illustrates the prospects of the community to bring about a child and

environmentally friendly neighbourhood. Driskell (2002) and Hart (1997) point out that this congruence, or fit, cannot be attained with the participation of children alone. Instead key stakeholders in the community, municipality, and government should be involved, while committing to making cities safer and greener for children, with the collaboration of children.

Accordingly, a burgeoning amount of literature identifies the benefits of children exploring and discovering the NE (Chawla, 1988, 2002, 2007; Evans et al., 2007; Hart, 1997; Phenice & Griffore, 2003; Wals, 1994; Wells, 2000). These studies discuss the advantages of engagement in nature to be beneficial in early identification and familiarisation with nature fostering a pro-environmental attitude later in life; interacting with nature which assists in children's development; child's interaction with the NE enables them to acquire confidence, and a sense of being able to influence their environments; as well as the importance of EE within the school curriculum, beginning at an early age to reinforce an affinity of toward the NE. As has been identified, the children in this study are not able to access the NE due to a number of social threats pervading their lives. The consequences of this disconnect with nature are diminished use of the senses; attention difficulties; as well as increased rates of physical and mental illness (Louv, 2005). This burden and risk of a nature-deficit disorder (Louv, 2005) is exacerbated by the numerous challenges, hazards and threats to safety, and the fear of crime and violence which children in this study are exposed to.

The next theme which emerged was inadequate municipal services in the participants' community.

4.1.6. Inadequate Municipal Services

The final theme to be discussed in this thematic domain was inadequate municipal services. It is evident that children partly attribute their unclean environments to inadequate municipal services. The key codes which this theme consists of are: garbage disposal and health risks. This theme is best represented in the following extract:

FR: [interjects]...**they just think the council should just pick it up**

F: Okay so do you think maybe it's also that... there's other things in their lives that's more important that they don't really have to worry about the natural environment?

MR: [adds] **Yes**

FR: **They feels it's an effort just to go to the bin**

F: Is there garbage disposal?

AR: [exclaiming] **Yes, yes!**

MR: [exclaims] **Council, they just collect the bins**

FR: [adds] **Once a week**

FR [continues]...**There is people with trolleys who just come every day but they just dump it on the field, they go along with their trolleys or they burn on the field**

MR: [adds] **It makes lotta stuff man you see, it makes rats and stuff you see**

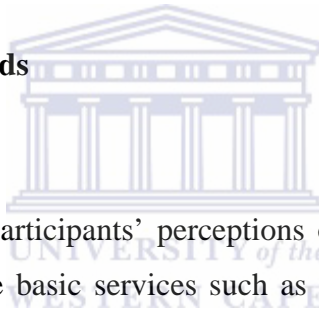
FR: [responds] **Then they...don't uhm clean the field...I think the council is supposed to clean the field**

FR: [continues]...**But they don't clean the field**

FR: [adds] **Because they know they don't need to pay for it, ag the council can just put another one on so just go ahead and steal that one also, they don't care**

MR: **They can put small drums on there then people won't throw papers and stuff on the ground**

FR: [responds]...**clean the roads**



Extract 7

The above extract displays the participants' perceptions of the NE as related to municipal services, as well as inappropriate basic services such as garbage disposal, and health care. Although the participants attribute much of the responsibility of the unclean NE in their communities to the community members themselves, they accordingly acknowledge the role which municipal services should play in maintaining the cleanliness of public spaces, especially for children. The children in the study associate their degraded environment to community members who have no regard for the NE by dumping dirt in open fields, and shift the blame toward the municipality to keep these open fields clean, despite the ever-increasing amount of waste dumped on fields in the area. However, the participants acknowledge that although community members are responsible for the waste, the municipality should preserve the cleanliness of open areas in which children play. The inability to do so presents numerous health risks for children in the community such as dirty needles, broken glass, and the presence of rodents due to waste. This finding is supported by Swart-Krugers' (2000) study in Canaansland, Johannesburg, expressing that children perceive municipal services to be inadequate, with particular reference to garbage disposal. Bannerjee and Driskell (2002) additionally identified basic services to be inadequate in their study, which contributes to local environmental degradation. Essentially then the participants are insightful enough to

recognise that they cannot bring about awareness and pro-environmental behaviour on their own, thus they identify the need for the collaboration of the municipality and community members with the participation of children as a key component (Chawla, 2002). The participants' responses also reveal that they are concerned about the NE, but as EE and awareness have not been incorporated into their learning at school, which is the place where they spend most of their time, they may not have the necessary knowledge to practise pro-environmental behaviour more extensively in their daily lives. The participants need for basic rights as outlined in the UNCRC and Children's Act of 2005, deems government liable to providing legislative, administrative, and delivery to guarantee implementation.

4.2. Child friendly cities

The next emerging thematic domain was CFC's. This thematic domain consists of the following themes which will be explored comprehensively below, namely:

- *Child and Environmentally friendly neighbourhoods;*
- *Environmentally friendly spaces and places for children*
- *Environmental awareness in the school curriculum*

This thematic domain addressed objective two and three of the study (See p. 5). These themes were contextualised in the social environment. The themes additionally demonstrate a strong link between safety, the NE, and CFC's. The most vital aspect of the link between the three factors mentioned above is the manner in which children attach meaning to their lives through the lens of safety, which inevitably governs their lives.

4.2.1. Child and Environmentally Friendly Neighbourhoods

The first theme which emerged within the domain of CFC's was *Child and Environmentally Friendly Neighbourhoods*. The participants in the study emphasised the importance of the NE in the construction of a CFC. The consideration and inclusion of green spaces, in creating a CFC thus necessitates collaboration between children, adults, and key stakeholders in the community to appreciate, and protect the NE, which is reflected in the extract below.

F: So...do you think in the creation of a child friendly city in your neighbourhood...it's important to consider the natural environment?

AR: Yes

FR: [responds] It's very important

F: Why do say so why do you think so?

MR: To give love for the place that they live in, the area that they live in

FR: They should be respectful

MR: [adds] If the environment is clean the children can play outside because er the litter of today...

FR: [interjects] It's poisoning

MR: [continues] You can get TB, you can get any illness

So any other comments on why it's important to consider the natural environment in creating a child friendly city?

FR: [responds] At the end of the day it's helping all of us...

FR: [interjects] And it's gonna help our children

FR: [continues] And those that dump the things they don't think like of

FR: [adds] The future

FR: [continues] Exactly. And at the end of the day it benefits for them also coz if this air is polluted there's no plants to clean the air, we can get sick and die at the end of the day, they don't think like that. See for them in their mindsets

MR: [adds] They self the people that dump the dirt

FR: [adds] In other words, they are making their death bed

FR: Not just there's

FR: [adds] But others as well

Extract 8

This extract underscores the importance the participants afford to the NE in creating a CFC. All the participants perceive the NE to be a pertinent feature of a child friendly domain (Moore, 1986). The participants' responses encapsulate this viewpoint in the following quotation from extract 8 above, articulating that nature is crucial in constructing a CFC for the following reasons:

MR: To give love for the place that they live in, the area that they live in

FR: They should be respectful

MR: [adds] If the environment is clean the children can play outside because er the litter of today...

The above quotation illustrates the value the participants attribute to nature. The first response indicates that incorporating nature in creating a CFC is critical, not primarily for the perception of the worth of nature, but more so for protecting the NE from damage by community members. This participant asserts further that people need “*To give love for the place that they live in, the area that they live in*”. The verb “*love*” articulated above is symbolic of the appreciation, consideration, respect, and adoration which the participant feels should be instilled within individuals who do not conserve the NE. Moreover, the participant identifies that it is not merely the natural areas in their neighbourhood which should be considered and preserved, but also “*the place that they live in*”, which more broadly refers to all natural areas in their city as well. Thus, the participant is not solely concerned with the preservation of the NE which they encounter, but those which fellow human beings and children come across as well. This emphasis placed upon the worth of all NE’s reflects the necessity which the participant attaches to developing, and maintaining an environmental awareness and consciousness. Essentially then, the participants understand that threats to the environment in turn threaten human health, and ecosystem stability (Monroe, 2003). The second male participant’s response refers to the physical conditions of the NE in their neighbourhood. This participant identifies the unclean and polluted environment of natural spaces as a barrier to children’s play. Fundamentally then, the participants’ responses embody their understanding of their physical and NE. The participants recognise the harmful effects of not carrying out environmentally responsible behaviour. More specifically, a female participant expresses that community members are “*making their death bed*” in doing so. This description represents the demand the participants place on current generations to become aware of the ecological vulnerability of the environment due to human destruction, and the numerous benefits of pro-environmental behaviour.

The extract above essentially displays the manner in which the participants attach meaning to their lives. They evidently incorporate the material context in which they live, exemplified by violence, crime, and danger, as well as the environmental context, such as the degraded and polluted NE in their neighbourhoods into their worldview. While there is consensus amongst researchers that information alone will not motivate an individual to implement a new behaviour (Hungerford & Volk, 1990; Kollmuss & Agyeman 2002; Schultz, 2002; Stern, 2000), it is similarly clear that a deficiency of information can act as an obstacle to transforming behaviour (DeYoung 2000; Kaplan, 2000; Schultz, 2002). This reinforces Wells (2000) contention that the nearby NE of children living in poor urban environments,

consistent with the setting of the current study, plays a vital role in children's well-being. Nature per se was not viewed as a threatening place. Instead, the pervasive and recurrent construction of nature as perilous due to the deficiency of safety in the community was identified as threatening (Wals, 1994). As expressed in the extract above, this hindrance restricts the participants' discovery, and exploration of the NE. The incongruence apparent in the participants' articulation to engage in nature can be considered a deprivation of a basic right of childhood, the right to experience places in one's proximity safely, impetuously, and at their own accord (Berg & Medrich, 1980).

The extract additionally conveys that the participants hold strong predilections for nature and nature-related settings, which in their context is associated with varying hazards (Simmons, 1994). Children's direct contact and experience within nature, which is undoubtedly irreplaceable, and considered as fundamental for both the future protection and management of NE's, and for the children themselves (Kellert, 2002). The outdoor environment offers unique opportunities for children, which cannot be replaced by other recreational activities which do not encompass nature. Research employing Wilson's *biophilia hypothesis* (1984, as cited in Blizard & Schuster, 2007) has provided substantial evidence for the benefits of direct experience with nature in childhood (Kellert, 2002). The term *biophilia* in this *hypothesis* refers to the inherent propensity of human beings to affiliate emotionally with other living things. Nabhan and St. Antoine (1993, as cited in Blizard & Schuster, 2007), developing upon this concept, have proposed that direct experiences with nature during childhood may be a precondition for the full development of biophilic tendencies in adulthood. Additionally Kellert (2002) documented a wealth of affective, evaluative, and cognitive benefits resulting from children's experiences in natural places.

