Wheelchair basketball and community reintegration of people with a spinal cord injury

By

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Declaration

I, Wilene Wiggill hereby declare that the master's research dissertation or interrelated, publishable manuscripts/ published articles that I herewith submit at the University of the Free State, is my independent work and that I have not previously submitted it for a qualification at another institution of higher education.

I, Wilene Wiggill hereby declare that I am aware that the copyright is vested in the University of the Free State.

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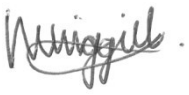
Wilene Wiggill



The researcher wishes to state that during the execution of the study she got married and changed her surname from van Rooyen to Wiggill, hence the difference in surname from the title page and declaration to the consent and information letters.

I dedicate this work to:

the members of the Northern Areas Wheelchair basketball team, The Sumerians.

Your ability to move beyond the limitations of the ‘chair’ and inspire both those who have ‘more’ and ‘less’ than you is humbling. You are truly rich in ways that money cannot measure.

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The completion of this study would not have been possible without the support and assistance of many people and institutions. I hereby acknowledge them for their contribution to this dissertation.

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List of acronyms

ADL	Activities of daily living
ASIA	American Spinal Cord Injury Association impairment scale
CIQ	Community integration questionnaire
IADL	Instrumental Activities of daily living
OTPF	Occupational Therapy Practice Framework
SCI	Spinal cord injury
SKB	Spinaalkoordbesering (as used in the Afrikaans consent and information letters)

Concept clarification

Clarification of concepts frequently used within this study includes:

- **Active wheelchair:** an active wheelchair is a rigid framed, light weight wheelchair that is more hard wearing and made for everyday use (Krantz & Persson 2011: 21)
- **Acute hospital setting:** Patients are primarily admitted to a hospital where the patient receives immediate medical care to stabilize the patient before being moved to a rehabilitation hospital (if available). The purpose is to improve health, and is usually linked to a short timeframe. (Hirshon, Risko, Calvello, Ramirez, Narayan, Theodosis & O'Neill 2013)
- **Bio-medical rehabilitation approach:** Egan, Dubouloz, von Zweck & Vallerand (1998: 136) explain that goals within a bio-medical approach may include independence in activities of daily living such as dressing and washing, education relating to bladder and bowel control and prevention of pressure sores.
- **Community:** the area where the participant lives, socialises, uses medical care, participates in domestic and religious activities (such as shopping, going to church) and participates in recreation activities (Stedman's Medical Dictionary 2005: 314).
- **Community reintegration:** involves the engagement in meaningful occupations and everyday roles and duties that are appropriate for the client in terms of social, physical and cultural participation within their community (Whiteneck, Meade, Dijkers, Tate, Bushnik & Forchheimer 2004: 104).
- **Community service occupational therapist:** A community service occupational therapist is a therapist working in a Government appointed position for the duration of the first year after acquiring his/ her qualification. It is a compulsory year, implemented by the Minister of Health in 2003 (Maseko, Erasmus, Di Rago, Hooper & O'Reilly 2014: 36).
- **Incomplete injury:** Spinal cord injuries are classified according to the American Spinal Cord Injury Association impairment scale (ASIA). An

incomplete injury refers to remaining motor and sensory function. The ASIA scale:

A = Complete: No motor or sensory function is preserved in the S4-S5 sacral segments

B = Incomplete: Sensory function but not motor function is preserved below the neurological level and includes the S4-S5 sacral segments.

C = Incomplete: Motor function is preserved below the neurological level, and more than half of key muscles below the neurological level have a muscle grade less than 3 Oxford scale.

D = Incomplete: Motor function is preserved below the neurological level, and at least half of key muscles below the neurological level have a muscle grade of 3 Oxford scale or more.

E = Normal: Motor and sensory function are normal.

(Brain and Spinal Cord 2015)

- **Low socio-economic status:** Socio-economic status is measured according to income, education and occupation. A low socio-economic status is indicative of limited or a lack of aforementioned (Wakefield, Sani, Madhok, Norbury & Dugard 2016: 27).
- **Out-patient department (OPD):** OPD is a section or department of health care workers which focuses on treatment of patients after they have been discharged from hospital. Within the setting of this study, there are local, state funded out-patient departments for patients to attend occupational therapy. These OPD's have high case-loads, and patients get seen once a month for therapy once discharged from the acute hospital setting.
- **Participation in wheelchair basketball:** Where a member of a wheelchair basketball team attends 80% of practices and games on a social/recreational level, he will be identified as a participant in wheelchair basketball. Participation on professional level will not be included in this study.

- **Rehabilitation hospital setting:** A hospital setting where rehabilitation is the main area of focus and reason for admission. Patients are mostly medically stable, and treatment is focused on enabling them to maximize their skills and independence, through physiotherapy, occupational therapy and other health care providers (American Medical Rehabilitation Providers Association 2016). Within this setting of this study in the Port Elizabeth area, there are no state-funded rehabilitation hospitals. Within the Port Elizabeth area, there is one privately owned rehabilitation hospital.
- **Occupational profile:** The occupational profile of a person can be described as the occupational history, activities of daily living, needs, interests and values of said person (De Trabajo 2014: S44).

Summary

Title: Wheelchair basketball and the community reintegration of people with a spinal cord injury

As part of the occupational therapists role with a patient who suffered a spinal cord injury, the therapist aims to assist the patient in returning to his and her usual life, participating in activities that he or she regards as normal within his or her life. Such activities include basic tasks that are often taken for granted, such as caring for the home, caring for oneself and family, going to work, socialising with peers and managing one's finances.

From previous experience, it has been noted that occupational therapists often do not give enough attention to addressing the community reintegration needs of patients. Limited time, resources and too little knowledge regarding communication reintegration could contribute to this.

Limited findings exist regarding the role of wheelchair basketball to address community reintegration. The researcher aspires to address this gap in the knowledge, by making use of a qualitative, explorative design within the specific context of the participants.

By conducting in-depth interviews with the players of the wheelchair basketball team of the Northern Areas in Port Elizabeth, the researcher aimed to describe wheelchair basketball and the community reintegration of these participants. The interviews were conducted by Mr Kegan Topper, who is experienced in the interview process. The players in the wheelchair basketball team have acquired spinal cord injuries, and were between the age of 26 and 57 years.

Informed consent was obtained from participants, and the participants were reimbursed for travel expenses. Participants had the opportunity to withdraw from the study at any time, without penalty or losing benefits. The identities of the participants will remain confidential.

The researcher has used the findings to make recommendations regarding the community reintegration of people with spinal cord injuries.

Key words: *community reintegration, low socio-economic status, occupational therapy, spinal cord injury, wheelchair basketball*

Opsomming

Titel: Rolstoelbasketbal en die gemeemskapsherintegrasie van mense met ‘n spinaal koord besering.

As deel van die arbeidsterapeut se rol met ‘n pasiënt wat aan ‘n spinaalkoordbesering ly, is die terapeut ten doel om die pasiënt by te staan om terug te keer na sy/ haar normale leefwyse en deelname aan aktiwiteite wat hy / sy as normaal binne sy of haar lewe ervaar. Sulke aktiwiteite sluit onder andere in dat die pasiënt na sy / haar huis kan omsien, vir hom / haarself en familie kan sorg, werk toe kan gaan, kan sosialiseer met vriende en na sy / haar finansiële verpligtinge kan omsien.

Uit vorige ondervinding is dit opgemerk dat arbeidsterapeute dikwels nie genoeg aandag skenk aan gemeenskapsherintegrasie van pasiënte nie. Beperkte tyd, gebrek aan hulpbronne en onvoldoende kennis van gemeenskapsherintegrasie kan hiertoe bydrae.

Beperkte navorsingsbevindinge is beskikbaar met betrekking tot die rol van rolstoelbasketbal ten einde gemeenskapherintegrasie aan te spreek. Die navorser het daarna gestreef om hierdie gaping aan te spreek deur gebruik te maak van ’n kwalitatiewe, eksploratiewe studie ontwerp binne die spesifieke konteks van die deelnemers.

Deur in-diepte onderhoude uit te voer met die spelers van die rolstoel basketbal span van die Noordelike voorstede in Port Elizabeth, het die navorser beoog om rolstoelbasketbal en die gemeenskapsherintegrasie van hierdie deelnemers te beskryf. Die onderhoude was gedoen word deur Mr Kegan Topper, wat as bekwaam beskou word in die onderhoudvoeringsproses. Die spelers in die rolstoel

basketbal span ly aan spinaalkoordbeserings en was tussen die ouderdomme van 26 en 57 jaar.

Die navorser het ingeligte toestemming van voornemende deelnemers verkry en het ook deelnemers vergoed vir reiskoste. Deelnemers mag op enige tyd van die studie onttrek het sonder straf of benadeling. Die identiteite was die delnemers sal as vertroulik beskou word.

Die navorser het die bevindinge gebruik om aanbevelings aangaande gemeenskap herintegrasie van mense met spinaalkoordbeserings te maak.

Sleutel woorde: *arbeidsterapie, gemeenskapsherintegrasie, lae sosio-ekonomiese status, spinalkoord besering, rolstoel basketbal*

Preface:

Everyone deserves something that makes them look forward to tomorrow.

(Author unknown)

The purpose of this preface is to provide the reader with contextual background, explaining my personal and professional background related to the study, as well as my intention with the study. Specific assumptions, fundamental to the study, are also mentioned.

a) Introduction to my personal experience of community reintegration

I was born in the 'Friendly City' of Port Elizabeth in the Eastern Cape, South Africa. My community consisted of mainly family and friends who lived on the other side of a boundary wall, or five houses down the road.

As an 11 year old city girl, I moved to the outskirts of a small town with my family. Although very welcoming, I found it difficult to integrate into the community. Socialising with friends proved difficult, as the distance to town did not lend itself to walking. Finding recreation activities proved difficult- I knew very little of 'bokdrol' spitting, and horse riding and cattle herding was not something I participated in previously. It seemed as if my peers grew up with these activities and were eager to teach me the necessary skills, if only I could get to town....

The necessity to socialise and form meaningful relationships required that I learn the skills necessary to make travel arrangements to and from town, attempt various small-town activities and ultimately decide which of those activities would be sustainable in terms personal preferences, as well as, the practicality thereof.

b) Introduction to my professional experience of community reintegration

As a community service occupational therapist, I was placed in an acute hospital setting within the public health sector in Port Elizabeth. This hospital admitted people from a low socio-economic background who lived in the Port Elizabeth area. Under the guidance of a number of senior therapists, I was involved in the rehabilitation of patients with various physical and cognitive impairments. I noted that although the patients were initially attending therapy and showing some improvement, many became reluctant to continue with home programs and became demotivated.

Upon some discussion with a group of patients who had been discharged for years, they mentioned a lack of purpose in their daily activities. They woke up, got dressed and lay in bed for most of the day. As time passed, they did not feel the need to get dressed anymore, and so the downward spiral continued.

In 2011, under the guidance of Ms Mia Marx Ganzevoort, a senior occupational therapist at the hospital where I was placed, I assisted in starting a wheelchair basketball team for a group of local patients with spinal cord injuries (SCI). The patients included men of various ages, with different levels of injury. Soon, the group of five men grew to ten, which eventually expanded to 15. They practiced twice a week, and played games as often as they could afford.

The difference we saw in their abilities and interactions were noteworthy, including their involvement with educating in-hospital patients who had recently sustained SCI, as well as, assisting young adults within the community to engage in healthy recreation activities such as dancing. Their agentic involvement within their community formed the inspiration for the basis of this study.

Based on my experience with the patients that formed part of the wheelchair basketball team, I am compelled to tell their story. The challenges faced, difficulties overcome, the triumphs and commitment.

From the portrayal above, I have surmised personal assumptions which form part of this study. These assumptions should be considered with care, as they outline the structure of this study and dissertation.

Principled conclusions drawn from personal experience:

- Community reintegration can be addressed through occupational therapy intervention. From the various frameworks and models which encompass occupational therapy, the role of the occupational therapist in addressing community reintegration is appears significant.
- Community reintegration can regress or progress as the personal circumstances and situation changes.
- Community reintegration is not time-bound, and can occur and be influenced years after discharge from hospital.
- Community reintegration is vital for sustainable rehabilitation within occupational therapy intervention. From the researcher's experience, improved community reintegration assisted the patients with occupational therapy related goals, which in turn, assisted with further community reintegration.
- It is my duty as occupational therapist to address the barriers that low socio-economic status may present to the patients in my care, in order to guide them in choosing appropriate and meaningful activities to engage in, and to adhere to the Occupational Therapy profession's stance of client-centred practice.
- Patient involvement in prioritising community reintegration goals is essential. As with all occupational therapy goals, patient involvement will allow for more specific and client-centred goals which will allow for more achievable goals.
- Rehabilitation in most public hospitals in South Africa focuses mainly on the bio-medical approach (cf. Concept clarification).
- Socio-economic status can positively or negatively influence a person's community reintegration. Financial security may allow for more opportunities to participate in a greater variety of community reintegration related activities. It has been the researcher's experience that a higher socio-economic status may not necessarily lead to improved community reintegration.

Chapter 1: Introduction and orientation

1.1 Introduction

The public health care sector is being utilised by 70,6% of the South African population, and by 80,8% of the Eastern Cape population according to the General Household Survey Report of 2011 (Statistics South Africa 2013). Considering the Minister of Health, Mr Aaron Motsoaledi's statement that 84% of the country's population receive "second rate care" (News24 2013), these statistics are cause for concern. When considering the limited resources in public health care in South Africa, the chasm that needs to be bridged between experiencing a traumatic injury and returning home from hospital to go on with life, may be enormous for most people admitted to hospital with traumatic injuries. A traumatic injury may imply a complete disruption of a person's bodily and psychological-emotional functions and abilities with significant effect on such person's occupational profile, identity and consequently, his/her future. The World Health Organisation (2010) explains that inequalities in health lead to inequalities in a person's ability to function.

When working with a patient with a spinal cord injury (SCI) the occupational therapist makes use of goals to assist the patient in participating in various meaningful occupations such as activities of daily living, work and leisure. These goals are set by the patient and the therapist, and they are chosen to address a variety of occupational difficulties caused by physical, cognitive, social and environmental impairments (Noe, Bjerrum & Angel 2014: 1). Occupation refers to the tasks and activities that a person participates in relating to daily living, such as preparing a meal for their family, going to church, travelling to work and getting dressed. Through the development of the profession of occupational therapy, the focus has remained on the use of meaningful occupations to enhance participation in everyday life (Trombly & Radomski 1998: 513-514; Rebeiro, Day, Semeniuk, O'Brien, Wilson 2001: 493; Law 2002: 640; Boniface, Fedden, Hurst, Mason, Phelps, Reagon & Waygood 2008: 531). Although humans are described as occupational beings with the ability to freely choose which activities they will

participate in, this freedom is often not available to them due to factors over which they do not have control such as inadequate health care; ultimately leading to occupational injustice.

The paradigmatic assumption of occupational science that human beings are occupational beings also implies that participation in meaningful occupation influences health, adaptation and wellbeing (Clark, Parham, Carlson, Frank, Jackson, Pierce, Wolfe & Zemke 1991: 301). Clark and other authors (1991) further focuses on occupational science and amongst others on the benefit of participation in occupation, as activities in people's everyday lives. Occupational science encompasses the holistic approach that the occupational therapist undertakes when setting goals with the patient. More recently, Wilcock (2014: 3) reflects on the development of the theory of occupational science, and how it is interdependent on doing, being, belonging and becoming (Wilcock 1998: 248). She iterates that occupational science is the study of humans as occupational beings, which supports the irrevocable connection between health and occupational engagement and participation which forms the essence of occupational therapy. From above-mentioned, and coupled with statements by the World Health Organisation (2005: 7) it is apparent that social determents and functionality are linked to health. It can also be said that occupational therapy is one of only a few health related profession that formulate goals and treatment based on bio-medical as well as social contexts. This leaves the researcher with little doubt to the valuable role the occupational therapist has in holistic rehabilitation.

Being a member of health care professions, occupational therapists are involved in the rehabilitation of people with SCI. Urbański, Bauerfeind & Pokaczajło (2013: 95) mention some of the difficulties that the patients may experience. These include decreased active movements in their extremities, decreased balance and endurance, impaired sensation and loss of bladder- and bowel function. This could influence their ability to participate in activities such as activities of daily living, mobility, work and leisure. Together with the patient, the occupational therapist sets goals to address the various needs that the patient may have, depending on the

difficulties experienced and previous occupational profile (Egan, Dubouloz, von Zweck & Vallerand 1998: 136; De Taberjo 2014: S1).

Occupational therapists use aforementioned knowledge to address various difficulties throughout the rehabilitation process. As described by occupational science, this enables their patients to strive towards doing, being, belonging and becoming. Wilcock (2014: 4) elaborates, describing these four aspects as the following:

- *Doing:* All activities that people participate in across their life span.
- *Being:* people's perception of that they think, feel and do, as well as planning what they will do.
- *Belonging:* the engagement and participation in activities relating to the family and community.
- *Becoming:* Growth, development and change people experience through what they do.

Again, Wilcock (2014) supports her younger self (Wilcock 1998) when connecting health and occupation. It can be argued that these four aspects of doing, being, belonging and becoming are interrelated and co-dependent on each other, while having a ripple effect on one another. If a person is not able to 'do' a basic task such as dress himself, he may not be able to 'belong' in a specific nucleus or generalgroup or community. By enabling engagement in meaningful occupation, health and well-being could be facilitated for people with a spinal cord injury (Wilcock: 2014: 4).

Reintegration into the community involves enabling engagement into every day roles and duties (Whiteneck *et al* 2004: 104).As one of the final steps in rehabilitation, community reintegration is aimed at continued engagement in a balanced occupational profile. Chun, Lee, Lundberg, McCormick & Heo (2008: 217) explain that successful community reintegration can lead to improved physical, psychological, social and environmental quality of life and can therefore be seen as an essential part of rehabilitation.

Research done by McVeigh, Hitzig and Craven (2009: 115-124) found that sports participants achieve better reintegration into their community than non-sports participants. This evidence supports that community reintegration is positively influenced by participation in meaningful occupation such as, in the case of this study, sport. However, the need for further research regarding community reintegration within the South African context is evident, due to contextual factors such as culture, violence and poverty being major influences in community reintegration (cf. 2.4, 4.7).

As part of her pre-study exploration, the researcher performed interviews with key role-players in wheelchair basketball in South Africa. From these interviews it was established that wheelchair basketball is a favourite sport amongst those with mobility impairments. It is played on social and professional levels, and is easily accessible and low-cost. Research evidence, pertaining to the occupational engagement of professional wheelchair basketball players, indicates that occupational engagement has contributed to their individual development, skills development and achievement of meaningful goals (Hull, Garci & Mandich 2005: 174).

Within the rural context of the Eastern Cape, occupational and physiotherapists aim to use methods that are “acceptable, affordable, effective and appropriate” for patients with SCI. Wheelchair basketball is used as part of the Rural Ability Programme (RAP) in Zithulele. It forms part of their community based rehabilitation program that aims to increase the participants’ capacity in rural communities. (Rural Ability Program 2013)

In Port Elizabeth, the area where the researcher is located, wheelchair basketball is played on a professional and social level. Teams associated with the Nelson Mandela Metropolitan University (NMMU) often compete against other universities, while teams formed in residential areas mainly play against each other. The majority of teams are from middle to low socio-economic residential areas. These residential areas include the Northern areas, Motherwell and Londt Park.

The researcher was involved with the wheelchair basketball team of the Northern areas in Port Elizabeth. The team consisted mainly of English and Afrikaans speaking males with a SCI. From the researcher's experience, the players from the Northern areas presents with varying levels of community reintegration relating to their participation in work, leisure and social activities.

1.2 Problem statement

People with SCI often struggle to reintegrate into their communities to a point where they can resume meaningful and purposeful participation in occupations as most rehabilitation programmes in public health care in South Africa focus mainly on the bio-medical approach, occupational therapists are found not to consciously address community reintegration as a priority outcome in rehabilitation. Moreover, often the communities they return to are stricken with challenges such as poverty and violence, which leaves the client with many additional challenges. It is evident that further knowledge is required pertaining to the community reintegration of people with SCI, and how it is influenced by sport such as wheelchair basketball.

By exploring the community reintegration of people with a SCI who participate in wheelchair basketball, limitations in current treatment protocols can be identified, such as relying mainly on the biomedical approach, as well as possibilities to facilitate further reintegration into the community.

1.3 Research question

From the problem statement: the following research question emerges:

- How does participation in wheelchair basketball influence community reintegration for people with SCI in a low socio-economic environment?

1.4 Aim of the study

The aim of the study is to explore and describe how participation in wheelchair basketball influences the community reintegration of people with a SCI in a low socio-economic environment.

1.5 Methodology

A qualitative study of explorative, contextual nature was performed in order to meet the aim of the study (Nayar & Stanley 2014: 2). An independent researcher conducted individual interviews with the participants, in order to seek an understanding of whether wheelchair basketball influenced their community reintegration, as well as, how it was influenced. The researcher fulfilled the role of taking field notes during the interviews.

The interviews consisted of two (2) sections. The first section involved structured questions to collect background and demographic information Questions were aimed at collecting information such as actual age of the participant, age at which the injury occurred, occupation (previous and current), as well as, whether they felt wheelchair basketball has influenced their ability to resume meaningful activities. If the participant answered 'yes' to last mentioned question, the interviewer proceeded to the second section. This section consisted of an open-ended question: "Tell me how wheelchair basketball has influenced / shaped / changed your ability to resume the activities which you find meaningful after discharge from hospital after the SCI?".

Once data was collected and transcribed, the researcher used priori coding using the computerised coding system Atlas TI™ in order to indentify themes and categories. The researcher has used both deductive and inductive coding. The study design and research methodology is described in detail in Chapter 3.

1.6 Significance of the study

Findings from this study may contribute to the existing body of knowledge in occupational therapy with regard to the influence of wheelchair basketball on community reintegration among people with a SCI. Inclusion of wheelchair basketball into standard rehabilitation programs may be suggested for newly discharged patients to aid community reintegration of patients who are interested in wheelchair basketball. The difficulties experienced by patients with SCI can assist in better identifying goals which require contextually-bound occupational therapy intervention. The research may further offer insights into mastery, resilience and the concept of belonging and occupation as described by Hammell (2014: 39). In addition to this, it offers constructive assistance to the occupational therapist wishing to use wheelchair basketball to assist patients in improving their community reintegration.

1.7 Ethical considerations

Guidelines for ethical implications and conduct were followed throughout the planning and execution of the study. These guidelines entailed careful consideration and following of specific procedures to ensure ethical conduct of the highest standard, which will be discussed at length in Chapter 3 (Burns & Grove 2005: 193-194).

Ethical considerations for the purpose of this study include: seeking informed consent from all participants, confidentiality, and a focus on integrity and rigour throughout the planning and execution of the study.

Informed consent was obtained from the team captain (cf. Appendix A & B) before contacting the player to discuss the study and gain informed consent (cf. Appendix C & D) to participate in the interviews (cf. Appendix E & F; G & H). A high level of confidentiality was maintained throughout, and participants were informed that they would not receive any remuneration for participation in the study. The research

proposal was approved by the Research Ethics Committee of the Faculty of Health Sciences of the University of the Free State in June 2015, Ethics number ECUFS 95/2015.

1.8 Outline of chapters

The outline of the chapters within this study intends to provide the reader with an overview of the contents of each chapter within this dissertation.

Chapter 1: Introduction and overview. In this chapter, the researcher aims to provide an overview of the study. This includes an introduction, problem statement and the aim of the study. The methodology and ethical considerations have been summarised, as well as, details on further discussion of these sections. An outline of the chapters in this dissertation has also been done.

Chapter 2: Literature review. The literature review chapter aims to present information to the reader that forms part of the significant research findings that relate to the focus of the study. This information will emphasize the fundamental concepts within the study, and encompasses literature that relates to additional sources that are discussed in Chapter 4. The role of the occupational therapist in rehabilitation is discussed, as well as, the importance of participation in meaningful occupation contextualised within the scope of the study. The researcher further investigates community reintegration, and pervious research pertaining to the influence of sport on the reintegration of people with SCI. Wheelchair basketball as a sport for people with physical impairments within the South African context is examined, with emphasis on wheelchair basketball within the Port Elizabeth area. In closure, the role of the occupational therapist in addressing community reintegration is discussed.

Chapter 3: Research methodology. Within this chapter, the researcher describes the research methodology applied in this study in detail. This study follows a qualitative

research approach, using an explorative contextual design. In-depth interviews were conducted with wheelchair basketball players from the Northern areas team, in order to collect data relating to the community reintegration of the wheelchair basketball players. The researcher has used both deductive and inductive coding, employing the Atlas TI™ system. The researcher adhered to strict ethical conduct and rigour throughout the planning and executing of this study.

Chapter 4: Presentation and interpretation of findings. The participants in the study and their descriptions of community reintegration and how it was influenced by wheelchair basketball are discussed. Findings are discussed according to the main themes and categories emerging from data, and categorised according to the Occupational Therapy Practice Framework (OTPF). The researcher included additional sources of literature which stem from the findings. Increasingly, throughout the chapter, the importance of occupational engagement is highlighted, as well as the interrelation between mastering various occupations and further occupational engagement. It is interesting to note that certain aspects were more prominent that others based on contextual considerations, again emphasising the value of personally meaningful occupations.

Chapter 5: Conclusion and recommendations. In this chapter, the researcher offers a conclusion gathered from previous chapters, related to previously published literature and research findings from this study. The researcher compares various sections of the findings, as well as, the interrelated components within the findings and the OTPF. Critique related to the OTPF is offered, considering participants responses. Furthermore, limitations within the study are discussed, as well as recommendations for occupational therapist regarding who to address community reintegration and rehabilitation for people with spinal cord injuries. Possibilities for further study are noted, in order to further the knowledge regarding people with spinal cord injuries, community reintegration and wheelchair basketball.

1.9 Conclusion

The first chapter of the dissertation orientates the reader to the key concepts and background of the study; affording a glimpse of the literature review to follow. The first chapter further introduced the reader to the research methodology and findings. In the following chapter, a review of relevant literature will emphasize the key concepts within the study, as well as offer information regarding the value of this study.

Chapter 2: Literature review

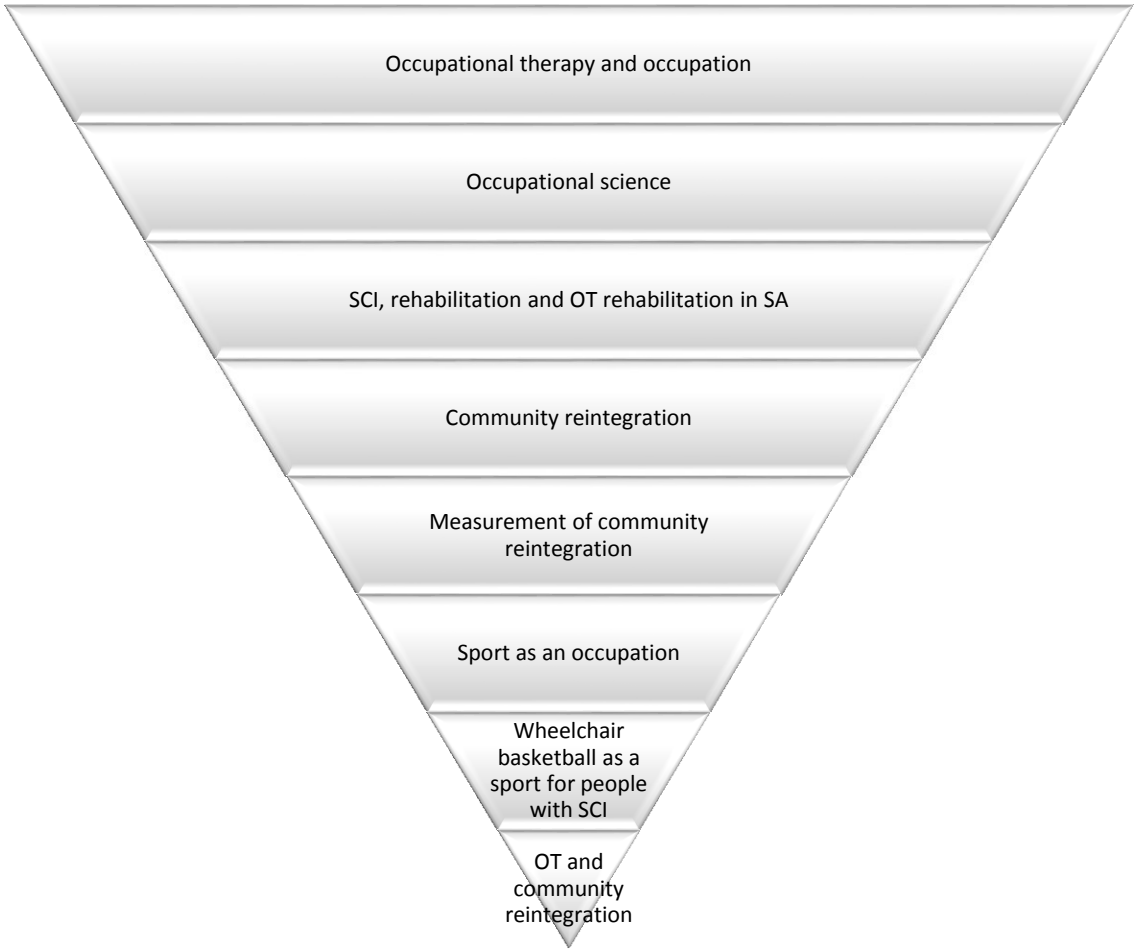
2.1 Introduction

In this chapter the researcher aims to present the reader with a review of relevant literature in order to delineate the theoretical parameters of the study. A secondary literature review will take place in Chapter 4 during the discussion of findings in order to substantiate the interpretation of the findings of this study.