The participants' responses as to why they perceive the NE as crucial in the creation of a CFC is clear in the following extract. The responses of the participants' once again reveal their need to become immersed in nature, but are unable to do so due to threats to personal safety overruling their aspiration to become engage with nature.

F:...so the natural environment in creating a child friendly city...do think it's important, and do you... think it's important that it will create...spaces where you can play safely?

FR: Yes it will be coz people can actually feel again safe and come out of their house and actually have picnics and family days like you know so

FR: [interjects] **We wanna feel safe again to actually go outside again and walk or to er like just to even er a day out just to spend a day out outside or to be in fresh air instead of sitting hours in front of the tv**

MR: [responds] **Trees, coz there's no actually trees in this area**

FR: [responds] **But in the parks there's mostly druggies that sit here in the park**

F: Okay, so do you... think that you have enough opportunities to be able to play in the natural environment, to make use of the natural environment?

FR: [responds] **Yes, there are alota places. It just depends on you...Coz here you again and you came to our school, here we again sitting right talking about this. There are alota opportunitis**

MR: [responds] **Of course, we'd want to sit therein at night maybe, you boring you go sit there you and your friends, mxit ⁷ maybe there now or whatever**

F: And you'd obviously want it to be somewhere safe?

MR: **To be cleaner and safe yah, because there's much glasses in all other parks**

MR: [adds] **It is...it's coming right I see. They making the places clean now man**

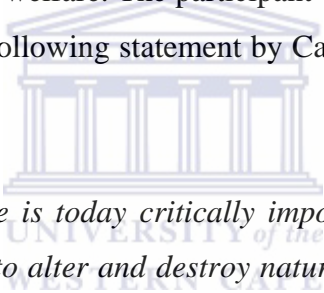
Extract 9

The meanings which the participants attach to the NE are heavily influenced by the social threats which are present in the area such as drug abusers, crime, violence, and potential harassment, demonstrated in the extract above. The natural areas in the participants' neighbourhoods are distinguished as a refuge for crime and violence, and thus children are not able to fully gain the benefits of the NE as a place for playing and socialising with friends. The first participant's response reveals that nearby nature is important in strengthening family and community bonds in articulating that "...coz people can actually feel again safe and come out of their house and actually have picnics and family days like you know so". This quotation indicates the quintessential need for safety, without which the participant and community members cannot live without fear. The participant expresses the need to be able to "have picnics", "family days"; and "to be in fresh air instead of sitting hours in front of the tv".

The participants' discursive constructions of the environment display the distress they feel as a result of the gap between their sense of environmental awareness and responsibility, and

⁷ Mxit is a free, online, multi-million user mobile instant messenger and social network system.

according pro-environmental action (Chawla, 1988). Experiences in nature have been identified by environmental activists as playing a major role in the development of children's feelings of environmental concern (Chawla, 1999; Palmer & Suggate, 1996). Accordingly, as the participants' identified that the NE in their community needs to be preserved, feelings of unease and anxiety may arise as they do not feel they are influencing the NE in a sustainable manner. Additionally, the participants' perceive the consequences of not sustaining and protecting the NE as serious. The participants are in essence challenging the taken for granted patterns of their community by identifying the negative effect disrespect for the NE (Bowers, 1994). The participants also display concern that people in their community do not consider the future when polluting the NE, which in their opinion is a short-sighted view resulting in challenges for themselves and others. Again, the discursive theme of the 'culture of inconsideration' toward the NE is presented by the participants. They are in stark opposition to this disregard for the NE, as they are insightful in acknowledging that the NE plays a significant role in their health and welfare. The participant's concern about the waning regard of the NE is encapsulated in the following statement by Carson (2004, as cited in Hill, 2004, p.48):



“Man’s attitude toward nature is today critically important simply because we have now acquired a fateful power to alter and destroy nature. But man is a part of nature, and his war against nature is inevitably a war against himself... [We are] challenged as mankind has never been challenged before to prove our maturity and our mastery, not of nature, but of ourselves.”

In extract 7, the participants allude once more to primary environmental care which underpins the argument of Hart (1997), that the environment should be conserved not in an individualistic manner, but shifting toward a sense of community environmentalism (Field, 1994). A NE can fortify the community by increasing the level of contact individuals have with the outdoors (Kuo, Sullivan, Coley & Brunson, 1998). The NE should thus be utilised by individuals spanning across a range of ages, which assists the engagement of all parts of a community (Bird, 2007). Explicit in the participants' understandings of the NE environment is the advancement of the participation of peers and community members to create a facilitative environment for community-based social action, which requires the development of environmental consciousness among both children and adults in the community. The role of NGO's to enable the empowerment process with the collaboration of all stakeholders, such

as government agencies and international organisations to safeguard the Earth is thus imperative (Bowers, 1994). Community involvement at the local level in terms of environmental management is crucial in the process of sustainable development, whereby individuals feel fully involved in the betterment of the community (Hart, 1997). It is the development from these modest local foundations of promoting community-based research, and action, which offers the most promising possibility of realising the global participation of community members in beginning to solve environmental challenges. It is these realities which inform social policy, intervention, and educational practices and other public action to foster, cultivate and maintain an environmental awareness by community members (Gergen, 1999). The intention of this environmental awareness would be to enhance care for the NE, on the basis of one's own health, as well as for the well-being of other individuals.

As the participants have identified the issues which play an imperative role in their lives, they have also acknowledged that they do not feel that they are participating in a genuine manner in these pertinent issues. The community which the participants reside in does not allow for the participation of children in issues which pervade their lives. The role children play in their community does not coincide with even the lower rungs of Hart's (1997) ladder of participation (see p. 30), not manipulation, decoration, nor tokenism. Children's participation, as explicated from the focus groups, is non-existent for the participant's. Instead there is a preoccupation with the social challenges which children, and other community members endure on a daily basis, and thus participatory practices are not addressed or carried out which has a number of implications for children. Among these implications is the marginalisation of the participants in their community, as well as their opinions not being of value. The lack of children's participation in this community then exacerbates this disheartening effect of not being able to influence their own lives, or possessing a sense of affecting positive change in their lives.

Factors that are seen as promoting the development of cities are frequently seen as undermining the development of children. This type of thinking, in terms of binary oppositions, has long dominated social science and urban planning (Karsten & van Vliet, 2006). These dualistic ways of thinking are counterproductive as these dichotomies do not allow for new insights and contest original, synergistic solutions (Karsten & van Vliet, 2006). As children comprise a noteworthy proportion of the population, it does not assist them to construct their well-being in opposition to urban environments, where children and their

needs are not considered in the construction of urban environments (Karsten & van Vliet, 2006). An alternative would be to develop child-friendly communities premised upon deconstructing these polarities, and seek ways of assimilating opposing concepts such as child and city; care and career, nature and built environment, private and public. This assimilation is a challenge for urban planners and designers, whereby meeting this challenge will necessitate an operationalisation of principles exemplified in the UNCRC into local actions. Ultimately, this entails working collaboratively with children and their parents with a concerted effort to reclaim their neighbourhood, and gain a sense of empowerment (Karsten & van Vliet, 2006). This view of the child as a 'being' capable of influencing the enhancement of their NE, and community life represents a rights perspective on childhood (Hemrica & Heyting, 2004), yet also encapsulating the new sociology of childhood (Philo, 2000)

4.2.2. Environmentally friendly spaces and places for children

The next theme which emerged in the analysis was the participants' recommendations for environmentally friendly spaces and places for children. This theme is exemplified in the following extract.

FR: That's why for many of us it involves our health, we in the house so people are like couch potatoes forever...eat, watch tv, sleep, and perhaps do homework... Some of us don't always do our homework coz it's boring

F: ... those of you who do play within the natural environment what type of games do you play?

FR: Soccer and cricket

FR: Tennis

F: So...if you could make your the neighbourhood that you live in more child friendly, how would you do that what type decisions would you make?

FR: [continues] Community centres is also a good way to get started, soup kitchens for every afternoon,

FR: [responds] Plants

FR: Maybe starting a like here... maybe we buy plants ...every week we take turns together as a community...to look after it or make sure that it's safe

F: And...what do you think are some the advantages of having these types of gardens you have areas where you can plant different vegetables...?

FR: [adds] **There'll be food for others. You can use the vegetables to be like have a soup kitchen and use it our own vegetables that we've planted**

FR: [interjects] **Get people out of poverty**

FR: **For example what will also make a difference in people's lives...we have lots of open fields....we can start a zoo**

Extract 10

The extract above illustrates the participants recommendations for designated safe and secure spaces, which includes the NE. *Children's places* is an overarching concept which refers to the places children relate to, identify, and speak about (Rasmussen, 2004). The term *place* is denoted as a specific site of meaning, which children most often do not convey as *children's places*, but instead they physically reveal these places, while *space* refers more broadly to types of setting for interaction (Philo, 2000; Relph, 1976, as cited in Rasmussen, 2004; Shaw, 1987). Tuan (1977) similarly accentuates that space is more abstract than place, that what commences in experience as an indistinct space develops into a place as a child steadily experiences a setting, and becomes familiar with it through lived experiences and assigns particular meanings to it (Tuan, 1977). These definitions are crucial in understanding the meaning children attach to places and spaces in the NE, and more so to determine whether these areas are perceived to be child friendly. Given the above and other extracts discussed, it is apparent that the participants do not feel that there are many safe places for them to seek refuge, recreation, or play within the NE. The participants instead live with violence intertwined among the levels of social relations, at school, at home, and in their communities (Parkes, 2007). For these reasons the participants express that they “*eat, watch tv, sleep, and perhaps do homework*”. Yet the participants' tone in the extract displays the urge to have opportunities to play various sports in the NE such as “*tennis*”, “*soccer*”, and “*cricket*”. This reflects the participant's innate affinity toward the NE, which is contrary to the finding by Kaplan and Kaplan (2002) that adolescents avoid nature.

The participants exhibit the need for outdoor play as social threats and the current trend in children becoming more sedentary is identified in this study. Play is a fundamental aspect of a child's life (Moore, 1986; Parsons, 2011). Outdoor play encourages opportunities for creativity, imagination, social connections, and learned behaviours (Parsons, 2011). The participants were asked if they ever play in their backyards and their responses were:

F: Do you...ever play in your yards?