The purpose of this literature review is to create a theoretical context to a) illustrate the knowledge available on the topics, and b) to highlight the deficiencies in current literature. Various sources have been reviewed for relevant literature, including the Occupational Therapy Journal from America, Canada and South Africa. Other journals include the Journal of Occupational Science, the Journal of Spinal Cord Medicine, and the Therapeutic Recreation Journal and Archives of Physical Medicine and Rehabilitation. These sources of evidence relating to topics such as Occupational Therapy and rehabilitation, as well as, disability and society, have been used by the researcher to present an epistemological background to this study. The researcher has remained within the scope of the study, which is demarcated by the main context namely Occupational Therapy and its foundational discipline *vis*. Occupational Science. In relation to that, the literature review is primarily attendant to the main concepts in the title of the study i.e. *spinal cord injury (SCI)*, *community reintegration*, and *wheelchair basketball;* all pertinent to the South African milieu. Concomitant to these main concepts are the notions of rehabilitation programmes within the profession of occupational therapy for SCI, and sport as a therapeutic tool. After the data-analysis was done, the researcher did a second literature review in order to triangulate with the inductive codes derived from the analysis, and which are included within the concepts as outlined above.

The themes that are presented in this literature review address the epistemological focus areas of the study, as well as other relevant aspects. These include: Occupational therapy and occupation; occupational science; spinal cord injury rehabilitation and occupational therapy in South Africa; community reintegration; measurement of community reintegration; sport as an occupation for successful community reintegration; wheelchair basketball as a sport for people with a spinal cord injury in South Africa, and; occupational therapy and community reintegration. Figure 2.1 is used as a schematic outline for the literature review to follow.

Figure 2.1 Schematic outline for literature review



2.2 Occupational therapy and occupation

Occupational therapists use client-centred meaningful activities to reach goals set by the patient and the therapist to address a variety of difficulties caused by physical, cognitive, social, and also environmental impairments such as physical accessibility to the community and family support (cf. 1.1). These activities assist the person in successfully participating in a choice of occupations, and are a vital part of human existence. Occupation relates to the tasks and activities that a person participates in relating to daily living, such as preparing a meal for their families, going to church, travelling to work and getting dressed. As the profession of occupational therapy developed, the focus has remained on the use of meaningful occupations to enhance participation in everyday life (Trombly & Radomski 1998: 513-514; Rebeiro, Day, Semeniuk, O'Brien, Wilson 2000: 493; Law 2002: 640; Boniface, Fedden, Hurst, Mason, Phelps, Reagon & Waygood 2008: 531). Furthermore, the essence of humans as occupational beings is echoed throughout occupational therapy research (Townsend & Wilcock 2004: 76).

The seminal works of Hammel (2004: 297) further explains that the concept of occupation within occupational therapy theory has been hierarchically described as self-care, productivity and leisure. She continues, arguing that many meaningful occupations cannot be categorised into the aforementioned three descriptions. Townsend & Wilcock (2004: 76) expand on the foundation of knowledge already available to occupational therapists, by including occupation and client centred practice into the description of occupation. The continued evaluation and investigation into occupation has led to a culture of constant reflexivity and development of descriptions and frameworks within occupational therapy.

Occupational therapists use various models and frameworks to offer the theoretical backbone needed to use occupation as the core of the profession. Such frameworks and models include the Occupational Therapy Practice Framework (OTPF), the Model of Human Occupation, the Vona du Toit Model of

Creative Ability, Canadian Model of Occupation Performance as well as the Kawa model.

As described by the OTPF (De Trabajo 2014: S1), the main aim of the framework is to present a summary of interrelated constructs that describes the occupational therapy practice. The framework further suggests the aim of occupational therapy is to acquire and preserve the occupational identity of those who have, or are at risk of, developing an "illness, injury, disease, disorder, condition, impairment, disability, activity limitation or participation restriction" (De Trabajo 2014: S1).

The Vona du Toit Model of Creative Ability (VdTMoCA) was developed as a model to describe the interaction between volition and activity participation. The model was born from the demands of the medical profession: requiring validation and evaluation against a set standard within an assessment of a person's symptomatology (du Toit 2009: 21). The core concepts around which the model revolved involves the description of the relationship between volition and activity participation, which portrayed in the following ascending order: tone, self-differentiation, self-presentation, participation, contribution and competitive contribution (du Toit 2009: 23-26). The Activity Participation Outcome Measure (APOM) and extension of the original model was developed by Casteleijn (2014: 15). It is the only occupation based instrument used by occupational therapists to measure the quality and quantity of a clients' volition, and further describes volition as a key factor to success in activity participation (Casteleijn & de Vos 2007: 55). Tacit controversy within the profession appears to exist however, since some scholars would argue that a quantifiable version of the VdTMoCA cannot be aligned with the origin of the model. On the other hand it may be argued that the Occupational Therapy profession cannot rely on qualitative descriptors only, if it wants to remain relevant within health care and adhere to the imperative of evidence based practice.

The Model of Human Occupation (MOHO) is one example of a model in occupational therapy that describes how persons' abilities, potential and skills interact with their environment in the performance of and participation in occupation trough occupational adaptation. The core concepts which forms the MOHO aims to describe the process of occupational adaptation, which includes the person (describing the volition, habituation and performance capacity); the connection between the person and the environment (describing participation, performance and skills); and occupational adaptation (which is influenced by occupational identity and occupational competence). This model is well known for extensive development of assessment tools (Turpin & Iwama 2011: 138; 156).

The Canadian Model of Occupation Performance was developed in by occupational therapists in collaboration with Health and Welfare Canada, as a conceptual model that offers guidelines for client centred clinical practice. It is a social model, which shows the dynamic relationship between the major constituents of the model namely 'Person', 'Occupation' and 'Environment'. The aspect of spirituality is not only the core of the model, but also centred within the component of 'Person' in addition to the affective, cognitive and physical aspects. The 'occupation' component consists of self-care, productivity and leisure, while the 'environment component comprises of the physical, institutional, cultural and social environment. From the model the Canadian Occupational Performance Measure (COPM), a standardised outcome measure was developed that measure how a client's self-perception of occupational performance alters over a period of time. (Polatajko, Townsend & Craik 2009: 23)

Notwithstanding the value of previously mentioned models, the researcher values the usefulness of the OTPF in this study, based on its ability to address and link many aspects of community reintegration; especially in view of the latter concept not formally defined in main-stream occupational therapy models. A comprehensive discussion of the OTPF is provided in the discussion of findings (cf 4.2).

2.3 Occupational science

Occupational science is a developing theoretical framework, first initiated in the late 1980's (Wilcock 2014: 3). During the early development of the theory of occupational science, Clark, Parham, Carlson, Frank, Jackson, Pierce, Wolfe and Zemke (1991: 301) explained that the paradigmatic assumption of occupational science is that human beings are occupational beings. As such, humans' participation in occupation influences their health, adaptation, and their wellbeing. Clark and other authors (1991) further focus on occupation science and specifically also on the benefits of participation in occupation and activities in people's everyday lives. In order to fully utilise the potential of using occupation in the lives of patients, occupational therapists rely on an occupation-based practice. Because human occupation thus forms front and centre of occupational science, it is vital that further research into the role of occupation in rehabilitation is done (Pierce 2009: 203). Hocking (2009: 141) echoes Pierce, stating that the broader descriptions of occupational science are not satisfactory, and that an in-depth understanding of specific occupations is needed. This speaks to the researcher, reflecting a need for a deeper understanding of community reintegration.

Occupational science further engages with the notions of occupational engagement and occupational justice (Townsend & Wilcock 2004: 80). Occupational engagement and participation, as part of occupation-based rehabilitation, refer to a person's participation in meaningful occupations and the influence these occupations have on their well-being (Watters, Pearce, Backman, Suto 2012: 1). Occupational justice focuses on the fact that the health and quality of life is improved through occupational engagement (Wolf, Ripat, Davis, Becker & MacSwiggan 2010: 15). This, in turn, implies that if occupational engagement does not occur, occupational injustice may follow.

Wolf and other authors (2010: 15) define occupational alienation to be when people participate in activities that they experience as meaningless or unrewarding. Participation in too few activities, such as when a person in unemployed, may lead to occupational imbalance. Opposed to participation in

too few activities, occupational imbalance may also occur when a person is involved in too many occupations, resulting in an imbalance in the type of activities they participate in.

Occupational science further explores occupations, including “dark occupations” into its descriptions. It describes dark occupations as occupations that are seen as harmful, disruptive and therefore, antisocial. Twinley & Addidle (2012: 202-203) suggests that occupations that are not deemed healthy or pro-social still require to be described. This is due to the reason for participation in such activities, which include relaxation, celebration and entertainment (Ferrell *et al* 2008, in Twinley & Addidle 2012: 203).

The well-being of people with a disability is often compromised due to limited accessibility and availability of meaningful occupations, limited functioning, and social constraints. Such environmental constraints that are linked to socio-economic and political factors in the South African context especially, often leads to occupational deprivation.

Hocking (2009: 174) argues that a better understanding of occupations will lead to occupational justice. This relates to any restrictions in access to occupation, as well as voluntary or forced participation. It could be said that by having a better understanding of occupations and the limitations experienced within those occupations, occupational justice can be achieved.

Figure 2.3.1 Interrelation between occupation-based rehabilitation, occupational engagement and occupational justice (Compiled by W. Wiggill, derived from Hocking (2009), Townsend & Wilcock (2004))

From figure 2.3.1 the organisation of occupation-based rehabilitation, occupational engagement and occupation is visible. It can be argued that, should one adopt an occupation-based rehabilitation approach, the occupational engagement and justice of patients treated will be positively influenced.

Should one of the aforementioned aspects of occupation not obtain adequate input, this may result in occupational deprivation. Occupational deprivation is defined as denying, restricting or preventing individuals the opportunity and resources to participate in occupations of their own choice, due to factors outside their control (Wolf *et al* 2010: 15; Townsend & Wilcock 2004: 81).

Similarly, Wilcock's 'doing, being, belonging and becoming' (2014: 4) describes the importance of participation ('doing') and how it encompasses all activities within the sleep-wake continuum. 'Being' is further described by Wilcock (2014:

4) as a persons' perception and feelings towards the activities they participate in- thus, the meaning there of. Participating in meaningless activities may then lead to occupational alienation (Wolf *et al* 2010: 15). Following this, the term 'belonging' involves the engagement with family and community and contributing to such institutions (Wilcock 2014: 5). This speaks to the community reintegration that forms part of the research question. Lastly, 'becoming' refers to the growth, development and change people experience through the occupations they participate in (Wilcock 2014: 5). It can be said that occupational injustice therefore denies the growth and development of a person, due to not being able to participate in balanced, meaningful activities. It is interesting to note within occupational therapy research Hammell (2014: 41) argues that the notion of contributing to one's community further adds to experiencing a sense of belonging. Although mentioned, it does not form part of most occupational therapy theories.

The occupational therapist should take contextual and environmental factors such as transport, finances and access to building structures into consideration when assisting a patient with reintegrating into the community. This could be seen as an important step in preventing occupational alienation, which Townsend & Wilcock (2004: 80) describe as prolonged isolation and a sense of meaninglessness, which is often experienced by people with a SCI.

It may be argued that a significant factor regarding occupational engagement vs. occupational alienation is finances. The researcher experienced that many of the patients seen by occupational therapists live in poverty. It forms part of the contextual environment in which many patients find themselves. According to the United Nations Educational, Scientific and Cultural Organization, poverty does not only refer to a lack of finances, but also to a lack of basic needs being met. Both the lack of finances and inability to meet basic needs can have a negative influence on a person's quality of life (United Nations Educational, Scientific and Cultural Organization 2016). Poverty has a negative influence of a patient's ability to engage in meaningful activities as described by Carpenter and other authors (2009: 429). Slater & Meade (2004: 11) mention that

individuals with a greater income are more likely to participate in activities. The researcher has experienced that many occupational therapists working within a low socio-economic environment have become 'numbed' or de-sensitised to the financial difficulties that the patients experience. Instead of the difficulties being addressed by the occupational therapists, it has become a part of the context within which the patients find themselves and therapists tend to focus on more manageable goals. It could be argued that the de-sensitisation is due to therapists feeling powerless in assisting patients living in a low socio-economic environment, due to the overwhelming 'need' faced by patients in Government health care facilities. In addition, therapists may also become de-sensitised as poverty and feeling powerless is an everyday occurrence within certain work environments in South Africa.

Surveys done by Eide & Ingstad (2013: 1) within Africa confirm a systematic pattern of lower levels of quality of life amongst individuals with disabilities. They continue, describing a downward spiral where disability leads to poverty (due to various reasons of exclusion) and poverty could in turn lead to exclusion of participation in various occupations such as activities of daily living and health care. The interrelation between poverty and disability is further supported by South African occupational therapists Engelbrecht & Lorenzo (2010: 9), who state that although allowing people with disabilities can counter the effects of poverty by entering into employment, opportunities are restricted. Figure 2.3.2 aims to illustrate the influence of poverty and disability of occupational engagement and participation.

Figure 2.3.2 Poverty and disability's influence of occupational engagement and participation (W. Wiggill 2016).

Mastering the challenges faced during participation in various activities improves the competence of the person facing those challenges. This leads to further occupational engagement. It can be assumed that this may lead to further resilience when experiencing new challenges (Sonn & Fisher 1988: 3). Pierce (2001: 253) adds that the occupational engagement and participation adds to, amongst other, self-actualisation.

2.4 Spinal cord injuries and occupational therapy rehabilitation in South Africa

Occupational therapists working in acute hospital settings are often required to see patients with spinal cord injuries (SCI). These patients may, among other, experience decreased active movements in their extremities, decreased balance and endurance, impaired sensation and loss of bladder- and bowel function. The extent and severity of the above-mentioned symptoms depend on the specific level of injury and inevitably leads to a marked and substantial disruption of a person's previous occupational profile. The functional and occupational consequences of SCI significantly influence patients' ability to participate in all occupations including activities of daily living, mobility, work and leisure. Occupational therapists and their patients set goals based on the needs of the patient and the difficulties they experience. From a bio-medical perspective, Egan, Dubouloz, von Zweck & Vallerand (1998: 136) suggest that goals may include independence in activities of daily living such as dressing and washing, education relating to bladder and bowel control and prevention of pressure sores. Despite the development of the profession of occupational therapy, therapists in South Africa continue to focus on goals that are bio-medical in nature (Owen, Adams & Franszen 2014: 45).

The difficulties experienced by people with a SCI are vast, and depend on the type and level of injury, as well as, personal and cultural occupational expectations. These may include: financial difficulties (Carpenter *et al* 2007: 429); mobility such as difficulty in driving and walking (Hastings, Ntsiea &

Olorunju 2015: 1); risk of mental health problems, and poor vocational prospects (Kumar, Kumar & Praveenjar 2012: 11) and community acceptance and family support (Noe, Bjerrum & Angel 2014: 2).

When examining research from countries that are considered to be 'developed' (compared to South Africa which is considered a developing country), it is evident that bio-medical goals alone are not adequate in terms of community reintegration outcomes. Charlifue & Gerhart (2004: 91) from Graig Hospital in the United States of America describe reintegration into the community as the ultimate goal.

As part of the occupational therapy rehabilitation of the patient with a SCI, researchers emphasise the importance of reintegration of patients into their community, and assist them in achieving health and well-being within their environment. Community reintegration ideally forms part of the rehabilitation goals within the acute hospital setting, as well as after hospitalisation (Kennedy, Lude & Taylor 2006: 98; Whiteneck *et al* 2004: 103). As previously alluded to, rehabilitation in many rehabilitation institutions in South Africa tend to focus more on the customarily concomitant biomedical approach, i.e. improvement of ill health, and less on a holistic view of enhancing well-being, which results in most occupational therapists working in clinical settings (Watson 2013: 35). As previously mentioned Owen, Adams & Franszen (2014: 45) also note that therapists in the government funded institutions (such as where the occupational therapy program referred to in this study is based) mainly use the bio-medical model as the main focus of their treatment. Despite some occupational therapists moving towards a broader, occupational science approach, more therapists need to commit to the improvement of well-being through participation in daily activities (Watson 2013: 35), and moreover via a rehabilitation programme that shows cognisance of the context to which a patient returns in the community. In addition, one may argue that through an occupational science perspective such as an occupation-based focus on rehabilitation, functional as well as well-being outcomes could be attained.

Since occupational engagement is often compromised for people with SCI, one would be facilitating improvement in well-being in addition to the domains of occupational therapy such as activities of daily living, recreation, work, rest and sleep, education and social participation. Ultimately, increasing the success of occupational rehabilitation by improving accessibility and availability of such activities via an occupation-based focus with a community-reintegration orientation leads itself to improved functioning of patients. If occupational engagement is not encouraged, people with SCI may experience occupational deprivation due to the limitations of their injuries (De Trabajo 2014: S4).

As experts in the field of occupation, it can be expected that occupational therapists form part of the core team responsible to assist the patient in reintegrating into his or her community. It may be argued that the most valuable team member is the patient, as he/she would need to identify meaningful occupations. Other team members may be determined by the patient and his/her environment.

2.5 Community reintegration

Community reintegration can be seen as the final step in the rehabilitation process, where effective community reintegration would allow the patient to successfully participate in a balanced occupational profile. Community reintegration involves resuming the everyday duties and roles that are culturally and developmentally appropriate for the patient (Whiteneck *et al* 2004: 104). The participant's ability to access, as well as, to participate in social activities positively influences his/her quality to life (McKinley & Meade 2004: 79). Successful community reintegration can subsequently lead to improved physical, psychological, social and environmental quality of life (Chun, Lee, Lundberg, McCormick & Heo 2008: 217). Therefore, community reintegration can be seen as an essential part of the rehabilitation process, which could in turn have a positive influence on a person's life roles, for example being a worker, a parent and/or a life partner. Noe, Bjerrum & Angel (2014: 4) further

express the need for greater understanding of reintegration into the community and the barriers experienced after discharge from hospital.

While community reintegration could be argued as an imperative outcome for successful rehabilitation of a patient, this outcome is however often fraught with several theoretical and practice barriers. As alluded to prior, occupational therapists in the acute hospital setting often have an inadequate focus on the community reintegration of patients with a SCI (Watson 2013). Community reintegration comprises a focus that reaches over and beyond the scope of a customary biomedical scope within acute rehabilitation. Other theoretical barriers include an inadequate understanding of the importance of community reintegration; especially if the occupational therapists' clinical reasoning is attenuated by a dominant focus on biomedical treatment protocol as opposed to an occupational scientific perspective. Throughout the early development of occupational therapy, the biomedical approach offered valuable direction for the therapist, allowing for "goal-orientated and time-limited" (McColl 1998: 11) rehabilitation process. As previously mentioned, the biomedical approach is focussed on the improvement of ill health (cf. 2.4) and lacks consideration of the specific, client-centred contextual aspects which are fundamental in holistic occupational therapy intervention.

Contributing practice barriers to community reintegration may include lack of time and resources. A decrease in the length of hospital stay also contributes to a greater need for successful community reintegration (Whiteneck *et al* 2004: 104). From the researcher's experience, a decreased hospital stay influenced the expected outcome of rehabilitation. The researcher experienced that more responsibility was placed on family members to continue with home programs, while less time was available to practice certain skills. It can be deduced that the emphasis of the outcomes of rehabilitation was more on education than on acquiring and mastering new skills. Within the reality of South Africa as a developing country, it may be argued that there is a need to constantly revisit the scope of practice of occupational therapy in order to adhere to the minimum standard of practice.

In addition to barriers such as decreased hospital stay, Scelza, Kirshblum, Wuermser, Ho, Priebe & Chiodo (2007: S71; WHO 2013) comment that participation within the community by people with a SCI is often influenced by various factors, including physical abilities, misconceptions, negative attitudes, family support, emotional adjustment, as well as coping style. Other contributing factors such as gender, marital status, education, occupational status, age at injury and years after injury can also influence community participation (Whiteneck *et al* 2004: 1794). This leaves the researcher to compare the enormity of factors influencing community reintegration and the time and resources made available to address it, as well as investigate the effect of limited intervention of community reintegration.

Unsuccessful or neglected community reintegration of a patient negatively affects the individual and, by means of a person's inherent connection to the community, such negative aspects may ripple into the community the person forms part of. These negative effects often include decreased participation in community activities and roles within the community, as well as undervalued relationships (Whiteneck, Tate & Charlifue 1999: 1485). It is also noted by Whiteneck, Meade, Dijkers, Tate, Bushnik & Forchheimer (2004: 1794) that decreased community participation has a negative influence on overall life satisfaction and quality of life. People with SCI are often excluded from choices regarding participation in certain occupations, based on socio-dominant stereotypical ideas of what a person with a disability is capable of doing and what not, resulting in occupational deprivation and alienation. Moreover, the notion of interconnectedness of a person's inability to exert occupational choices due to occupational restrictions (Galvaan 2005: 435), relate strongly with the African ethic of Ubuntu; such a notion is poorly captured in main-stream occupational therapy literature. Galvaan (2005: 435) continues, explaining that the occupational challenges require a level or skill in order for the person to experience mastery. Furthermore, she confirms that the mastery leads to occupational engagement.

Within the rural context of the Eastern Cape, examples of environmental and contextual barriers experienced by people with SCI include transport, access to private and public buildings and the labour sector (Maart, Eide, Jelsma, Loeb & Ka Toni 2007: 362-364). These barriers inhibit the patients' ability to successfully participate within his/her community in multiple ways (Maclachlan 2012: 19-22). The negative influence of limited intervention in the community reintegration of persons with a SCI as well as other barriers experienced is evident from the above-mentioned research. Within Port Elizabeth, and specifically the so-called Northern Areas, the researcher observed that people with SCI have difficulty with transport, due to the low-cost wheelchairs being issued. These wheelchairs are often purchased second hand from other wheelchair users and consequently bulky, and cannot be loaded into public transport vehicles due to space available, or without the person incurring additional costs. Figure 2.5 illustrates wheelchairs that are similar to the wheelchairs used by the participants.

Figure 2.5 Examples of wheelchairs used by participants (CE Mobility 2015)

Furthermore, the low socio-economic environment in which the participants find themselves may lead to adaptations and accessibility not receiving priority within

an environment where survival in terms of basic needs such as food is main concern (cf. 2.3).

2.6 Measurement of community reintegration

In the researcher's experience, the measurement of community reintegration does not form part of occupational therapists' regular assessment protocol. It could again be argued that focus on the bio-medical model in rehabilitation leaves little opportunity for the evaluation of community reintegration. However, based on the aforementioned importance of community reintegration, the evaluation thereof appears equally important.

The success of a person's community reintegration can be measured using, amongst others, The Community Integration Questionnaire (CIQ). The CIQ was developed by Dr. Barry Willer (1994), along with other professionals, as a tool to determine the level of community integration experienced by people with traumatic brain injuries (TBI). Dr Willer is a Professsor in the Department of Psychiatry in the School of Medicine and Biomedical Sciences at the State University of New York at Buffalo (SUNYAB). He is also an Adjunct Professor in the Department of Rehabilitation Sciences at SUNYAB. Although developed by health care professionals, it does not cover the holistic approach within occupational therapy.

CIQ's reliability as an assessment tool has been widely researched in America (Willer Rosenthal, Kreutzer, Gordon & Rempel 1993; Sander, Seel, Kreutzer, Hall, High & Rosenthal 1997). It consists of 15 questions. These questions are categorised into home integration, social integration and productivity. However, this questionnaire only measures the level of community integration and does not provide a description of *how* persons obtained such integration; in other words, it does not describe which activities they relied upon in order to integrate into their communities. In addition, the roles depicted under home integration and social integration suggest being gender-specific to females only. The

researcher could not find any peer reviewed publications using the CIQ in South Africa on wheelchair basketball players.

Other questionnaires such as the Healthy Lifestyle Questionnaire only investigate the last four weeks prior to completing the questionnaire, while the Reintegration to Normal Living Index showed poor reliability when completed by patients (Trombly *et al* 1998).

Based on the above, the researcher is of the opinion that the questionnaires mentioned above will not provide sufficient descriptions of the community reintegration in relation to their participation in wheelchair basketball of the research participants; and will particularly lack in detail for research with an occupational focus. Furthermore, the quantitative measures as described above lack the contextual, descriptive nature needed to convey the in-depth account of how and why the participants in this study experience community reintegration. It will allow the researcher to portray the specific lived- experiences of the participants.

2.7 Sport as an occupation for successful community reintegration

Hanson, Nabavi and Yuen (2001: 332) discuss the musculoskeletal gain of participation in sport and the importance of involvement from the occupational therapist when selecting goals focussed on returning function and satisfaction in patients' lives. Furthermore, they point towards the uncertainty of the influence of participation in sport on the level of community reintegration of participants. This researcher is of the opinion that this highlights the need for further research related to community reintegration, as the improvements noted by abovementioned study relate to physical independence, social integration, mobility and occupation, all which are associated with community reintegration (Hanson, Nabavi & Yuen 2001: 332).

McVeigh, Hitzig & Craven (2009: 115-124) later compare the community reintegration of patients with a SCI, evaluating the difference between sports participants and non-sports participants. They find that sports participants achieve better community reintegration than non-participants. It may be argued that the sense of social belonging via support experienced from other participants, as well as the experience of attaining an achievable challenge, are contributing occupational scientific factors to successful community reintegration (Pierce 2009: 203-205). This is also supported by Hammell (2014: 42) as the interdependence and mutual obligation towards each other is highlighted. Further research reflects the positive influence of participation in sport on quality of life, health, quality of social life and quality of family life (Zabriskie, Lundberg & Groff 2005: 176). The latter evidence echoes research done by McVeigh, Hitzig & Craven (2009), supporting the positive influence of participation of sport as occupation on community reintegration. This evidence supports the notion that community reintegration is positively influenced by participation in meaningful occupations such as, in this case, sport.

2.8 Wheelchair basketball as a sport for people with a SCI in South Africa

Wheelchair basketball is a popular sport amongst many who have mobility impairments and is played on social and professional levels (Melissa Koetje, personal communication, August 2014). It is easily accessible, low-cost and appropriate for a various levels of ability. The structure of wheelchair basketball teams is based on the International Classification Manual of wheelchair basketball (2010). According to The International Classification Manual of wheelchair basketball (2010), a classification between 1.0 (being the player with the least physical function) through to 4.5 (being the player with the most physical function) is assigned to each player. This classification is the players' 'playing points' and the five players on court must not exceed a total of 14 playing points (at any given time). Playing with a lower number of total playing points is permitted. This allows for individuals of varied physical abilities (and

therefore different levels of SCI) to participate in wheelchair basketball on an equal playing field.

Research pertaining to the occupational engagement of professional wheelchair basketball players shows that occupational engagement contributes to their individual development, skills development and achievement of meaningful goals (Hull, Garci & Mandich 2005: 174).

Wheelchair basketball in South Africa has grown on a professional level, and in 2014 the National men's team was ranked 12th in the world (Belen 2014). The latter author further mentions that, since the 2012 London Paralympics, there has been a decline in the number of players. It is hoped that numbers will increase as the Rio Paralympics approaches in 2016.

The researcher approached individuals who are closely involved with wheelchair basketball on a national level to gain more insight into the background of wheelchair basketball, as well as, the current context in South Africa. Claudia Lepera (Personal communication, September 2014) has been involved since September 2007, and is currently the Physiotherapists and Medical team leader for the South African men's team (Lepera 2014). Melissa Koetje (Personal communication, August 2014) is currently the team manager for the National team (since 2012) and has been involved since 2008. She has access to wheelchair basketball players that enter the sport from community level (Koetje 2014). Despite being involved on a professional level, they receive many referrals from social clubs regarding players who show potential.