MR: [adds] Play? What can we play?...

MR: [adds] ...the children do coz they don't have a play area

The participants' responses in the extract above reflects that they have retreated indoors and engage in alternative play practices such as watching excessive amounts of television; playing videogames; surfing the internet; and leisurely lying about the house which is consistent with the findings of Fjørtoft (2001) and Louv (2005). It is also evident in the extract that the participants are not privileged to be able to play in the NE, which reflects the unfriendliness of green spaces in the community, or at home. Open spaces in particular which include nature are highly cherished by children as they provide areas where children can play, experience independence, and discover the natural world. Freeman (1995) argues that as children learn through play, it is vital that the environments in which they develop and play provide them with opportunities for developing positive environmental awareness in all spheres of their life, not merely in formal educational environments.

Quintessentially then, children's environments as a whole must become environmentally friendly, and present opportunities for deepening their understanding, interacting with, and influencing the natural and built environment (David & Weinstein, 1987; Freeman, 1995). The participants' responses display that they cherish the ideal or image of a safe natural space to play as reality does not present this opportunity for them. It stands to reason then that if the NE encompasses positive characteristics which harness the development of children in terms of identity, security, and control, that the lack thereof holds major implications for the child. The absence of these factors, deduced from the focus group discussions, has affected the participants' physical and psychological well-being in this study. In terms of physical and psychological well-being, the former reveals that the NE is not representative of a place of safety from the social threats in their environments, and in relation to the latter, the participants' psychological well-being and the constant threat of violence and danger which pervades the NE may affect the congruence between the participant and the environment.

If mental⁸ and experiential⁹ congruence are not achieved, thus if individuals anticipations are not fulfilled by the environment, the ensuing discontent may result in frustration, alienation, and social and political dissatisfaction (Michelson, 1977). This consequence is evident in the

⁸ Mental congruence refers to the extent to which people expect the environment to meet their needs

⁹ Experiential congruence refers to the extent to which individuals needs are actually met

above extract as children are discouraged by not being able to explore potential play or recreational domains due to social hazards, and are thereby alienated in an adult dominated world. This discouragement is apparent in a female participant's assertion that they "*wanna feel safe again to actually go outside*". This alienation can also be equated with children's unheard voices drowned out by community members deeming persistent hazards to be of primary concern (Russo, 2003). Accordingly, Grieve (1987) states that if mental and experiential congruence is achieved the ensuing fulfilment may impact upon the individuals overall perception of life. Similarly, if mental and experiential congruence is not attained the overall perception of life of the participants, and other community members would be influenced in an unconstructive way. Evidence of this incongruence is demonstrated by the way children understand and construct their environment to be characteristic of the great deal of social ills plaguing the community. The above also demonstrates the marginalised status of children in society, not only in this community, but more broadly in South Africa as well.

Research by Hart (1987), Moore (1986), Coffin and Williams (1989, as cited in Freeman, 1995), and Parkinson (1987, as cited in Freeman, 1995) indicates that children prefer to play in natural places where they have the freedom to explore and manipulate their environments. Natural open space contains elements which are of interest to children such as water, sand, soil and mud, trees to clamber up, tall grass, rough terrain, resources to build with, stones and flowers, and wildlife. In addition to playground provision, it may be valuable to take into account the designation of a new category of public open space, which is a natural play area in the community for children. The participants express that they would like to play in parks which are not characterised with the persistent risk of harm. Of importance here is the distinct depiction of what a park encompasses to the participants, which is an open field as opposed to a structured and built playground. Nonetheless, the allocation of these natural play areas may have numerous benefits for children; it could defend existing open spaces from future development; areas for play could be provided at low cost and close propinquity to home; children may perceive their play as being treasured; and resources could be guided toward improving these areas. Participation of children is more often than not solely characterised by the tree planting in promoting environmental preservation, where children are supplied with trees and a spade, and instructed on how to plant them whereby the entire process is governed by well-informed adults (Chawla, 1992). Chawla's (1992) contention in deliberating the participation of children in tree planting in no way undermines the importance thereof, however, she advocates the genuine involvement of children in the decision-making process.

Louv (2005) theorises that children are aware of global threats to the environment but their physical contact and familiarity with nature is diminishing, whereby nature is perceived as more of an abstraction than reality to children. In preceding generations a connection with nature was expected, however, due to children's interest in technological advancements they are more inclined to remain indoors than to go outside and develop connections with nature. This hypothesis has been investigated in psychological, sociocultural, and evolutionary studies. It resonates well with the conditions of children in this study. As a result of the fears of pollution, kidnapping, and injury, children today are limited in their play in nature and do so much less. Sobel (2008, as cited in Ponds & Schuster) states that children are often taught about the dangers of environmental degradation prior to them being developmentally able to understand the impact that such degradation has on their immediate surroundings.

A vital point which Sobel (2002) states is that parents and guardians should allow children to develop love for the earth before they urge them to save it. Children are habitually desensitised to environmental degradation if they are exposed to it before they are developmentally prepared. The participants' experiences were consistent with the above position as they have been desensitised to environmental destruction in their immediate surroundings, which has impacted on their construction of reality. It has influenced their understanding and the meaning they attach to their lives according to violence, crime, and destructive behaviours of individuals in their community. Children should be exposed to education on environmental degradation subsequent to them having experiences which create a lasting bond between child and nature.

Accordingly, the realities of the safety of participants vary greatly as is evident from responses in the extract below. The following extract reveals specific child and environmentally friendly spaces which the participants want in their community.

F:...what kinds of things would you include...in a child-friendly city that has the...natural environmental aspects as well?

FR: [continues] **To go to for example if I'm eighteen and my boyfriend's nineteen he wants to take me out on a date then we don't really have uhm money or the facilities**

FR: **And sports, sports field**

FR: **...tennis,...netball**

MR: [adds] **Squash**

FR: [adds] **It will also impact on the health of us**

FR: [continues]...**having like soccer fields and netball fields like coz I'm sure there's alota children that wanna learn things, different sports coz we don't always get access...I always wanted to learn hockey, but there's nowhere...**

FR: [continues]...**we can maybe have sports days and functions that could raise money...for the whole community...and enjoy your day where there's...no crime...**

FR: [adds] **I would've said a swimming pool, some children just love swimming**

FR: [adds] **Like a bird sanctuary**

F: You would like a bird sanctuary? Why?

MR: [responds] [pause] **To when you wake up in the morning some of them they wake you up**

MR: [responds] **You know na, if they...this people...can make up like small like soccer clubs...it can mos pull the children away from drugs...or singing competitions...a dance show something like that...**

MR: [responds] **More recreational parks**

FR: [responds] **More children...Coz there's no one my age in my road**

MR: [responds] **Feeding schemes**

MR: [continues] **No one should ever go to bed hungry, especially children**

Extract 9

Children emphasise the need for the stimulation and experience of nature in their lives, illustrated in the first participant's response, in extract 9, that "*Some of us don't always do our homework coz it's boring*". Natural, as opposed to constructed playscapes, present sensory stimulation and physical diversity which is crucial for childhood experiences outdoors. Through careful design, constructed playscapes can be greened to replicate natural playscapes. The participants thus accentuate the necessity to develop play spaces, and recreational areas for children which are based in the NE. A female participant's response exhibits this need for play domains and recreational areas for: "*children that wanna learn things, different sports coz we don't always get access...*". These areas, as described by participants in the study, are:

- **Community centres** which initiate soup kitchens by planting and maintaining their own vegetables to create a vegetable garden. The vegetable garden would

have numerous benefits particularly in helping those in the community who are poverty stricken, and cannot provide for themselves, as well as making a positive impact in their lives to provide them with motivation to better their daily living conditions. The participants also suggest that feeding schemes be initiated in community centres, as they are of the view that no one, especially children, should go to bed hungry.

- **Community garden** which incorporates the help of various community members in nurturing plants, and taking turns to look after the garden. The participants also suggested incorporating street children to assist in the maintenance of the garden, as this could potentially be a constructive pastime to keep them away from possible social threats, and misbehaviour.
- **Parks** which are safe and dedicated specifically for children. These parks, as proposed by the participants, should be suitable for children of all ages, from toddlers to adolescents, as there are no parks with appropriate facilities available in the community. They also suggest that security guards survey these parks, and prevent any possible harm to children by offenders in the community.
- **Zoos** were another recreational facility which children would like to have in their community, as accessibility in terms of transport, travelling distance, and finances to go to the zoo are factors hindering their ability to explore these areas. A female respondent in particular indicates that a zoo could be an enjoyable place to socialise with peers, and appreciate the community more.
- **Sports fields** were another facility children would appreciate in their neighbourhood, as there are not facilities available for this. They declare that the following sports fields be developed in the area: soccer, tennis, cricket, hockey, and netball. The participants insightfully acknowledge that they perceive the lack of recreational facilities as a burden to their health, which alludes not only to their physical health, but psychological health as well. The participants thereby identify that watching television, and sitting at home with no enjoyable activities, are dilemmas which they are faced with and have to bear the consequences.
- **Sports days and events** for the community in the NE, whereby the community can come together and enjoy sport and the outdoors was another suggestion. This refers to the power of nature in bringing about social cohesion. The participants also specify that in order to have these events, crime and violence which pervades

their lives on a daily basis should be absent, not only on these days but permanently in the community.

- **Bird sanctuary** was another recreational facility which children would like in their community as one participant felt that the soothing sound of bird's voices would be harmonious.
- **Recreational parks** were emphasised as crucial places for the participants to seek adventure in nature.

The above suggestions by the participants to make their community more child friendly, by considering the NE, reveals their aspirations for the community. Their responses display their inclination, and preference for play in the natural sphere as they currently do not have access to green areas or recreational facilities which incorporate elements of the NE. Consistent with the waning ability of the participants and many other children to navigate their daily territory independently, the play areas they are able to discover has declined precipitously (Karsten & van Vliet, 2006). Risotto and Giuliani's (2006, as cited in Bjorklid & Nordström) review of relevant literature proposed that the deficiency of local experience for children has diminished opportunities for environmental learning and competence. The consequences of this are experienced by participants as neighbourhood parks that children would like to utilise for play has become less accessible, and transformed character. Many parents now consider parks to be too dangerous for children to explore without adult supervision. Consequently, parks have lost their meaning as a children's domain (Moore, 1986; Karsten & van Vliet, 2006). This is aligned with the finding in the current study revealing that the participants are restricted in their movement outside the home, and particularly in natural open areas which afford the most danger.