According to Koetje (2014), wheelchair basketball in South Africa has shown an increase in new, young participants. She indicates that the total number of players has not increased, however, as there are many who retire from the game due to old age. Lepera (2014) affirms that there is not a noticeable increase in the total number of participants. Both Koetje (2014) and Lepera (2014) confirm that the majority of players that they have been involved in on a

National team level are from a lower socio-economic environment, and many rely on sponsorships to move up to a more professional level. Koetje (2014) confirms that there is a great need for community reintegration for people who are wheelchair bound, especially within the rural areas. She further states that social exclusion due to disability is a daily encounter for many wheelchair users, and that she believes that activities should be used to assist wheelchair users to integrate better into the community. She adds that wheelchair basketball is quite easily accessible for people with SCI in her geographic setting of Gauteng.

Within the rural context of the Eastern Cape, occupational and physiotherapists aim to use methods that are "acceptable, affordable, effective and appropriate" for patients with SCI. Wheelchair basketball is used as part of the Rural Ability Programme (RAP) in Zithulele. It forms part of their community based rehabilitation program that aims to increase the participants' capacity in rural communities. (Rural Ability Program 2013)

In Port Elizabeth, the area where the researcher of the current study is located, wheelchair basketball is played on professional and social levels. Teams associated with the Nelson Mandela Metropolitan University (NMMU) often compete against other universities, while teams formed in residential areas mainly play against each other. The majority of teams are from middle to low socio-economic residential areas. These residential areas include the Northern areas, Motherwell and Londt Park.

During the researcher's employment in the Public Health Sector in 2011 and 2012 within the acute hospital setting, she assisted patients with spinal cord injuries from the Northern areas suburbs in Port Elizabeth to start a wheelchair basketball team in their area, by offering guidance with regard to management. The management included training logistics (venue and equipment), financial management (fundraising and budgeting) and administrative duties (selecting a committee, delegating responsibilities and organising games and events). The team members ranged between 26 and 57 years of age. The language used

would contain a mixture of English and Afrikaans, as well as slang. The team members all receive Government disability grants as the main source of income within their household, and experience employment difficulties due to the impact of their impairments on the specific set of work-skills they hold. The concept of wheelchair basketball was introduced to the participants through games broadcast on television. Since September 2012, the researcher has not been involved with the members of the wheelchair basketball team. Prior to the execution of the study, discussions with the therapists working with patients within the Northern areas indicated that the wheelchair basketball team has shown a decrease in game participation.

From the researcher's experience, the community reintegration of the players from the Northern areas presents with a mixed picture as it relates to their participation in work, leisure and social activities. As an example, the players have integrated well socially in terms of other wheelchair users who reside within close proximity. However, their ability to seek and find employment is complicated by factors such as accessibility, experience and the need for assistance (such as during meal times and toileting).

2.9 Occupational therapy and community reintegration

Occupational therapists are equipped with the skills to address the necessary aspects within community reintegration, in order to assist persons with a SCI in maximising their participation in their appropriate roles relation to activities of daily living, work, leisure and social participation. This is evident from the previous discussion of the role of the occupational therapist and further supported by various occupational therapy frameworks (such as the OTPF) and models (such as the MOHO) formerly mentioned (cf. 2.2). By facilitating the creation of structures such as a wheelchair basketball team within the community as part of an existing rehabilitation program, the occupational therapist could enable access to activities that will positively influence the patients' physical, emotional and social well-being, despite having limited

financial resources (cf. 2.8). By improving their participation in appropriate roles as a performance pattern, the therapist may improve the patients' functioning in areas such as activities of daily living, work, social and recreation, while evading occupational deprivation and enhancing occupational justice.

Findings from this study will be used to describe the community reintegration of people with a SCI who form part of the Northern Areas wheelchair basketball team, which can inform occupational therapists with regards to the necessity of additional input into the community reintegration of people with SCI. This would ultimately enhance quality of life and well-being among people with SCI. Therefore, it can be concluded that research is needed to describe the community reintegration of wheelchair basketball participants with a SCI.

2.10 Conclusion

In this chapter the researcher sought to provide a basic conceptual background to the study. It involved dividing the literature into sections as divided by the research question, including discussions of occupational therapy and occupation, occupational science, spinal cord injuries and occupational therapy rehabilitation, community reintegration, measurement of community reintegration, sport as occupation, wheelchair basketball as a sport for people with a spinal cord injury in South Africa and occupational therapy and community reintegration. Furthermore, the therapist scrutinised existing research and highlighted discrepancies and correlations within current publicised research.

The main arguments highlighted within this chapter, include: sports participants achieve better community reintegration, occupational engagement contributes to achievement of meaningful goals, sport offers musculoskeletal gain and the positive influence of sport participation on quality of life, health, social and family life.

The use of occupation to address a variety of difficulties experienced by patients forms the main role of the occupational therapist. The role of the occupational therapist extends to addressing occupational deprivation and ensuring occupational engagement has been discussed. Furthermore, the interrelation between occupational engagement and mastering of skills was mentioned.

A definite need for further investigation into community reintegration and the occupational therapy intervention thereof is needed, especially within the South African context. Poverty, lack of time and resources appear to be the main contributors to decreased community reintegration. In addition, assessment tools available for community reintegration are limited to questionnaires, with limited application within the occupational therapy field.

Repeatedly, sport has proved to be a major contributor to the improvement of physical skills, as well as community reintegration. Within the South African context, limited studies discussed the influence of wheelchair basketball as aforementioned skills. The studies that have been publicised focus on professional wheelchair basketball players, and ignore those who play on a social level. The popularity of wheelchair basketball has grown in South Africa, and is easily accessible to those in low socio-economic environments.

The role of the occupational therapist in addressing the community reintegration is crucial, as experts in the field of occupation. Taking the patients' needs into account, the therapist is able to set client-centred goals in order to equip the patient with the necessary skills to resume role and activities such as activities of daily living, work, leisure and social participation.

The main conclusion that can be drawn from the literature investigated in this chapter is that although the main concepts have been previously discussed in research, very few studies encompass all the concepts as described in this study. The following chapter (Chapter 3- Research methodology) discusses the research methodology used in order to answer the research question.

Chapter 3: Research methodology

3.1 Introduction

In Chapter 2, the literature review highlighted the importance of community reintegration, as well as, the need for further research into wheelchair basketball and community reintegration for people with spinal cord injury (SCI).

As seen in Chapter 1, the research problem was explained as the difficulty experienced by occupational therapists when having to address community reintegration, specifically relating to people with SCI. In Chapter 3, the researcher will describe the research framework for answering the research question in this study. This will include the research methods and processes, as well as data collection, analysis and interpretation. This is followed by measures taken to ensure ethical conduct throughout the study. The research population and sample will also be discussed. The context of the participants will be discussed fully in Chapter 4 (cf. 4.1)

3.2. Method of Inquiry

3.2.1 Research design

Burns and Grove (2005: 211) describe a research design as the strategy for the research. It is associated with the framework of the study, and serves as a guide for planning and execution of the study. A qualitative, explorative and contextual research study has been done. Although the study focuses on gaining perspectives on participants' lived experiences when integrating wheelchair basketball into their return to the community, the study has not made use of a phenomenological study design *per se* based on the comprehensive methodological considerations which may exceed the requirements for a master's

study. Botma, Greef, Mulaudzi & Wright (2010: 17) reason that certain qualitative research studies are best suited to being only descriptive in nature, as it is a specific, detailed description of a specific event or occurrence. In addition, Tomlin & Borgetto (2011: 191) argue the value of thorough and adequate descriptive data which makes use of methodological rigour in providing a better description of that which is being studied. They continue, mentioning that occupational therapists are confronted with a need for research to improve their ability to make choices regarding outcomes for their patients. These outcomes need to be aligned with the occupations which the patients choose to participate in (Tomlin & Borgetto 2011: 189). Furthermore, the focus of evidence based research leaves little room for qualitative research, further highlighting the necessity of research that is more closely aligned with the needs of the profession, in this instance, occupational therapy (Tomlin & Borgetto 2011: 190).

3.2.1.1 Qualitative research

According to Nayar & Stanley (2014: 2), qualitative research is a research method that has been used within the fields of occupational therapy and occupational science. Above-mentioned authors continue, describing qualitative research as the process that uses not indicative of normal values. It identifies certain qualities of an observed phenomenon and explains possible links between phenomena and the meaning people associate with it. It strives to describe a phenomena based on the perspective of the person who has experienced it (Nayar & Stanley 2014: 2). Information is collected without any formal structured instruments (Brink 2010: 11). A qualitative research approach enables the researcher to explore towards a better understanding of the participants' community reintegration, as well as, their perception of how wheelchair basketball has influenced their community reintegration.

3.2.1.2 Explorative design

The aim of this study is to explore and describe how the participants' participation and experience of wheelchair basketball influence their community reintegration. The researcher has found limited publicised literature on the description of participation in wheelchair basketball and the enablement of community

reintegration of people with SCI through this sport; especially in South Africa. The Research Pyramid, as derived from Tomlin & Borgetto (2011: 189) expresses the need for better ordered evidence based practice, in agreement with the epistemology of the profession of occupational therapy. An explorative approach to the research question as assisted the researcher in investigating how people with a SCI participate in wheelchair basketball, and how community reintegration takes place.

3.2.1.3 Contextual design

The particular context in which the research takes place has determined the position that the researcher has taken when viewing the problem (Brink 2010: 64). This includes the social and environmental setting where the research has taken place (Burns & Grove 2005: 170). By utilising the contextual view of the research, the research was aimed to discover the influence that participation in wheelchair basketball has on the community reintegration of people with a SCI in a low socio-economic environment within the specific context of the people who are participating in the study (Creswell 2009: 9). Noting this, due to the contextual nature of this study, it is valid within the specific context in which the research is performed without making claims to universality of findings (Botma *et al* 2010: 289). The specific context in which this research took place is fully discussed under the population section in the dissertation (cf. 3.3.1).

3.2.2. Study population and sampling

A population, as described by Brink (2010: 123), is an entire group of persons or objects that is of interest to the researcher, in other words, that meets the criteria that the researcher is interested in studying. The community reintegration of wheelchair basketball participants constitutes the unit of analysis of this study. In order to align itself with the unit of analysis, the study population for the purpose of the study is described below.

For the purposes of this study, the researcher has focussed on wheelchair basketball players who play on a social level, residing in a low socio-economic area namely the Northern Areas in the Nelson Mandela Metropolitan, Eastern Cape, South Africa. The participants from the Northern areas are predominantly Afrikaans and English speaking coloured males between the ages of 26 and 57 years. Until 2013, approximately 15 members formed part of the Northern Areas wheelchair basketball team. Currently, the team has not been actively practising or participating in games. This is due to:

- financial difficulties (financial constraints that pertain to transport to games played at opponents home ground, as well as inability to acquire necessary training equipment such as balls and hoops).
- members moving to other residential areas, which make it difficult to attend practice sessions.

Retrospectively, this has been the situation for approximately 12 months prior to when the interviews with players were conducted.

3.2.2.1. Inclusion and exclusion criteria

For the purpose of this study, the researcher made use of purposive sampling (Brink 2006: 133; Strydom & Delport 2011 in De Vos, Strydom, Fouche, & Delport 2011: 392) and focussed on participants who fell within the inclusion criteria. The inclusion criteria comprises of the following:

- All members who were part of the Northern Areas wheelchair basketball team who have a SCI (The level of the SCI has not been taken into consideration, as the classification used to calculate the level of ability of players in a wheelchair basketball team already classifies whether the participants could participate in wheelchair basketball or not.).
- Are over the age of 18, as it may be argued that the various aspects of community reintegration differ when considering the occupations of a child compared to the occupations of an adult.

An exclusion criterion was not relevant for the purpose of this study, and participants who did not fall within the inclusion criteria are automatically excluded. No limitation was placed on the maximum amount of time after

discharge from hospital, as the enablement of occupational participation is not time-bound.

3.2.2.2. Process of sampling

Sampling of the unit of analysis refers to the process of selecting a group of participants, behaviour, events, or other elements with which to perform the study (Burns & Grove 2005: 341). It also involves selecting the participants for the research. Brink (2010: 13) describes purposeful sampling as a theoretical sampling, and it involves choosing participants who represent the population relative to the study. The researcher has based the unit of analysis on these definitions, specifically in order to answer the research question (Maree & Pietersen 2009: 178).

After consent to conduct the research study was obtained from the Ethics Committee of the Faculty of Health Sciences (ECUFS nr. 95/2015) the researcher telephonically contacted the team captain of the Northern Areas Wheelchair Basketball Team. During this conversation, the purpose of the study was explained to the captain (see Appendix A & B). The researcher requested to schedule a meeting with the players of the Northern Areas Wheelchair Basketball Team during a time that was acceptable to them. The captain agreed to contact the members of the teams to discuss an appropriate time. During the meeting with the wheelchair basketball players, only six members of the team attended. The members who attended mentioned that others did not attend due to transport difficulties, or unexpected circumstances. The researcher explained the purpose of the research, as well as all information set out in the information letter and the consent form (see Appendix C & D). The information letter, accompanied by a consent form, was given to all prospective participants of the Northern Areas Wheelchair Basketball Team in order to determine whether they were willing to participate in the study. The prospective participants took the forms home to consider participation, and agreed that the researcher could follow up in one week's time.

Following the meeting with the members of the Northern areas wheelchair basketball team, the researcher contacted the members of the team who were unable to attend in order to determine whether they would consider participating in the study. Three additional members indicated that they were interested in participating in the study. However, one member suffers from a bilateral amputation and not a SCI, and was therefore not included. Despite no exclusion criteria present in this study, above-mentioned member of the wheelchair basketball team was excluded from participation in the study due to falling outside the parameters of the inclusion criteria due to non-compliance with inclusion criteria one. Eight members in total agreed to participate in the study (cf. 4.1).

3.2.3 Exploratory study

To establish a sense of the viability of this study, and particularly the research method, the researcher conducted an exploratory study on two (n=2) participants from the unit of analysis that was used. The persons included in the exploratory study were selected from the described population and were identified by the researcher at random. The purpose was to determine the practicality of the study and to unearth possible errors in the data collection and participants' consent forms (Burns & Grove 2005: 42). The exploratory study also provided the researcher with a clearer estimation of how much time (on average) it took the participants to complete the interviews and for her to transcribe and analyse interviews.

The researcher approached the team captains of the Northern Areas Basketball Team to explain the study to them and to make an appointment to explain the study to the potential participants. The meeting with the members of the wheelchair basketball team is discussed in 3.2.2 (Also see Fig. 3.2.4.2: A1 & A2; B3 & B4).