Consistent with Kahn's (2002) finding, children in low-income neighbourhoods, such as the setting of the study, have fewer opportunities for outdoor recreation (Kahn, 2002). Children's access to recreational open space in the NE is consequently imperative in encouraging a sense of independence and autonomy, and the development of subjective geographies through the physicality of playing, exploring, living, and learning, opportunities which children in this study were not afforded (Robertson, Cooper, & Walford, 2001, as cited in Abbott-Chapman & Robertson, 2009). Additionally, Baker (2002) has emphasised the ways in which the discursive geographies of parks and natural landscapes may be interpreted, produced, and

consumed via the material, ecological; discursive; and touristic experience. A supportive physical environment is a necessary, but insufficient, condition for children's outdoor play. Most importantly, children need other children with whom they can play. A female participant's response in extract 9 expresses the need for "*More children...Coz there's no one my age in my road*", thus reinforcing the contention that children need other children with whom they can play which may enhance their appreciation and enjoyment of and in nature. Outdoor play is essentially social play, so when there is no one else playing outdoors, children are less likely to go out. This situation is problematic in streets with very few children, or with very few children in the same age category. It is evident from the list of play areas which the participant's outlined above, that the lack thereof has had an immense impact on the participants' lives. The tone of their responses reveals a disjuncture between their desired physical environment, and the reality of their physical conditions. The psychological conflict which the participants, and other children, may consequently face as their environment does not meet their needs is children seeking self-destructive alternatives such as substance and alcohol abuse, bullying, and even disregard for the NE.

The collaboration of children with adults in the formation of recreational facilities, suggested by the participants, is evidence of the need to create a child and environmentally friendly neighbourhood. The need for children to interact with one other, and their outdoor environment, is essential to cultivate an appreciation and desire to preserve their local ecology (Parsons, 2011). Natural play areas offer the most sensory stimulation and level of diversity for children. These play areas encompass a diversity of sensory experience, and physical structures which both challenge and engage childhood play. In order to develop these much needed child and environmentally friendly recreational facilities, the genuine participation of the participants is necessary as they can aptly identify the challenges facing their community, and the factors hindering their ability to play safely in the NE (Hart 1992; 1997). As enshrined in the UNCRC, children's right to decision-making and participation in the aspects which affect them must be upheld, as well as children's right to play as outlined in Article 21 of the UNCRC.

Over the past four decades, Hart (1987), a key proponent in contemporary research on the 'geographies of children' and 'children's geographies' (as cited in Kong et al., 1999) has promoted the participation of children in design and planning of areas which they inhabit. In creating a child and environmentally friendly neighbourhood, as proposed by the

participant's in the current study, the active involvement of children has the benefit of the child developing a sense of meaningful involvement and responsibility in society. Thus, power must be shared between children and adults whereby the relationship is premised upon interaction and mutual respect of opinions, particularly for children, which is a manner of improving society. Recreational facilities also afford excellent opportunities for children to learn with, and from one another and to create and maintain environments. Developing a proficient, participating citizenry is challenging as the benefits are long term and therefore easy to ignore. In the South African context, community participation has not been appreciated. Accordingly, a need is present in the country to meaningfully involve and encourage the participation of children in planning and design.

4.2.3. Environmental awareness in the school curriculum

An important theme which emerged in this thematic domain was environmental awareness in the school curriculum. The participants' responses reveal that they feel strongly about the introduction of EE within their school curriculum. The participants also feel that teaching children about the NE will create both an awareness and sensitisation toward it, which they believe will culminate in their peers behaving in more environmentally responsible ways. This theme is represented in the extract below.

F: Okay, then I was also wondering...in any of the subjects you...are taught, are you taught about how...you can protect the natural environment...?

MR: [responds] **Yes**

F: In which subjects are these?

FR: Life orientation

FR: That's the only one that practically talks about it

FR: [adds] **And natural science sometimes**

FR: [responds] **Natural Science and Life Orientation**

F: So... what kinds of things are you learning?

MR: Respect, and HIV/AIDS and all that

F: Nothing about the natural environment?

FR: [adds] **Besides the plants we have in the environment that's all**

FR: And about taking care of ourselves

FR: Not the natural environment actually, so

F: So do you guys think that introducing some aspects of this...Into your subjects would be important?

FR: [responds] **Yes**

F: And why do you think so?

FR: [responds] **Coz maybe then learners will...actually be something that tells them about even doing something so small I could make a difference by helping myself and helping others. So if we learn...the natural environment in our learning sessions then it could also towards them...seeing that they can do something even if it's just something so small or just even planting a seed**

FR: [adds] **It's actually gonna make them aware I'm living in this world and I've been ignoring this**

Extract 10

The extract above displays the participants' disenchantment with the lack of EE in their school curriculum. The UNICEF, in advocating primary environmental care, specifies that EE should be advanced to encourage the active participation of children to promote their life skills and adaptability, enabling them to achieve a sustainable livelihood. However, EE is not practiced in the majority of schools, especially within the South African context. Other social problems dominate the agenda, even in subject areas such as life orientation and natural sciences. Some of the social problems which children are taught about in their school subjects is *"Respect, and HIV/AIDS" "And about taking care of ourselves"*.

The participants acknowledge the importance of being equipped with knowledge about the NE and pro-environmental behaviour. A female participant's suggestion, in extract 10 above, indicates that if they learn about the *"NE in"* their *"learning sessions then it could also"* be targeted toward their peers, as she asserts it will allow them to see *"that they can do something even if it's just something so small or just even planting a seed"*. This participant's assertion reflects the importance inherent in their construction of EE. The participant is perceptive in recognising that environmental consciousness can be cultivated by small steps in the direction of developing environmental awareness, such as *"even planting a seed"*. Another female participant, agreeing with the previous, elaborates that if their peers learn about the NE, it will *"actually...make them aware I'm living in this world and I've been ignoring this"*. This encapsulates the point that the participants peers are uninformed about issues pertaining to the NE, and that if they become aware of it this, it will motivate them and

instil a sense of appreciation toward nature, and allow them to realise that they are “*living in this world*”. As the participant is relating her contention on the effect that EE will have on her peers, she makes use of speaking in the third person. This is significant and represents the cognisance of this participant to be able to envision another’s perspective, by anticipating the manner in which they will respond to learning about nature.

Although EE is not sufficient to produce responsible behaviour, it is fundamental in shaping children’s behaviour and making them aware of the NE. Thus, the absence thereof may not foster environmental awareness and appreciation into adulthood as a number of studies have indicated (Chawla, 1998; 1999; McKnight, 1990, as cited in Chawla, 1998). Hungerford and Volk (1990) maintain that many EE programs are based upon the false premise that knowledge about issues is enough, and that knowledge by itself will result in action. Research into environmental behaviour does not evidence the validity of this false premise, as a linear model changing behaviour (Hungerford & Volk, 1990). In order for an individual to act in an environmentally sustainable manner, they must possess a desire to act. This desire to act is compounded by personality factors such as locus of control, attitudes toward the environment and taking action, and personal responsibility toward the NE; as well as situational factors, such as economic constraints, social pressures, and opportunities to decide upon various actions which are pro-environmental or destructive toward the NE. In essence, if the participants have a sense of control over their environment, they will be more motivated to carry out environmentally friendly behaviours. It is this point which the female participants in extract 10 above have emphasised.

As children learn best by experience, EE at the school level should encompass a component of practical engagement with nature in order for children to develop an appreciation for the NE. This is a contention which the participants’ indicate in the following extract.

F: So you think other people in your classes are aware of the natural environment...

MR: No

F: ...That they pay attention to it at all?

AR: No

FR: [responds] And they also don’t know that they help to create pollution because by us littering and things like that, [pause] it’s also gonna cause pollution because and it gives, it looks bad papers laying around. Okay there is people that now and

then come and clean, but why dirty...it's making the school look bad also it's unhealthy for us

FR: [continues] So if we just adopt an effort to just throw the paper

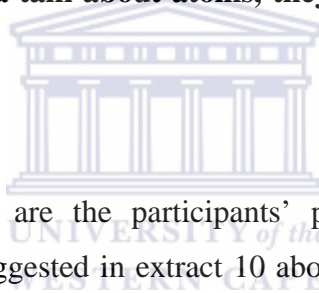
FR: [agrees and interjects] Er in the bin

FR: [continues] Don't just go because...It's not gonna take you a million steps. Or it's not gonna cost you money just to throw the paper in the bin

FR: [agrees] Er

FR: Coz it start small, if we inform our learners of what they doing, how they are impacting to create more pollution maybe that will tell them because the more pollution there is then the less trees there is, the less oxygen, and it will affect us, not in a good way but in a bad way. So if we make them aware of things, things like that then maybe perhaps they'll change their attitudes

MR: [responds] But you don't actually learn about protecting the natural environment they just wanna talk about atoms, they don't wanna just they don't talk about this stuff



Extract 11

Exhibited in the above extract are the participants' perceptions of the environmental inclinations of their peers. As suggested in extract 10 above, and maintained in this extract, the participants feel that their peers are unaware of the NE, a premise which they base upon the environmentally destructive behaviour of their peers. Similarly, Hart and Chawla (1982) contend that there is sufficient theoretical reason to believe that consideration for the NE is based on a fondness which solely arises from "autonomous, unmediated contact with it" (Hart & Chawla, 1982, as cited in Hart, 1997). The participants also identify that many of their peers at school are not environmentally conscious, and therefore continue to pollute the environment with damaging environmental behaviours which has an impact on their health. Again the participants' foresights are gained in this extract as they are mindful of their, and others behaviours on the future of the planet. They stress the importance of initiating environmental action by taking small steps such as to "*adopt an effort to just throw the paper...in the bin*". Thus, by simply not littering and disposing of their litter in bins, they feel will eventually culminate in environmentally responsible and sustainable behaviours being integrated into their own and peers lives.

Among the factors which limit children from participating in nature which Ponds and Schuster (2011) refer to as *structural constraints*, could include practices and attitudes which exclude or deter children from participating in nature. Interpersonal perceptions, values, or beliefs may hamper involvement in outdoor activities. Institutional constraints are considered to be formal or informal policies, rules, or laws which may impede an individual's participation in recreation activities. Essentially, the notion of connecting children to nature is largely an EE outreach initiative. This notion is believed to influence the attitudes, beliefs, and values of children, which fosters a need to connect to nature which is a major focus of many EE programs. Correspondingly, Hewitt (1997, as cited in Ponds and Schuster, 2011) contended that an elemental aspect of any EE program should eventually encourage responsible environmental behaviour. However, a valid question regarding this would be: how does a child transfer EE (knowledge) into responsible environmental behaviour?