The interviews for the exploratory study were conducted by an independent interviewer, Mr. Kegan Topper [B Psych (counselling- NMMU), MA Psych (counselling- UFH)]. Mr Topper is a researcher at the School of Clinical Care Sciences at the Nelson Mandela Metropolitan University (NMMU) in Port Elizabeth, who is well skilled in conducting interviews for research purposes (Appendix I). This assists in promoting neutrality, based on the researcher's experience and familiarity to the wheelchair basketball team. Furthermore, the use of an experienced and skilled interviewer may yield more rich data as the interviewer would be more knowledgeable in in-depth interviews and the use of appropriate prompts. The independent interviewer was also not an occupational therapist, nor was he familiar with the OTPF, which was later used during *a priori* coding. This ensured that the prompts used were not in any way directed at occupational therapy related areas, or categories of the OTPF.

The researcher was responsible for taking field notes during the interviews and noted the facial expressions and body language of the participants. The researcher received training in field-note taking prior to the exploratory study. This training was done by Mr Kegan Topper, who trained the researcher in what is expected of the field note taker, what should be noted, and also how it should be documented. The researcher wishes to acknowledge field notes may be considered to be influenced by the researcher's personal and professional experiences. Therefore, the researcher also studied the work of Mulhall (2003: 306- 313) who discusses the role of the field note taker during qualitative research in the health care profession. Mulhall (2003: 311) mentions that taking field notes adds to the reflexive validity of the research, by taking the following into consideration: the dialogue of the interview, how the person being interviewed interacts and moves as well as any personal or professional experiences that may influence what the researcher may write down during her role as field note taker. Furthermore, Mulhall (2003: 311) also recommends that field notes be taken as soon as possible after the interview, and was done by the researcher during the interviews.

As depicted in Figure 3.2.4.2 (C6-8; D9 & D10), after obtaining consent, the participants were required to participate in an in-depth interview, conducted by Mr Topper. The value of an in-depth interview lies in the gathering of a better understanding of the participants view and experiences. It adds meaning to their experience, and can be described as an interactional event (Botma *et al* 2010: 207). The interview consisted of two (2) sections. The first section entailed structured questions to collect background and demographic information. Questions determined the actual age of participant, the age at which they were injured, how they were injured, how long they have been injured, how long they have been playing wheelchair basketball and whether they feel that wheelchair basketball has influenced their ability to resume meaningful activities amongst others (see Appendix E & F). The second section of the questionnaire was open-ended (see Appendix G & H). If the participant answered 'yes' to the question of whether they felt the wheelchair has influenced their ability to resume meaningful activities, the main question was asked. The main question that was asked to the participants was:

> *"Tell me how wheelchair basketball influenced / shaped / changed your ability to resume the activities which you found meaningful after discharge from hospital after the SCI?".*

During the process of the main data collection, the interviews were conducted in a place which was conducive to such interviews and circumstances as described in detail under the following section. The interviews were recorded and transcribed. The transcriptions of the exploratory study have further been reviewed and used to determine any errors in communication techniques and type of questions asked. The researcher and interviewer were open to other possible indicators that were used as prompts for interviews with the rest of the participants. This was done in order to assess the efficacy of the interview, and assist in eliminating any problems that may have occurred during the interview and interpretation. No changes were made to the interview after a review of the transcriptions was done by the researcher and study leaders. Therefore the data obtained from the exploratory study was included in the analysis and findings.

3.2.4. Data collection

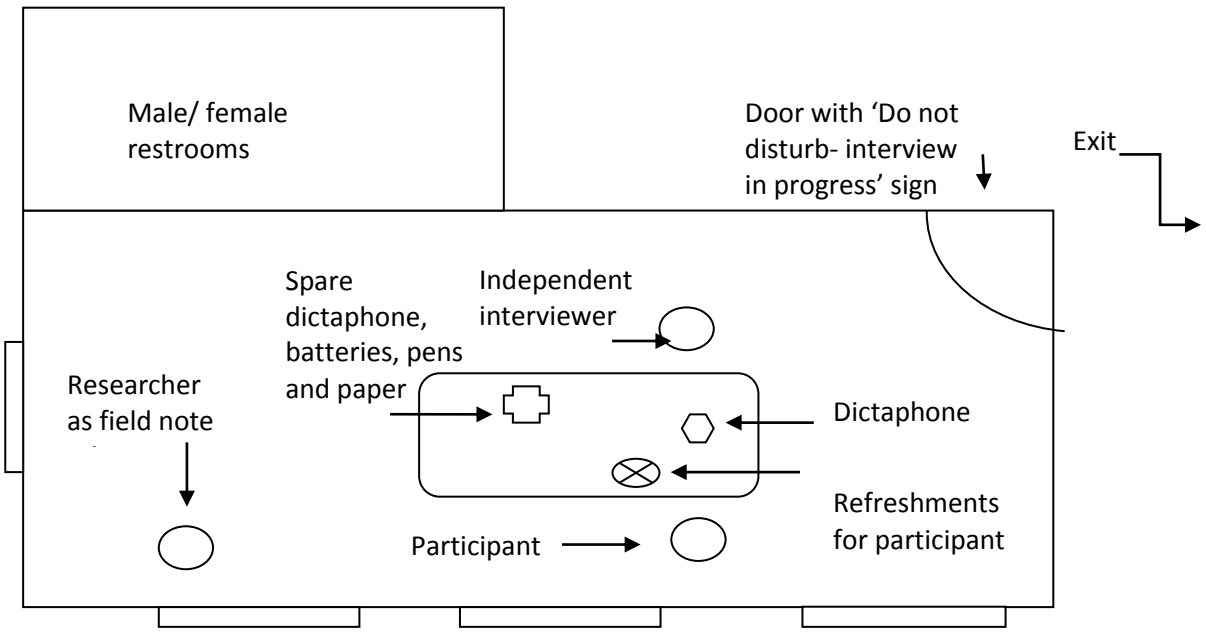
Data collection in qualitative research is, though planned as part of the research methodology, also evolving in nature as the process is often complex and occurs simultaneously with data analysis (Burns & Grove 2005: 539). As mentioned prior, data was collected through individual in-depth interviews.

The participants were interviewed by the independent interviewer and the researcher fulfilled the role of taking field notes. Interviews were conducted at a scheduled appointment time of the participants' convenience at a suitable venue next to the local wheelchair basketball practice court. Prior to conducting the interviews, the researcher considered factors, such as anticipation for an upcoming game, or disappointment due to a game loss, that may influence the trustworthiness of the data (Burns & Grove 2005: 541-542). However, as the participants have been less active during the 12 months prior to the process of data collection, these factors did not influence the trustworthiness of the data. (The researcher was only made aware that the participants have not been actively playing wheelchair basketball during the exploratory study.)

The community centre where the players practiced was used for interviews, as the players are comfortable and familiar with the venue, and it has wheelchair accessible facilities. This building consisted of a large hall, where the players practiced, but also of smaller outbuildings with private rooms. These smaller rooms were used to ensure privacy during completion of the interview. The building was also booked out completely, to further ensure privacy of the participants. The area in which the interviews were conducted comprised of sufficient lighting, with minimal external distractions and sufficient privacy. The researcher decided against the possibility of conducting the interviews at the participants homes, due to factors that could not be anticipated and controlled, such as noise, interference and distractions caused by other people such as family members, children and neighbours, as well as privacy.

The researcher had refreshments available to all participants, as the researcher could not predict when the participants had their last meal. This excluded factors such as hunger and thirst from possibly distracting the participants, assisted in maintaining optimal blood sugar levels that may have influenced fatigue in the participants, as well as possibly appeased the participants. The researcher also ensured that the room was correctly set up, with a table and chairs, pens and paper for note taking by the interviewer and researcher, copies of information and consent forms, spare batteries for the Dictaphone as well as a spare dictaphone and a notice that was placed on the door stating “Please do not disturb, interview in progress”. Figure 3.2.4.1 offers the reader with a diagrammatic view of the setup of the area in which the interviews took place.

Figure 3.2.4.1 Diagrammatic representation of the interview area



The interviews were scheduled in such a way to ensure that participants did not arrive at once, nor waited together in the waiting area. From the exploratory study it was determined that the interviews would take approximately 30- 45 minutes to conclude. Participants were therefore scheduled one hour apart, with

no more than two participants scheduled per day, with interview days scheduled no less than five days apart. This allowed the researcher time to transcribe and analyse the data from the two respective interviews once she arrived home, before continuing with the next interviews. The researcher conducted two interviews per day, in order to assist the logistical management between the independent interviewer, the venue and the researcher. After each 'set' of interviews where concluded, transcribed and analysed, the following interviews were scheduled. The researcher did not schedule all the interviews in advance, as factors such as data saturation and time required for transcription and data analysis could not be predicted. Table 3.4 depicts the time frame and schedule used for conducting the interviews.

Participant	***Date***	***Time***
1. Harry* (exploratory study)	17/ 06/ 2015	09h00
2. Mike* (exploratory study)	17/ 06/ 2015	10h00
3. Justin*	22/ 06/ 2015	08h30
4. Victor*	22/ 06/ 2015	09h30
5. Stanley*	07/ 07/ 2015	13h00
6. Robert*	07/ 07/ 2015	14h00
7. Andrew*	16/ 07/ 2015	14h00
8. John*	16/ 07/ 2015	15h00

Table 3.4 Interview time frame

Once the participants arrived at the venue where the interviews were scheduled to take place, they were welcomed and introduced to the interviewer by the researcher. They were shown where the restrooms were, as well as, presented with a bottled drink and snack.

Although verbally explained during the initial meeting with the wheelchair basketball team members, the researcher once again discussed the information letter with each participant (Appendix C & D), highlighting the general purpose of the study and the role of the independent interviewer as well as the researcher.

The participants were also reminder of the time the interview will take, based on the exploratory study, as well as the use of the dictaphone. The process and role of the interview was explained to the participant, and he was offered the opportunity to ask any questions before commencing (Figure 3.4.2.2: E12).The consent form was also explained to the participant being interviewed, and if consent was given, the interview commenced. The independent interviewer proceeded to complete the background information section with the participant. After this process the background information section and the interview section were completed.

Participants were interviewed by the independent interviewer. All interviews were conducted by the participants in either English or Afrikaans, depending on the language preferred by the participant, and was recorded using a dictaphone. By making use of an open-ended question and prompts, the participants could also be more honest in their answers. An open-ended question further elicit qualitative data that cannot be yielded through quantitative questionnaires (Riiskjaer, Ammentorp & Kofoed 2012: 509).

Each interview consisted of two (2) sections. The first section entailed structured questions to collect background and demographic information (Figure 3.2.4.2: E13). Questions determined the actual age of participant, the age at which they were injured, how they were injured, how long they had been injured, how long they had been playing wheelchair basketball as well as whether they felt wheelchair basketball had influenced their ability to resume meaningful activities (see Appendix E & F). The second section of the questionnaire was open-ended (Figure 3.2.4.2: E14). Should the participant have answered 'yes' to the question of whether they felt wheelchair had influenced their ability to resume meaningful activities, the main question (see Appendix G & H) was asked. This question is:

"Tell me how wheelchair basketball had influenced / shaped / changed your ability to resume the activities which you found meaningful after discharge from hospital after the SCI?".

Prompts that were used were not leading in nature, and were used to gather further information from the participant. Examples of prompts used include “Tell me more”, “I see”, “Can you give me an example?”.

During the interview, the researcher performed the duty of taking field notes, and documented any responses such as facial expressions and body language that indicated positive or negative emotions.

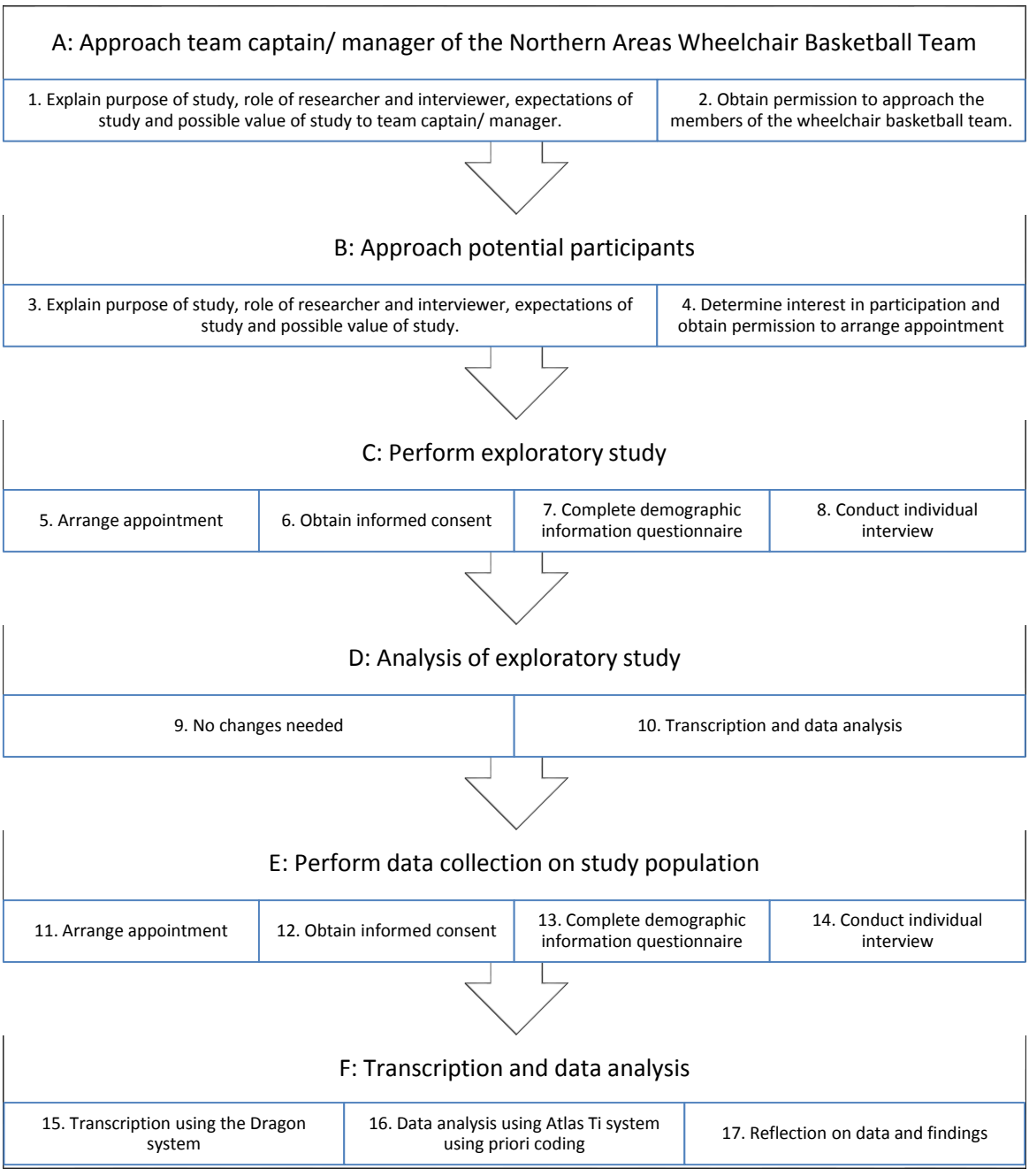
The interview was completed by one participant at a time, and took approximately 30-45 minutes. During the remainder of the interviews, the time taken was consistent with that of the exploratory study. The conclusion of all demographic questionnaires and interviews was determined by data saturation. The duration of transcription and data analysis was performed after each interview.

At the end of every interview, participants were offered the opportunity to identify any negative emotions that were exposed during the interview. None of the participants presented with negative emotions after the conclusion of the interviews. Should any negative emotions have presented after the interview, the services of a psychologist at a local health care institution would have been made available to the participants.

The number of people who were interviewed depended on data saturation. Data saturation referred to when no new information was provided by additional sampling, while, instead, data that was previously collected was repeated (Burns and Grove 2005: 750). The estimated number of participants was between 8 – 15, depending on data saturation. The total of all available participants took part in the study and data saturation was achieved.

Figure 3.2.4.2 has been compiled to guide the reader to a better understanding to the process of data collection.

Figure 3.2.4.2 Process of data collection



In Figure 3.2.4.2, sections A-E have been discussed in the previous sections (cf. 3.2.3; 3.2.4). Section F will be discussed under data management (cf. 3.2.5) and data analysis (cf. 3.2.6).

3.2.5 Data management

Management of data was handled consistently. The recorded interviews were transferred onto a password protected computer directly from the recording device immediately after each interview. Once the researcher checked that the transfer was successful, the original interview was deleted from the voice recorder. The researcher also used an external hard drive to store the interviews on, as to minimise the risk of losing the data by storing it on two devices. The researcher filed the demographic questionnaire, field notes and consent form immediately after the conclusion of the interview and is only identifiable based on the participant number. This was stored in a locked safe (along with the external hard drive) when not used by the researcher. If the interviews were not in English, it was translated into English by a professional translator. There was one (1) interview that contained Afrikaans words/sentences which was then translated by the researcher prior to data analysis, to ensure that, based on the participant's interview and field notes, the meaning remained consistent with the participant's response.

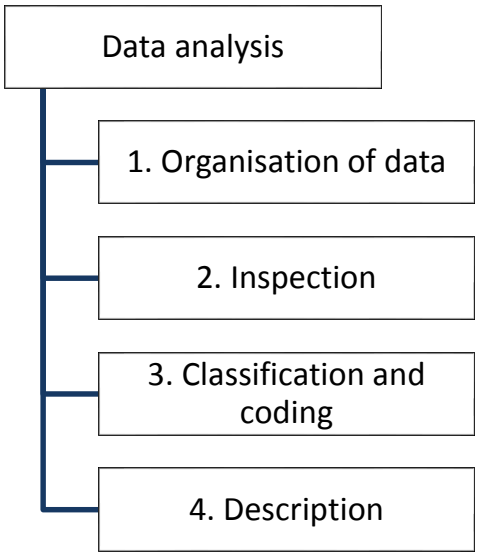
Transcription was done by the researcher as soon as the researcher arrived home after the interviews, and also kept on the password protected computer and external hard drive. Transcriptions were de-identified by removing all names, places or institutions mentioned and substituting it with an alias. Subsequently, once all eight interviews were completed, the de-indentified transcriptions were analysed.

3.2.6Data analysis

Once data had been collected, it was analysed in order to make sense of it and generate meaningful interpretations. The analysis took place as soon as data was collected. According to Brink (2010: 55) data analysis for qualitative research involves integration and creation of narrative data that is converted to themes for coding purposes. Reflection on the meanings and relationships of data is crucial and time consuming and is done concurrently with data collection (Brink 2010: 184).

The four-step data analysis process as described by Creswell (2009: 185-186) explains the process that is needed for an interactive yet linear approach to data analysis. In relation to this study, it can be described as follows:

Figure 3.2.6.1 Data analysis process



Although figure 3.2.6.1 presents the progression of data analysis as a linear process, it involves constant processes which are not linear, such as reflection, interpretation, and questioning. This contributes to a back and forth movement between steps, highlighting the importance of the involvement of the researcher in the interpretive nature of qualitative research (Creswell 2009: 183-184).

1. *Organisation of data*: The interviews were transcribed by the researcher using a computerised system, Dragon (Nuance 2015) allows the user to repeat what was said during the interview. This was then typed by the program directly onto a word-editing program. This process needs to be repeated two to three times in order to ensure accurate and precise recording of the interviews. This supports the second step, inspection.

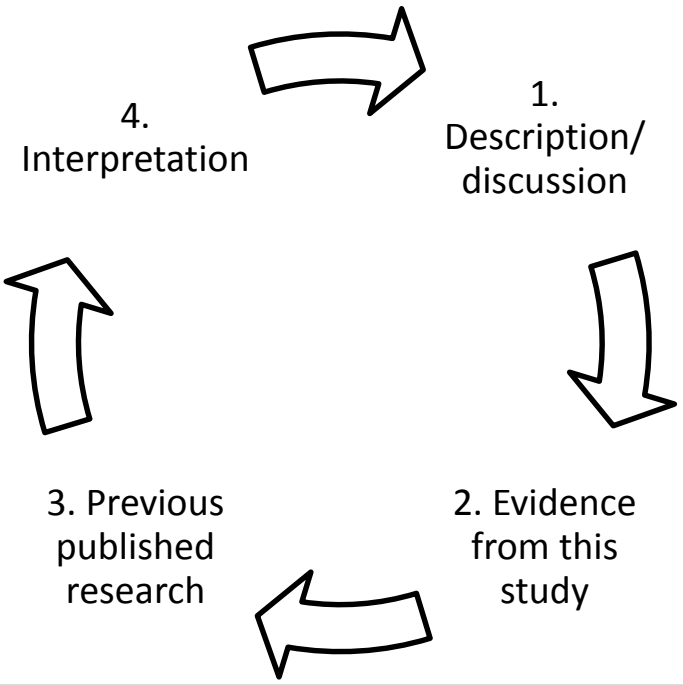
2. *Inspection:* By reading through the transcriptions, the researcher obtained the opportunity to gather a general sense of the information, as well as check for any errors which may have occurred during the transcription.

3. *Classification/ coding*: The transcriptions were coded as soon as possible, by the researcher using a computerised coding system, Atlas TI™ which was managed by the researcher. The researcher made use of deductive and inductive coding. The inductive coding system, Atlas TI™ (Atlas TI™ 2015) is a tool used coding data for qualitative research. The Atlas TI™ system can be used to code audio as well as visual material. The information was individually analysed by the Atlas TI™ system, after which it formed themes based on the information received. It further lends itself to an exploratory approach, as it selected codes and themes which were constantly evaluated and displayed. The use of the Atlas TI™ system further ensured confidentiality, as no person besides the researcher and the researcher's supervisors viewed the transcribed interviews.

4. *Description/ discussion: A-priori* coding was also used as it allowed for optimal reflection in possible meanings and relationships of data. The focus was maintained on the Occupational Therapy Practice Framework (De Trabajo 2014) in order to structure the data in an organised manner using themes that fall within the occupational therapy framework (Stemler 2001:4). Elo, Kääriänen, Kanste, Pölkki, Utrianen & Kyngäs (2014:7) explain the importance of not only describing the results, but also the relationship between the results and original data in order for the reader to make their own conclusions. In this study, the findings are described from four approaches, namely the researcher's view, the evidence/ data, integration of literature and meaningful insight.

In Figure 3.2.6.2 the researcher describes the four approaches used to describe the data. During the first approach, the researcher describes the 'story' as told by the participants. This is followed by the second approach- the 'evidence' in the form of direct quotes from the participants. Thirdly, the researcher uses research to support or contradict the participants view. Lastly, above-mentioned is integrated into a meaningful interpretation of the aforementioned three approaches.

Figure 3.2.6.2 Process of description/ discussion



The researcher also wanted to see how the findings speak to existing theoretical concepts in occupational therapy as the OTPF is widely accepted of being inclusive of all relevant concepts regarding activity performance components and activity performance areas

After the analysis of the data, the researcher reflected back to existing research findings reported in literature, and compared it with current research findings in order to select and focus on specific data that answered the research question. The interpretation of the findings gives meaning to the data. A second literature review was then done based on the themes which emerged from the findings. This will be discussed in Chapter 4.

The researcher was committed to reflexivity throughout the data analysis and interpretation, to ensure the credibility of this study. Reflexivity refers to the process where the researcher explores her own personal feelings and values that may influence the study (Burns & Grove 2005: 538). When studying the work of Elo, Kääriäinen, Kanste, Pölkki, Utriainen & Kyngäs (2014: 1) the importance of the preparation, organization and results reporting phase is clear. Elo *et al* (2014: 2) continue, emphasising the importance of each phase in ensuring the trustworthiness of the study.

3.3 Trustworthiness

Trustworthiness is a collective term used to describe the credibility, dependability, confirmability and transferability of any research (Brink 2010: 118). This is a vital aspect which Botma and other authors (2010: 230) refers to using the term rigour, while Creswell (2009: 190) uses terms such as validity and reliability. The trustworthiness within qualitative research is the term most used to describe the strictness with which the research process was followed. The quality of the trustworthiness is referred to as the credibility of the study. As described by Brink (2010: 118) the four strategies that are required o ensure the quality of qualitative data is credibility, transferability, dependability and confirmability.

3.3.1 Credibility

Credibility refers to the 'trueness' of the findings (Carpenter & Suto 2008: 149). To ensure credibility and therefore the trustworthiness of the study, the researcher made use of the following techniques:

- Using a variety of sources to gather information. In addition to a background and demographic information section in her questionnaire, the researcher used an in-depth interview relating to community reintegration, as well as field notes documenting body language, facial expression and tone of voice.
- Continuously exploring the meanings and bases of participants' responses and interpretation thereof, by reflecting on the participants' responses to

ensure that it is correctly understood and by reading through the questionnaires numerous times. This was done by the independent interviewer throughout the interview, by asking the participants to elaborate and by reflecting their answers back to them. The researcher also read through the interviews two to three times in order to familiarise herself with the content before coding.

- Searching for disconfirming data, which means data that may contradict main stream findings. This was done by continuously searching for previously published research specifically relating to the themes, categories and subcategories as it emerged from the data.
- Constant reviewing of data and interpretation (Brink 2010: 118).

The researcher specifically utilised the following methods to further warrant the credibility of the data:

- Constant reflexivity by the researcher to ensure that the research is believable. This includes reflecting on previously publicised research as well as participants' responses. The researcher further reflected between her field notes and participants responses. Member checking was also performed by the independent interviewer, where participants' answers were reflected back to them during the interview to ensure that it has been understood correctly.
- Using an independent interviewer to promote neutrality, as the participants are known to the researcher.
- The researcher has verified the interviews with her study leaders, to ensure alignment between transcription and coding.
- Data saturation: participants were interviewed until data saturation has been reached. This was obtained after eight interviews were conducted.
- The researcher was held accountable by the study leaders to report any and all biases, ideologies and expectations for the study. This was done via email.
- By making use of an independent interviewer and computerized coding system, the researcher limited the influence such biases could have on data

collection and interpretation, as well as constantly reflection of the biases that she may have. (Creswell 2009: 207-209)

3.3.2 Dependability

Dependability refers to the reliability of data and results. It is achieved by having the process of research constantly reviewed by a peer, in this case the study leader and co-study leader, to determine whether the correct procedures have been followed (Brink 2010: 118). Furthermore, the Atlas TI™ system enhances dependability by ensuring accuracy and constancy. It also allows for in-depth exploration of information obtained from interviews. This is further supported by the independent interviewer, who is experienced in conducting interviews in a consistent manner.

3.3.3 Confirmability

Confirmability refers to the fact that the findings and conclusions are supported by the data, and that there is an association between the researcher's interpretation and the actual evidence (Creswell 2009: 191).

All participants were interviewed by the same independent interviewer to ensure questions were asked in a uniform manner. The researcher ensured that she and the independent interviewer were well rested and energised at the time of the interviews, to limit the influence of fatigue and distractions that may influence their concentration at the time of interview and during transcription and coding. The researcher guarded against allowing previous experiences, values and background influence her interpretation and coding of themes and topics. This was done by using an independent interviewer, by using computerised transcription and coding systems, and by constant reflection to ensure the participants' answers reflected the true representation of their experience.

3.3.4 Transferability

Transferability refers to the application of data collection methods and being able to replicate the findings from one context to a different context or environment (Schurink, Fouche & De Vos 2011: 420). However, Speziale & Carpenter (2007: 50) note that in qualitative research, transferability could lead to generalisation by the person wishing to make the transfer, and not by the researcher.

As previously described (cf. 1.4) the aim of the study is to describe the community reintegration of wheelchair basketball players who suffer from a spinal cord injury. The study is aimed at gathering specific contextual information regarding experiences. Therefore, the transferability of the results was not the main aim of the study. Notwithstanding this, providing rich, thick descriptions of the research context, methodology and findings may enhance the transferability of this qualitative study (Schurink *et al* 2011: 420).

Despite these anticipatory methods, this researcher has been cognisant of the organic, often unpredictable process of qualitative type of research and has included any biases that she became aware of during the insider/outsider process and declares and account those as such in the Chapter 5.

3.4 Ethical aspects

Various ethical implications were considered before the process of data collection commenced. These considerations ensure the protection of the human rights of the participants.

Ethical implications that were considered in this study include:

3.4.1 Participants:

- Informed consent was obtained from all participants (See Appendix C & D). They were informed regarding the research activities, possible emotional discomforts and the opportunity to ask questions. The researcher contacted

the local wheelchair basketball team to determine a suitable time to discuss the information and consent forms and answer all questions that the potential participants may have. Participants were also continuously reminded that they may withdraw at any time.