Researchers in a variety of disciplines such as the social sciences, the natural sciences, and human dimensions, have sought to comprehend the factors that lead people to shift from environmental knowledge to environmental behavior (Courtenay-Hall and Rogers, 2002; Kollmuss and Aygeman, 2002). The most preferred assumption is premised upon the belief that education results in a deepened awareness and consciousness, leading to a change in attitude that ultimately improves an individual's behaviour (Adams, 1986, as cited in Ponds & Schuster; Fishbein and Ajzen, 1974). In essence, a mixture of knowledge, skills in the form of environmental problem solving, and attitudes such as environmental sensitivity, and action, play a role in developing responsible environmental behaviour (Howe and Disinger, 1988). This resonates with the participants understanding of pro-environmental behaviour, thus, *"if we make them aware of things...perhaps they'll change their attitudes"*. This recognition of the participants is vitally important. The meanings they attach to EE reveals that although the participants have not received any formal EE, this does not imply that they are not aware of the current degradation of the NE in their community. They display an environmental consciousness and environmental ethic which suggests that they possess an internal locus of control, whereby they are able to recognise the importance of the NE, despite their adverse social and economic contexts. This indicates that EE and learning should not be limited to the school environment, but instead transcend to the home, community, and other settings in the lives of children.

The following section will provide a discussion of the analysis and interpretation of the findings.

4.3. Discussion

Childhood experiences in nature have been found to hold innumerable developmental merits, yet opportunities for these experiences have reduced significantly (Rottle & Johnson, 2007). If children are to regain these merits, a necessity arises for the direct experiences in nature in order to learn from, and care about natural places. Carson (1956, p.88-89, as cited in Rottle & Johnson, 2007) reflected on the worth of childhood discovery of the natural world in her book, *The Sense of Wonder*. She essentially asserts that: “*Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts....There is something infinitely healing in the repeated refrains of nature*”.

This quotation proposes an inextricable link between the benefit of being immersed within nature and beholding the awe thereof, and the resultant sense of inspiration and appreciation of the NE. The above assertion also resonates with the challenges which the participants in the study faced. To gain a better understanding of the myriad of important findings in this study, it is elemental to provide a discussion of the analysis and interpretation, and the ensuing implications and significance thereof.

A fundamental finding in this study, pertaining to the NE, was the participants’ reference to the lack of respect and appreciation attributed by community members to nature. On a larger scale this ‘culture of inconsideration’ has severe implications, not only for the children and adults within the community under investigation, but for the current, and future well-being of the Earth. Despite the acknowledged benefits of direct engagement with nature, experiences in nature are swiftly disappearing from children’s and youths’ daily lives in many countries across the world, particularly within South Africa as reflected in the current study. Escalating levels of urbanisation and societal changes have transformed the places children seek out, and how they make use of their time. For an array of reasons, the participants are missing out on experiences with nature. The most pervasive of these reasons is children’s constructions of reality through the lens of safety. The participants’ lives are governed by a number of social challenges and threats. The fear and anxiety of potential harm to oneself, peers, or family members, learned through experience or exposure to these threats has come to permeate the

participants' life worlds. What is imperative in the participants' responses is the manner in which the ethos of violence, crime, and danger have consumed and dominated their worldviews. Therefore, contact and experiences within nature are perversely limited for the participants. The participant's narratives reflect that they have internalised the destructive and violent behaviour evident in their neighbourhoods, the indifference and disrespect for the NE by community members, and the lack of acknowledgement of children as competent role players in decision-making in issues which affect their lives.

It is increasingly evident from the participants' responses that they make sense of violence in intricate and ambivalent ways (Parkes, 2007). As the participants actively strive to position themselves in relation to the multiple meanings they construct, they concurrently discard and integrate violence, either consciously or unconsciously, within their own viewpoints and practices (Parkes, 2007). Children may consequently attempt to detach themselves from the feelings of repulsion, fear, powerlessness, and hopelessness brought about by acts of violence (Parkes, 2007). The participants' narratives accordingly reveal antipathy of the detrimental effects of the violent behaviours of community members, in particular toward the NE. It is also clear that the social and economic climate of the community plays a crucial role in the manner in which the participants attach meaning to their lives. Thus, the community as characteristically violent, with escalating levels of crime and poverty, plagued with gangsterism and substance and alcohol abuse, has affected the participants lives in harmful ways. In spite of the aforementioned challenges, the participants are seeking empowering and agentic positions, in addition to looking up to adults as role models in the community. The study then essentially points to the rigorously confined and restricted lives which children live owing to the hazards, and danger the participants are confronted with on a daily basis (Swart-Kruger & Chawla, 2002). Additionally, the intimate geographies of the participants' childhoods cannot be comprehensively understood without reference to the local economic base, and the local social system (such as intricate class and status hierarchies) which has shaped and influenced these comprehensions (Philo, 2000).

Consequently, the participation of children in activities which involve them is linked to many positive outcomes, such as an enhanced sense of competence and ownership on part of children, improved visibility in society, the harnessing of vital decision-making and critical thinking abilities indispensable throughout life, and the use of the unique contributions of children (Adams and Ingham, 1998, as cited in Lekies, Eames-Sheavly, MacDonald & Wong,

2007). However, countless impediments avert the participants from becoming engaged not only within nature, but within the issues which impact, and consequently compound their lives. These impediments vary from adult beliefs regarding children's abilities, to a lack of experience with this type of approach (Driskell, 2002). The participants appeared to be disillusioned as they are rarely asked about how they are feeling, or what their opinions are about the environment in which they live, or their perceptions of the NE. The participants' perspectives in this study are not deemed vital in the betterment of their community. For this reason, assisting adults to understand, recognise, and appreciate the numerous ways in which the participants, and other children can participate, and employ suitable participation strategies should be the basis of the fundamental elements of any project or activity (Lekies et al., 2007).

From the above it is clear that the community and neighbourhoods of the participants appear to be fragmented. Following Gill (2008), this fragmentation has resulted in the marginalisation of the participants in the community, contributing to them not being considered as fully capable human beings possessing rights. Their urgent need to participate and articulate their views about social challenges and subsequent ways of addressing these problems are disregarded. Nonetheless, the participants had innovative and practical ideas for the progress and enhancement of the restrictive, unsafe, and unfriendly demeanour toward children their community. As a result, the children's right to participation of children across the world, and more specifically in the current research setting, should be considered as an opportunity to collaborate with key stakeholders in the decisions which impact their lives. Children should also possess basic of rights play, recreation, participation, and exposure to culture in an understanding society which cultivates the development of their personalities, skills, and their mental and physical competencies.

On a broader level this indicates that although the UNCRC was ratified by the South African government in 1995, there are still widespread challenges regarding the implementation thereof. Although the participants articulate the need to be able to participate, and address the challenges they are faced with on a daily basis, they are unable to do so as their other basic rights and needs have not been met (Moses, 2008). This may be due to the tensions which exist in a developing country, such as South Africa, involving budgeting for participation which may be costly, as opposed to addressing basic needs and the deficiency of vital services. At present, there is a lack of recognition that consultation with children at the design

stage is likely to generate a more efficient service, which may result in a more resourceful use of funds (Moses, 2008).

Due to the inability of the participants to be able to explore and discover the natural areas in their neighbourhoods, they have come to perceive nature as the other, more of an abstraction than reality. The participants images of nature are associated with their own, parental, or guardian fears of threats to personal safety in their community, which restricts their mobility to explore nature (Wals, 1994). Thus, the participants do not gain from direct experiences with nature which is related to harnessing their cognitive, affective, and moral development (Kellert, 2005). Kellert (2005, p.88) concludes that contact with nature produces the “greatest maturational benefits when it occurs in stable, accessible, and culturally relevant social and physical environments”. For the participants, play is no longer natural in the sense of harnessing children’s connection with the NE. As Brooks (2004, as cited in White, 2004) asserts, a childhood of unsupervised lingering, wandering, and adventuring, has been supplanted by a childhood of adult supervised and planned play activities. The participants’ environments have come to restrict their play, socialising with peers, mobility, and their overall sense of contentment with their neighbourhoods. The ethos of danger has come to govern every aspect of the participants’ lives. Their constructions of reality are composed of a dichotomy between the safe, and the unsafe. The aspect of what they cannot do dominates their lives, bringing about a sense of unrest- of looking over one’s shoulder constantly.

Evidently, nature experiences are essential for children for its healing and restorative values, as well as the grounding for environmental learning which fosters ecological literacy¹⁰ (Orr, 1992). Nearby and safe natural places, time spent in these places, and individuals who can guide and teach in these places are necessary to make ecological experiences most favourable. As schools hold possibilities to provide these positive and encouraging experiences and exposure to nature, the school setting, nearby parks, and open space can effectively support this endeavour, particularly when designed to sustain learning coupled to the school curriculum (Rottle & Johnson, 2007).

¹⁰ Orr (1992, p.92) discusses the basis of ecological literacy as “the knowledge necessary to comprehend interrelatedness, ... an attitude of care or stewardship,...[and] the practical competence required to act on the basis of knowledge and feeling” (as cited in Rottle & Johnson, 2007).

Although the participants revealed that they have not received formal EE, they are environmentally aware and conscious. This awareness and perception of the NE is manifested in the participants recognition of pollution as affecting their own, and others well-being. The participants also display concern toward the lack of formal EE being taught within their school curriculum. They also attribute the apathy of their peers at school toward the NE resulting from the absence of EE. More so, the participants suggest that educating and enlightening learners will be powerful enough for them to recognise the worth and value of nature, enabling them to become environmentally conscious. Furthermore, the participants believe that the introduction of EE within their school will create an environmental ethic, and consciousness whereby children within the community will behave environmentally responsibly. Thus, the participant's perceive the imparting of EE as a sufficient tool to motivate children to act in favour of the environment.

In light of the above, the participants suggest EE which is premised upon creating sustainable environments. As outlined by Tilbury (1995), EE should consist of three core aspects namely education *about* the environment, education *in* the environment, and education *for* the environment, which the participant's in the study insist upon. Firstly, education *about* the environment should be premised upon the participants gaining general information pertaining to ecological principles, and knowledge about environmental issues, particularly contextualising these issues to their neighbourhood context. Secondly, a crucial component which is ignored in the current community setting is the participation of children *in* nature, and the community. This participation should be collaborative and meaningful in the social and cultural life of their communities, whereby they learn about nature informally, and gradually intertwine the importance thereof in their worldviews. This resonates with the participants' ideas that nature can serve to harness social cohesion in strengthening family, and community bonds by engaging community members and children in activities within the NE. This accentuates the significance of education *in* the environment which encompasses children taking time to explore, and discover the natural surroundings in their community via informal play, and structured programmes which form part of the school curriculum. This indicates the importance of environmental literacy for the construction of a more sustainable future. It is evident from the participants' narratives that the means with which to develop ecological literacy is endangered, as there are fewer opportunities for them to engage directly in nature (Orr, 1992).

Finally, an education *for* the environment should be based upon the manner in which children learn how to act efficiently on issues which concern them. This notion of education *for* sustainability entails promoting the genuine participation of the participants and other children in the community. Accordingly, the introduction of EE holds with it the difficulty of approaching education from an adult's instead of a child's perspective, as well as premature abstraction. A likely consequence of premature abstraction, such as educating participants and other children about abstract concepts like rainforest destruction, acid rain, ozone holes, and whale hunting can be dissociation with the NE if exposed to these aspects of nature at too early an age. Asking children to address problems which are beyond their cognitive abilities may bring about feelings of anxiousness, which may culminate in the development of fear toward environmental issues. This fear may escalate to biophobia, a fear of the natural world and ecological dilemmas, and a fear of simply being outside. This tendency was observed in the participants' construction of nature as the other, and external to the self.

Thus, as Phenice and Griffore (2003) assert, children's development with little, or no regular experience or exposure to the natural world is considered a course of socialisation whereby children envision themselves as separate from the natural world, which was evident from the participants' narratives. If children's sense of self becomes severed from the NE, then nature is perceived as something to be controlled and dominated, rather than being appreciated and conserved. The notions of Western culture have become progressively more preoccupied with the idea of dominance, such as the dominance of humans over nature, masculine over the feminine, wealthy and influential over the poor, and the dominance of the West over non-Western cultures, which is consistent with community members' worldviews according to the participants. Deep ecological consciousness, which the participants alluded to, allows individuals to see through these flawed and hazardous beliefs, and develop an environmental consciousness to foster environmentally responsible behaviour throughout life (Devall, 1985).

The participants make sense of their environmentally degraded neighbourhood as attributable to community members shifting blame and responsibility for conserving the NE to the municipality. This is characteristic of the notion which the participants alluded to nature as apart from, and external to the self. This transference of blame toward the municipality to maintain the cleanliness of the current community absolves, and relieves those individuals who are acting environmentally irresponsibly. Due to the inability to experience the NE, the

participants also display the curiosity to become familiarised with the natural world. This is embodied in their unique way of knowing which requires discovery and exploratory learning, as opposed to an instructive approach. As a result, a devoted solidarity of political commitment in collaboration with key stakeholders is needed, because as Swart-Kruger and Chawla (2002, p.96) assert “Adults may hold the reins of power but children hold the reins of hope for building a better future”.

Accordingly the participants’ perceptions of pollution are linked to the milieu of danger, which is widespread in the community. Accordingly, their environmentally degraded surroundings are associated with the violent disposition of their neighbourhood. The aesthetic of the participants’ environment is thus interrelated with their perception of it. The participants identified littering, dumping on fields, and burning copper and paper as polluting the atmosphere. This alludes to the participants ideas about pollution contributing to the current environmental crisis of global warming, which may consequently result in climate change. The participants were also aware of the human impact on the NE in recognising the increase in one’s carbon footprint by polluting, and degrading the NE. These insights point to the participants’ ideas about the factors contributing to climate change, such as deforestation and air pollution depleting the ozone layer. It is essential to note that climate change is a diverse, complex, intricate, and complicated issue for both scientists and members of the public.

Thus, it is imperative that children as valid users of the environment are cognisant of the effects of climate change not only for future generations, but for the well-being of nature, and the Earth. This consideration of the participants for the prospective welfare of the Earth is particularly imperative within the South African context as this country is deemed as one of the top 20 Greenhouse Gas Emitters in the world, with a carbon footprint of 8.5 million tonnes per annum (Burley & Haslam, 2007). This figure is cause for concern as the African continent is particularly susceptible to climate change due to its low-lying location, as it contains some of the world’s poorest nations. As agriculture is undoubtedly the most important sector in most African countries, whereby 70% of the continents’ population rely on it for livelihood, climate change exemplified by prolonged drought and increase in temperatures is one of the most serious risks which may affect the agricultural sector (Kirby, 2007). This will have a detrimental effect on the lives of the majority of the population. These considerations of the participant’s reveal the true essence of sustainable development as

advocated Hart (1997). Essentially the participants' narratives reveal the reciprocal relationship between the child and their environment, whereby the environment influences the child by moulding their worldviews to be focused upon the lens of safety, and reciprocally where the child influences their environment by attempting to affect it in a positive and constructive manner.

In addition to the participants considering the NE and being aware thereof, they were also sensitive to, and accentuated the importance of including the NE in the creation of child friendlier neighbourhood. Although it is true that the participants need places in which they can create worlds of their own meaning and construction, at the same time they need opportunities to work together with adults to create better shared worlds. The participants require prospects to work collaboratively with individuals of all ages to facilitate greater circumstances for themselves, their families, and their communities. This fundamentally points to a collectivist culture of consideration toward the NE, and enhancing the quality of children's environments and lives. Failure to acknowledge and maintain children's ways of knowing may hold grave repercussions for the manner in which they will connect to the nature over the length of their lives, such as contributing to the increasingly complex environmental crisis, which may result in a mounting psychological detachment and indifference toward nature (Devall, 1985; Raglon, 1993). In essence, the authentication and reinforcement of the participants' ways of knowing will foster an appreciation of the natural world.

As Berardo (1985, p.15) asserts "Social relations and networks are life-enhancing and contribute to longevity" (as cited in Bird, 2007). Thus, it is evident that the NE plays a part in this collectivist culture; this social solidarity by affording inclusive places to meet. What is evident from the analysis and interpretation is that the community is not conscious of nature, and do not utilise their influence to better the NE and address ways of overcoming environmental issues. Kaplan (1985, as cited in Kaplan and Kaplan, 2002) is of the opinion that people perceive the environment as a wealth of information in terms of their prospective proficiency in the setting. Accordingly, people display an affinity to places where they can: comprehend what is transpiring, explore carefree, and feel comfortable in. Thus, if an individuals' environment is fundamental to survival, then preferring opportunities for exploration of these environments would be adaptive. Consequently, if an individual's survival depends on knowledge, then avoiding environments in which one has too little

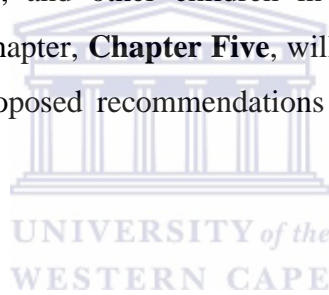
knowledge to perform efficiently would be warranted. In essence, favouring settings that are comprehensible has substantial adaptive value. This notion of preferences has culminated in a new understanding of the relationship between people's preferences, and subsequently how people learn about the environment, and function effectively therein (Kaplan & Kaplan, 2002). With the above in mind, it may be that the community members of the participants do not carry out pro-environmental behaviours as they have a limited knowledge about environmental issues, and therefore circumvent contact with nature as a result. Another motivation for the lack of environmental sensitivity among many community members is that the NE may be a setting which is not favoured by individuals in the community as they have not been able to adapt to, and become familiarised with nature, and thus do not function efficiently therein.

Fundamentally, the sense of unease which the participants attribute to the built environment, has proliferated to include nature as an unsafe place. This sense of unrest reflects the psychological conflict which the participants are enduring as they are constantly faced with fear and concern for personal safety within the crime-ridden neighbourhoods in which they live. The participants' aspirations for a safe, child and environmentally friendly neighbourhood is hampered by the mismatch between the aforementioned feelings, and the current circumstances which they are exposed to in their community. The community circumstances are typified by omnipresent danger, which is exacerbated by fears of violence, harassment, and abuse of all kinds. The participants thus epitomise children who fall outside prevailing categories of the cultural construction of childhood (Stephens, 1995). The participants bear a great deal of adversity and distress, which violates what 'childhood' is assumed to represent. Thus, as the participants in a study by Swart-Kruger and Chawla (2002) have demonstrated, children's special places are not only in the present, they may also exist in the participants' imagination as possibilities for the future, which aligns with many of the participants' perceptions in this study. With the intention of attending to substantial, pervading corollaries of environmental changes on participants, and more inclusively all children's lives, it is imperative to act on the foundation of limited and partial understandings which are constantly driven further than their current boundaries. A focus on children and the environments which they inhabit presents theoretical, methodological and political dilemmas which are crucial, and extensive in nature. These dilemmas possess negative consequences, such as barriers to health, and the quality of life of the world's children, and future

generations of children to come (Chawla, 2000). In essence, the Earth's resources should be conserved not only for the benefits it holds, but purely for the love of it.

4.4. Chapter summary

This chapter provided a comprehensive analysis and interpretation of the participants' perceptions of the NE and creating a CFC. While it was found that the participants perceive the NE through the lens of safety, they also have aspirations to overcome these threats by a collectivist community culture of consideration toward the NE. In exploring the participants' perceptions of the creation of a CFC, it was found that there are no safe spaces dedicated to children playing safely in the neighbourhood. Therefore the participants proposed a number of facilities and safe child and environmentally friendly spaces for children in the community. Another important finding was that the participants considered the NE as crucial in the creation of a CFC. Additionally, the participants suggested that EE is included in the school curriculum to make their peers, and other children in the community, environmentally conscious and aware. The next chapter, **Chapter Five**, will provide a conclusion of the study including its limitations, and proposed recommendations for future studies relating to this topic.



Chapter Five: Conclusion and Recommendations

This study endeavoured to encapsulate and elucidate the meaning making and perceptions of adolescents in relation to the NE, and the significance of including the NE in the creation of a CFC in their neighbourhood. A motivation for the study was the dearth of relevant South African research investigating the topic at hand. The aspect of CFC's in the research was stimulated by the context of the community being researched, which is characterised by a pervading number of social threats such as violence, crime, poverty, and gangsterism. The study aimed to investigate children's perception of the NE, and within this process to explicate the meanings which children attach to environmental issues, and how these meanings and perceptions contribute toward creating CFC's. Accordingly, the objectives of the study were to investigate children's perceptions and understandings of the NE, to investigate the meanings that children attach to the NE, and to investigate how these perceptions and meanings contribute to the creation CFC's. Due to the open-ended nature of the focus groups, the researcher was provided with a depth of understanding owing to the richness and insight of the participants perceptions.

The theoretical framework employed to illuminate the participants' constructions of the NE and the friendliness of their city was the P-E fit theory. The P-E fit concept has been used in research examining individual and organisational differences in the psychological sphere of work, career, and personality (Edwards et al., as cited in Horelli, 2007). In environmental psychology, the concept has been applied to the study of settings of the elderly, and people with disabilities. The P-E fit theory has been posited as the foundation for human well-being and quality of life. If the fit between the person and their environment is poor, the outcome may be a burgeoning amount of stress. This environmental stress may be lessened if the individual has even the slightest possibility of impacting the circumstances contributing to the aetiology of environmental incongruity. This theory proved to be relevant in the context of the study as the participants expressed a growing incongruence between their needs and aspirations for their community environment, and the current setting and circumstances in which they reside. A key premise of the present study was therefore that childhood does not exist in a finite and identifiable form (James et al., 1998).

In addressing the first objective of the study (see p.5), which emerged within the first thematic domain of the analysis and interpretation, it was found that the factor which

contributed most toward the inconsistency which the participants were experiencing in their environment was the ethos of danger in the community. The participants continually made reference to their efforts to keep their natural, home, and community environment clean, but due to many individuals in the community being unconscious of the environment, the participants' desires for a clean community environment was challenged, and therefore did not feel that they could influence it in a positive way. Furthermore, the polluted appearance of the participants' environments was found to be indisputably linked to the milieu of danger in the community, reflecting further discrepancy between the participants need for a child and environmentally friendly city. Additionally, in addressing the second and third objectives of the study, (see p. 5), the findings revealed that the NE in the participant's community was perceived as intrinsically unsafe due to the constant presence of alcohol and substance abusers, gangsters, and other criminals. This links to the fundamental finding considering the aim of the study as it was explicated that the participants perceived the NE as crucial, and deemed it imperative to protect. This sense of danger and peril within nature further harnessed the tendency of the participants to not directly experience and engage in the natural world.

More so, the participants were eager to share their experiences of their unsafe neighbourhoods, and were comforted and relieved that there were other participants in the focus group with whom they could identify. In addition, the social constructionist epistemological position of the study facilitated the elucidation of the meaning making which the participants attribute to their understandings of nature, and preferences for a more tolerant community toward children and special places of childhood. Consistent with a number of academics in recent years, the social study of childhood has begun to emphasise the 'geographies of childhood' and progressed in addressing the significance of the diverse spaces, places, NE's, and landscapes (Philo, 2000). In line with this, the participants' responses revealed that they have no treasured natural place or space to play or escape the problems which they are faced with. Instead, the participants were compelled to resort to man-made entertainment such as television or computer games to occupy their time. As White (2004) expressed, children and society as a whole can benefit significantly by maximizing the informal play and learning opportunities that natural outdoor play environments offer young children. Naturalised outdoor early childhood environments are places where children are capable of reclaiming the awe and fascination of nature which is their bequest. This will foster children's potentialities and enable them to discover and

appreciate their inheritance of the future (Adams, 2011). This inheritance of the future encompasses nature as a core aspect, but includes all the environments which children inhabit. More fundamental is that naturalised playgrounds may afford the possibility that the participants, and other children in the community, are exposed to nature which is hoped to build upon their environmental ethic to “become the future stewards of the Earth who will preserve the diversity and wonder of Nature” (White, 2004, p.7). The participants’ suppositions moreover indicate that their status in the lived experiences, feelings, narratives, aspirations, fears, anxieties, and insecurities shared in the focus groups displayed the intricacies and multiplicity in their understandings of the NE. This demonstrates that the participants, as children, are not a homogeneous group.

The participants’ perceptions in the creation of a CFC additionally echoed the need for them to genuinely collaborate and participate in their community, and to influence the issues which affect them on a daily basis. The discourses which the participants drew from are inextricably connected to and influenced by the violence evident in their communities. Understanding the participants’ responses through the epistemological position of social constructionism had the further advantage of clarifying the manner in which the participants have internalised and incorporated the context of their environment into their worldviews. The participants were also inspired to be able to assist in transforming their context of crime and violence to acknowledge children as rightful users of the environment, who deserve a platform and basis to air their opinions about the issues which concern them.

The qualitative nature of the study aligned well with the aim and objectives of the study. Accordingly, the data collection tool employed, namely focus groups, enabled for the clarification and comprehensive understanding of the participants’ constructions of the NE, and their ideas in creating a CFC. Within the focus groups, many participants were eager, yet apprehensive, to share their thoughts and narratives. However, in each group there was one prominent female and male who constantly offered their perceptions, and were completely engaged and interacted with one another and the researcher in a meaningful manner. These participants acted as a catalyst for the engagement of other participants as they encouraged their peers to participate.

The study used the child participation as a basis in recognising and advocating the pivotal contributions which the participants make. Due to the limited time which the researcher had

to interact with the participants, a longitudinal and more participatory approach was not possible. Nonetheless, the participants were encouraged to actively contribute and express the decisions which they perceived as crucial to make their community safe, and more child and environmentally friendly. The participants were considered as individuals possessing rights, and able to create and convey their views as valid contributors to knowledge and decision-making. The urgency with which the participants articulated their views produced a sense of encouragement to the researcher, and enabled the researcher to acknowledge that even though the participants were socially marginalised, exposed to countless threats, and restricted in their mobility owing to social hazards in the area, they were enlivened and expressed a sense of agency and empowerment by being able to express their views. More so, the participants' perceptions were deemed valuable and met with consideration and awareness of the factors influencing their insights. Another aspect of the participants' responses which was critical to observe was the confidence with which participants provided narratives, and the depth of their understandings of the content which was discussed.

Although only two focus groups conducted with the two groups of participants, the participants felt comfortable enough to disclose and divulge personal experiences. The focus group served as a medium for many of the participants to speak about the issues which they carried close to heart. These personal experiences which were discussed in the focus groups were treated with the utmost sensitivity and empathy on part of the researcher, and the participants were thanked for their invaluable contributions. Were it not for the responsive and sociable boys and girls in the focus groups who provided the researcher with their deep understandings of their worlds, this project would not have been as meaningful. The participants' disposition at the outset was forthcoming, and the researcher is eternally grateful for the glimpse into their demanding and challenging lives.

The deliberations, concerns, and articulations of the participants in the study are consistent with the challenges which many children inhabiting low socio-economic status communities, specifically within the Cape Flats areas within the Western Cape Province. The participants were able to assess their own behaviour, and the impact thereof on the environment. It also became increasingly clear from the focus groups that the participants predominantly implicated other community members as perpetrators of environmentally irresponsible behaviours, but seldom spoke of their own environmental behaviour. This could be that the participants are exposed to community members polluting the environment often, or they

were self-conscious due to the nature of the focus groups and did not want to be perceived in a socially undesirable manner. Nonetheless, a few of the participants spoke about family members who assist in the cleaning of the NE, and who in fact foster the appreciation of the NE. The potential positive outcomes for behaving pro-environmentally are compounded by the hazards which confine the participants to the home, thereby not allowing them to carry out behaviour which is in accordance with their environmental concern and consciousness. The participants' resilience prevailed as a momentous triumph for them in the face of adversity. Although they may defy the conventional notion of childhood, the context in which they live has strengthened and intensified their need to better their own lives and environments, for present and future generations. The participants were also cognisant of the fact that they cannot, by themselves, begin to make strides in influencing decisions in their lives or participate meaningfully within their neighbourhoods. The participants displayed acuteness in identifying the collaborative role which they can play in their community with key stakeholders such as adults and the municipality. This collaborative relationship would be advantageous to the participants as they consider it as enabling them to communicate their views about topical issues children are facing.

The richness and depth of the participants' responses symbolises the comprehensive understandings which they possess. The thematic analysis technique enabled the researcher to make sense of the lengthy transcriptions which were attained from the focus groups. The intricate understandings by which the participants attach meaning to their lives were visible in the copious amount of themes which emerged from the data. Due to the substantial amount of themes which were presented in the data, they were grouped into thematic domains, namely children's perceptions of the NE and CFC's. This analysis technique was consistent with the qualitative method of the study, and consequently the child participation model. The participants expressed the need to form children's participatory and discussion groups ranging from additional discussions about the natural world such as pollution, to issues of abuse. Additionally, the participants also valued the focus groups as they were able to voice their opinions. When suggesting recreational spaces which should be developed for children in the community, the participants were enthusiastic in expressing their perceptions. The enthusiasm to offer their suggestions was manifested in the participants' facial expressions which revealed the vision of children's special and safe places within the community. Additionally, their body language conveyed their zeal to be the next individual to offer their outlook, and also to recommend their ideas.

For the researcher, the findings are pivotal and allows the reader a glance into the heavily burdened lives which the participants are facing, which is consistent with many other South African children sharing a similar, and if not worse plight. While the participants were eager to communicate their unique perceptions and experience of, and within the NE, it was noted that each and every discussion pertaining to the NE and CFC's culminated in the ethos of danger within their neighbourhoods. Countless narratives were provided demonstrating and enabling the researcher to comprehend the severity of the safety issue in their community. Danger was found to not simply be a problem in the school or home environment or restricted to specific parts of the area, all of the aforementioned environments presented potential threats which the participants attempted to avoid. These deliberations of the pervading amount of unsafe spaces for children allowed the researcher to identify with, and appreciate and value the reflective nature of participants' construction of reality. The role of the researcher within the focus group was to understand the participants meaning making which they use to understand the NE and CFC. However, the content of the focus groups was by no means restricted to issues pertaining to the NE and CFC's. The focus groups allowed the researcher to gain insight into her own childhood experiences in nature, which reinforced the presence of extremely diverse constructions and experiences of nature.

5.1. Limitations and Recommendations of the study

Upon reflection of this study, it is imperative to discuss the limitations which the study faced as well as the recommendations for future studies based upon the findings of the current study.

A fundamental methodological constraint which this study faced was the cross-sectional design of the study which entailed specific time restrictions owing to the nature of the structured Master's of Arts Research Psychology degree. Therefore a more extensive, longitudinal study was not possible whereby individuals in the local community, the local municipality, and other key stakeholders in the community were collaboratively consulted to address the environmental issues and the advocacy for a CFC in their neighbourhood.

Another limitation of the study was that the focus groups were conducted during the school day and the participants may have been concerned about missing out on school work. The focus groups also ran into beyond school time, however, the participant's were provided with a secure lift home.

A crucial recommendation is further research in the South African context exploring the factors which culminate in environmental consciousness among children in low socio-economic status communities who have not received formal EE. Due to the focus of the current study, these factors were evident in the participants' responses, however, a study accentuating and unravelling these factors would contribute to the research base of aspects which harness environmental consciousness among those who have not been exposed to environmental literacy. This proposed study could also delve into and elicit the factors which hinder environmental responsibility as this would be pivotal to inform mitigating strategies to address the degrading behaviour of individuals within this and other low income and poverty stricken communities.

Accordingly, the introduction of formal EE within the school curriculum was a recommendation by the participants in the study, as they perceived the importance of enlightening those individuals in the community who are not knowledgeable about environmental issues. They were also aware of the beneficial impact they can make by assessing and changing their actions. Thus, the community members, including children as active role players, should procure collective political action with the aim of expunging impediments for a more sustainable existence (Chawla & Cushing, 2007). Formal EE at the school level, along with educational programs and the development and belonging to environmental clubs or organisations can be regarded as a sphere to acquire knowledge about environmental issues and skills to harness pro-environmental behaviour. Without guidance to be able to practically make a difference to the environmental degradation in the community, the participants and other children in the neighbourhood may experience a sense of disempowerment due to the extent of environmental challenges in the community. Children thus need to be afforded opportunities to effect communal and environmental change with the assistance of others to bring about a collective feeling of capability (Bandura, 1989; 2001).

Additionally, the beneficence of group discussions with adults pertaining to the NE would be of importance as it was revealed in the focus groups that the participants perceive the community members as contributing largely to the harmful environmental conditions in their community. Children and adults should then interact collaboratively to bring about a participatory ethic in relation to core issues plaguing the community. As the participants have embodied an understanding of the complexities of factors impacting upon their lives, this displays their capabilities as experts in the hazards which they are confronted with, and

according ways in which to address these threats. As Hart (1997), and Adams and Ingham (1998, as cited in Abebe, 2011) assert, adults function as facilitators, mentors, and educators, and are thus considered crucial players in advancing and supporting numerous opportunities for children. The support and participation of the participants and other children within the community can culminate in lifelong skills for both the children and adults with whom they are collaborating. These skills are maintained if coupled to an encouraging network of individuals occupied in a comparable process. As efforts to reduce and ultimately eliminate crime and violence from the current community are enhanced, so should endeavours and initiatives to engage children's participation therein.

In conclusion, this study informs a number of stakeholders as to the importance of children's perceptions of the NE in their community, but more so their recommendations to make their community more child-friendly. The participants articulated the need for the introduction of EE within their school curriculum, which is a crucial way of teaching children about the NE. This highlights the pivotal role of gaining consensus among teachers about the importance of NE, as well as the importance in developing EE programs in collaboration with children, teachers, researchers, psychologists, government, local communities, and non-governmental agencies. This study also reveals the importance of conducting more exploratory studies, both quantitative and qualitative in nature, with other children in South Africa in a participatory fashion to gain their perceptions of the NE and creating CFC's.

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APPENDIX I: Information sheet and consent form for learner



UNIVERSITY of the
WESTERN CAPE

Department of Psychology
University of the Western Cape
Private Bag X 17
Bellville
7535
Tel: 27 21 959 2283

Dear learner,

I, Sabirah Adams, a Psychology Masters student from the University of the Western Cape, am conducting a research project on children's perception about the natural environment and creating child friendly cities. The aim of the study is to investigate children's perception of the natural environment. Within this process the study aims to clarify the meanings that children attach to environmental issues and how these meanings and perceptions contribute towards creating child friendly cities.

Two focus group discussions will be facilitated by the researcher at the school. After which the information gathered will be analysed, and published as part of a research report. The information gathered in these group discussions will remain confidential, and will not go beyond the bounds of the focus groups. You/the child has the right to withdraw at any stage of the research process, without being prejudiced. Should any emotional suffering arise, psychological counseling can be privately arranged by the researcher.

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed, and that upon signing I agree that the information gathered in the focus groups will remain confidential, and will not go beyond the bounds of the focus group. I may withdraw from the study at any time without reason, which will not negatively affect me in any way.

Participant's signature.....

Date.....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Sabirah Adams

Cell: 073 127 3376

Email: 2770369@uwc.ac.za

APPENDIX II: Information sheet and consent form for parent



UNIVERSITY of the
WESTERN CAPE

Department of Psychology
University of the Western Cape
Private Bag X 17
Bellville
7535
Tel: 27 21 959 2283

Dear Parent/ Guardian,

I, Sabirah Adams, a Psychology Masters student from the University of the Western Cape, am conducting a research project on children's perception about the natural environment and creating Child Friendly Cities. The aim of the study is to investigate children's perception of the natural environment. Within this process the study aims to clarify the meanings that children attach to environmental issues and how these meanings and perceptions contribute towards creating child friendly cities.

Two group focus group discussions will be facilitated by the researcher at the school. After which the information gathered will be analysed, and published as part of a research report. The information gathered in these group discussions will remain confidential, and will not go beyond the bounds of the focus groups. Your child has the right to withdraw at any stage of the research process, without being prejudiced. Should any emotional suffering arise, psychological counselling can be privately arranged by the researcher.

The study has been described to me in language that I understand, and I freely and voluntarily agree for my child to participate. My questions about the study have been answered. I understand that my child's identity will not be disclosed and that he/she may withdraw from the study without giving a reason at any time and this will not negatively affect him/her in any way.

Parent/Guardian's signature _____ **Date** _____

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Sabirah Adams

Cell: 073 127 3376

Email: 2770369@uwc.ac.za

APPENDIX III: Focus Group Interview Guide

1. What do you understand by the natural environment?

- a. What do you think the natural environment includes?
- b. How does your community consider the environment?
- c. Do you think it is important to conserve the natural environment?
- d. What are your opinions about issues such as: pollution, recycling, green energy, climate change?
- e. What are your favourite places in the natural environment?
- f. Are there any factors keeping you from playing in the natural environment?
- g. Do you think people in your community protect the natural environment?
- h. Do you think people in your community consider it important to protect the natural environment?
- i. Do you think there is anything your community can do to protect the natural environment?
- j. Does the natural environment you play in have any effect on how you are feeling?

2. Do you think your city is child friendly? Yes/ No? Why?

- a. What do you think would make a city child friendly?
- b. Do you think your city can be made more child friendly? How?
- c. What do you think are important factors in creating CFC'S?
- d. Do you think it is important to consider the natural environment in creating a child friendly city? Why?
- e. Are there any places for children to safely play in within your community? Where are these places?
- f. Are there particular places in your community devoted to children playing safely?
- g. Are there any challenges you face on a daily basis in your community in relation to your safety?
- h. Do you think there are enough opportunities for you to experience the natural environment? Yes/ No? Why?
- i. Do you think your city can be made more child and environmentally friendly if you were able to help make decisions on how your city is run?
- j. Do you think you should have a say in the decisions that affect you?
- k. What kind of decisions would you make which will create a more child and environmentally friendly city and community in which you live?
- l. Can you depict (drawings or maps) how you would create a child and environmentally friendlier city in your neighbourhood?
- m. How would you make your city more child friendly by considering aspects of the natural environment?

APPENDIX IV: Western Cape Education Department Ethical Clearance Letter



WESTERN CAPE
Education Department

Provincial Government of the Western Cape

RESEARCH

awyngaar@pgwc.gov.za
tel: +27 021 476 9272 fax: 0865902282
Private Bag x9114, Cape Town, 8000
wced.wcape.gov.za

REFERENCE: 20110503-0004

ENQUIRIES: Dr A T Wyngaard

Miss Sabirah Adams
UWC
Modderdam Road
Bellville

Dear Miss Sabirah Adams

RESEARCH PROPOSAL: CHILDRENS' PERCEPTION OF THE NATURAL ENVIRONMENT: CREATING CHILD FRIENDLY CITIES

Your application to conduct the above-mentioned research in schools in the Western Cape has been approved subject to the following conditions:

1. Principals, educators and learners are under no obligation to assist you in your investigation.
2. Principals, educators, learners and schools should not be identifiable in any way from the results of the investigation.
3. You make all the arrangements concerning your investigation.
4. Educators' programmes are not to be interrupted.
5. The Study is to be conducted from **1 May 2011 till 30 September 2011**
6. No research can be conducted during the fourth term as schools are preparing and finalizing syllabi for examinations (October to December).
7. Should you wish to extend the period of your survey, please contact Dr A.T Wyngaard at the contact numbers above quoting the reference number.
8. A photocopy of this letter is submitted to the principal where the intended research is to be conducted.
9. Your research will be limited to the list of schools as forwarded to the Western Cape Education Department.
10. A brief summary of the content, findings and recommendations is provided to the Director: Research Services.
11. The Department receives a copy of the completed report/dissertation/thesis addressed to **The Director: Research Services
Western Cape Education Department
Private Bag X9114
CAPE TOWN
8000**

We wish you success in your research.

Kind regards.

Signed: Audrey T Wyngaard
for: **HEAD: EDUCATION**
DATE: 4 May 2011

**APPENDIX V: University of The Western Cape Research Ethics Committee Clearance
Letter**

**OFFICE OF THE DEAN
DEPARTMENT OF RESEARCH
DEVELOPMENT**

Private Bag X17, Bellville 7535
South Africa
Telegraph: UNIBELL
Telephone: +27 21 959-2948/2949
Fax: +27 21 959-3170
Website: www.uwc.ac.za

10 June 2011

To Whom It May Concern

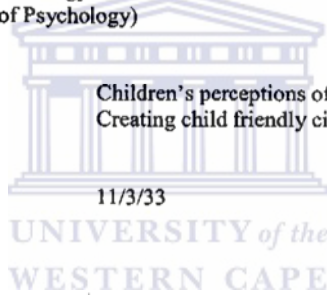
I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by:
Ms S Adams (Department of Psychology)

Research Project: Children's perceptions of the natural environment:
Creating child friendly cities.

Registration no: 11/3/33



*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*



**UNIVERSITY of the
WESTERN CAPE**

A place of quality, a place to grow, from hope to action through knowledge