- The involved parties did not receive any remuneration for their participation in the study. This was explained to the potential participants in the information letter as well as during the initial meeting with them. Participants were reimbursed for transport cost to get to the venue for the interview. The amount reimbursed varied according to the distance travelled, and whether public and private transport was used. The costs varied between R50 and R100 per participant. This cost was covered by the researcher.
- All information obtained within this study has remained confidential, by numbering the consent forms and interviews. No names of participants will be mentioned within the dissertation, in presentations or publications and pseudonyms were used. The researcher has allocated numbers to the consent forms as they were received.
- Although none of the participants experienced negative emotions at the end of the interview, the researcher offered to refer the participants to psychologist should they experience any negative emotions at a later stage. Within the first three months after the interviews, no participants expressed the need to be referred.

3.4.2 Ethical conduct was ensured by:

- A focus on honesty and integrity throughout the duration of the planning and execution of the research, as well as during the process of data collection.
- Respecting a prospective participant's choice to not take part in the study as well as any participants that may withdraw from the study ensured the safety of everyone involved in the study. The researcher continuously reminded participants that they may withdraw at any time without any penalty.
- Informing participants that the results of the study can be made available to them on request. The researcher will contact the wheelchair basketball team

once the results are available, and allow the opportunity to view the results and ask any questions relating to the results.(Burns & Grove 2005: 194)

3.4.3 Actions and competence of researchers

The research proposal was presented to and approved by the following committees prior to conducting the study:

- The Expert Committee of the Department of Occupational Therapy of the University of the Free State.
- The Evaluation Committee of the School of Allied Health Sciences of the University of the Free State.
- The Research Ethics Committee of the Faculty of Health Sciences of the University of the Free State. (Contact number: 051 401 7794/5) (Approval number: ECUFS NR 95/2015)

Furthermore, it is important to note that the researcher discussed this study with various experts in the fields of occupational therapy, wheelchair basketball as well as qualitative research to diminish the risk of making assumptions and incorrect interpretations. However, confidentiality was maintained at all times, by not mentioning any of the participants' details. The researcher reported all information accurately as part of her ethical responsibility (Burns & Grove 2005: 193; Creswell 2009: 92).

3.4.4 Cooperation with contributors

No sponsors were involved in funding the study, ensuring no conflict of interest. The independent interviewer was also regarded as invaluable to ensuring trustworthiness in this study and was reimbursed for his professional time.

3.4.5 Publication of findings

The researcher informed the participants of her intention to publish the findings. The names of the participants have been, and will continue to remain confidential by using pseudonyms.

3.4.6 Other ethical aspects considered in the best interest of the participants and other professional role players:

- The occupational therapists involved in the rehabilitation of the participants were not portrayed in a poor light at any point before, during, or after the study.
- Taking the above-mentioned into account, the researcher remains truthful regarding possible limitations within the rehabilitation programs followed, and how it can be improved to the benefit of the patients.
- The study leaders, independent interviewer and proof-reader were expected to adhere to the same strict ethical guidelines as described previously, and were continuously reminded of such guidelines.
- Furthermore, the researcher considers research as part of her ethical duty as an occupational therapist to ensure continual growth and 'best practice' within the occupational therapy profession. (Creswell 2009: 88)

By more clearly defining the community reintegration of people with SCI, the researcher may contribute to better practices within the occupational therapy rehabilitation of people with SCI.

3.5 Conclusion

In any study, it is important for the researcher to relay the orientation and research process with clarity; perhaps even more so in qualitative research which usually unfolds in its emergent and often complex nature.

The research methodology related to this study has been described in this chapter. A qualitative design with an explorative approach has been followed, with specific contextual considerations. The population from which the research participants were selected consisted of wheelchair basketball players from the Northern Areas Wheelchair Basketball Team who suffered a spinal cord injury. Eight (n=8) in-depth individual interviews using open-ended questions were conducted in order to better understand the community reintegration of people with SCI. Interviews were transcribed and analysed using the Atlas TI™ system, as done by the researcher. Measures to limit errors and promote neutrality have been discussed, and well as strategies to assure quality and rigour of data. Ethical guidelines taken into consideration have also been described. These were taken into account during the planning and process of data collection (executing of the study).

Chapter 4 will present the reader with the research findings, followed by discussion and interpretation of relevant literature.

Chapter 4: Presentation and interpretation of findings

In the previous chapter, the research methodology for this study was discussed. This chapter aims to present the findings that were gathered in order to further explore the research question for this study:

- How does participation in wheelchair basketball influence community reintegration for people with SCI in a low socio-economic environment?

To create a better understanding of the contextual nature of the study, the participants will be introduced to the reader. Thereafter, findings which have been collected by means of individual interviews within the context of relevant literature will be discussed.

4.1 Introduction of participants

The sample selected for this study participated in individual interviews conducted by an independent interviewer, Mr Kegan Topper [B Psych (counselling- Nelson Mandela Metropolitan University (NMMU)), MA Psych (counselling- UFH)]. He is currently working in the research department in the Faculty of Health Sciences at NMMU (Appendix I). During the interviews, participants were asked to describe how wheelchair basketball has influenced, changed, or shaped their ability to participate in meaningful activities since discharge from hospital.

Eight participants agreed to participate in the study. They were all male, between the ages of 26 and 57 years of age, with an average age of 38 years. The average number of years that have passed since their injuries were 15 years, with a minimum of 7 years and a maximum of 28 years. Reverting to the categories of race that

South African census records use, all of the participants are referred to as 'Coloured'.

Seven of the eight participants reported that their home language is Afrikaans, with the remaining participant speaking English predominantly, although the afore-mentioned seven participants reported to be proficient in English as well. The highest level of education reported was Grade 12, and another participant was a qualified 'fitter and turner'. Only two of the participants were employed at the time of data collection; both reported being self-employed in an informal market. The remaining six participants reported being unemployed, and rely only on a Government disability grant. Participants indicated that prior to their injuries, they were employed in various fields. One was a fitter and turner, another a spot welder, while other occupations included being a machine operator working in factories, working in construction and working in the air force.

The participants started playing wheelchair basketball between two to eight years prior to data collection. Four of the participants were introduced to the team by their therapist (physiotherapist/occupational therapist), while the remaining participants were introduced to the team by friends in their community. The participants all mention that the team has experienced decreased activity (relating to practice attendance and playing games) during the last year. The reasons given were mainly financial. Their lack of participation and reasons for it are discussed in the previous chapter (cf. 3.2.2).

The size of the sample in view of a qualitative type of study was sufficient; as data collection proceeded until data saturation was reached. The biographic data of participants is introduced in Table 4.1 below.

Participant	*Age*	*Employment status*	*Occupation*	*Qualification/ work experience*	*Education*	*Marital status*	*Home language*	*Level of injury*	*Years since injury*	*Started playing basketball*	*Introduction to sport*
1	44	Unemployed	N/A	Operator	Grade 10	Single	Afrikaans	T1	19.38	2007	Friend
2	57	Self-employed	Spaza shop	Abatoir	Grade 10	Married	Afrikaans	T3	28.48	2010	Friend
3	37	Unemployed	N/A	Qualified Fitted	Advanced certificate	Married	English	C1	10.48	2011	Friend
4	42	Unemployed	N/A	Operator	Grade 8	Single	Afrikaans	C5/ C6	18.98	2013	Therapist
5	26	Unemployed	N/A	Contract Worker	Grade 7	Single	Afrikaans	T6	10.48	2013	Friend
6	28	Unemployed	N/A	Spot Welder/ Operator	Grade 10	Single	Afrikaans	L1 - 2	7.16	2010	Therapist
7	29	Unemployed	N/A	Construction	Grade 11	Single	Afrikaans	C6 - C7	9.16	2011	Therapist
8	40	Self-employed	Business man	Airforce & Navy	Grade 12	Single	Afrikaans	C3 ; T4	20.55	2011	Therapist

Table 4.1 Biographic information of participants

The above-mentioned biographic information reflects findings similar from research done by Maclachlan (2012: 56) in the Western Cape, South Africa. Her research indicates that a person sustaining a SCI is most likely to be male, between the ages of 20-29 when sustaining the injury, be categorised as Black or Coloured and with an average education of grade eight to ten. Another South African study conducted in Pretoria (Mothabeng, Malinga, Van der Merwe, Qhomane, & Motjotji 2007: 23) has found similar results, with their participants being mostly male and between the age of 19 and 45. During their study in the Gauteng province in South Africa, Hastings, Ntsiea & Olorunju (2015: 3) further concur that SCI predominantly affects males, with a mean age of 40 ($\pm$15.35) years. A study done in Poland has also found

significantly more male individuals who suffer from SCI (Urbanski, Bauerfeind & Pokczajlo 2013: 95). Globally, Lee, Cripps, Fitzharris & Wing (2014: 110) describe the population of people sustaining a SCI in developing countries as primarily males, aged 18-31 years.

4.1.1 Summary of participants

The participants are introduced by means of a short synopsis, where the researcher aims to describe the participants from field notes taken prior, during and after the interviews. In order to ensure the confidentiality of participants, pseudonyms have been used.

Participant 1: *Harry*

Although not the captain of the team, Harry is seen as a leader figure in the team. From the initial contact sessions, he would ask questions and express thoughts that other team members may not have been comfortable expressing. During the interview, his mannerisms were confident yet humble. He portrays great pride when talking about his sport and his team. Harry is single, and the members of the wheelchair basketball team form part of his close circle of friends. His injury was as a result of criminal violence. He was shot multiple times, with one of the bullets injuring his spinal cord.

Participant 2: *Mike*

As the eldest member of in the team, he is the team captain. Although soft-spoken and reserved, he is highly respected by his team mates. He willingly accepts the responsibility given to him by his team mates. He has also been injured for the most number of years, which may further explain the respect from his team mates. He is sensitive to the needs of those around him, and depicts the role of a 'wise, old grandfather' within the team. He acquired his injury shortly after marrying his wife, who is very supportive of his business, as well as, of his participation in wheelchair basketball. His injury was also as a result of a violent assault, as he was stabbed 37 times.

Participant 3: *Justin*

Despite initially seeming uncertain of himself, the participant rapidly grew more excited to share his experience in the wheelchair basketball team. He eagerly shared information about his acquired skills such as driving and swimming, and was clearly passionate about his aviary. He appears to be young at heart and is the only participant with a post Grade 12 qualification, specifically as a fitter and turner. His injury occurred in 2005, when he was assaulted. He is married and met his wife through wheelchair basketball, and together they have a two year old daughter.

Participant 4: *Victor*

This participant has the second highest level of injury; C5/C6. Despite having minimal active movement in his upper limbs, he uses an active, self-propelled wheelchair (CE Mobility Econo-rigid) and propels himself to places within his community. He is very expressive when discussing rights of people with disabilities, and is passionate about community development. The participant was undoubtedly proud when talking about how he descends down flights of stairs in his wheelchair. Victor's injury is as a result of a motor vehicle accident, when the taxi that he was a passenger in rolled.

Participant 5: *Stanley*

Stanley is the youngest participant (26 years old), with the lowest level of education (Gr 7). He showed some nervousness and often looked to the researcher for reassurance. Throughout the interview, the participant switched between Afrikaans and English, seemingly at a loss for words at times. Although he indicated being unemployed, it became evident during the interview that the participant has an informal shop where he trades vegetables. Stanley was stabbed in the back, resulting in his injury of level T6.

Participant 6: *Robert*

This participant has the lowest level of injury (L1/ L2), and has been injured for the shortest period of time (7 years). He visibly enjoyed discussing wheelchair basketball, and the impact his team members has on his life. He thought about

every answer, before giving soft-spoken answers. Robert was shot in 2008. He is unmarried.

Participant 7: *Andrew*

Andrew was comfortable and confident from the beginning of the interview. He was one of the last members to join the group, and has been a member for approximately 18 months. Prior to his injury, he worked in construction. His gestures and body language express excitement when discussing an improvement in his physical abilities, and he has a very humorous nature. Andrew was involved in a motor vehicle accident, which lead to his SCI.

Participant 8: *John*

This participant has been using a wheelchair for 20 years. He has the highest level of injury, although it is an incomplete injury (cf. Concept clarification). He has a very confident posture, and tends to boast about his abilities. He enjoyed participating in the interview. It could be expected that this participant would be more resilient and show less emotion, due to his tough military background and work environment as a 'supplier'. Despite this, the participant showed significant emotion and became slightly tearful when mentioning that he is unable to continue to play, due to moving to a neighbouring town. John was shot during a hi-jacking incident resulting in a SCI.

4.1.2 Discussion of unit of analysis

The researcher selected participants who formed part of the inclusion criteria, namely forming part of the Northern Areas wheelchair basketball team and having a SCI. The researcher made use of purposeful sampling by strictly following the selection criterion, resulting in eight individual interviews being conducted. It can be said that the eight participants represent the wheelchair basketball of the Northern Areas. Only one member of the team was not included, as his injury was that of a bilateral above-knee amputation.

The interviews yielded comparable responses to that which the researcher experienced when working with the wheelchair basketball team. This includes development of their abilities and interactions with other team members, as well as members of the community, their involvement with educating in-hospital patients who have recently sustained SCI as well as assisting young adults within the community to engage in healthy recreation activities such as dancing (cf. Preface: b).

4.2 Presentation of findings

The findings of the individual interviews are presented and discussed in the following paragraphs. Verbatim quotes are used to create an enriched description of data (Creswell 2009: 191). This allows the reader to experience a better narrative of the participants' experiences. By comparing findings with that of previous research, be it contradictory or supportive of current findings, theoretical triangulation supplements the interpretive nature of the discussion within this research (Creswell 2009: 189) (cf. 3.2.6).

In order to orientate the reader with regard to the outline of the findings, the reader is offered a presentation of the themes, categories and codes in accordance with the Occupational Therapy Practice Framework (OTPF). The Occupational Therapy Practice Framework (OTPF) is an overarching theoretical framework in occupational therapy that highlights the relation between occupation, engagement in occupation, and health and wellbeing (De Trabajo 2014: 3). This framework incorporates the aspects of occupational therapy's domain. These aspects are (with relevant examples in brackets):

a) occupations (activities of daily living, leisure, social participation)

b) client factors (values, beliefs and spirituality, body structures)

c) performance skills (motor skills, social skills)

d) performance patterns (habits, roles)

e) contexts and environments (cultural, social) (De Trabajo 2014: S4)

In addition, the OTPF describes five approaches to intervention, namely:

i) health promotion

ii) rehabilitation and restoration

iii) maintenance

iv) compensation and adaptation

v) prevention (De Trabajo 2014: 33)

As an occupational therapist working with patients with SCI's, all of the above-mentioned approaches are relevant and should be implemented during various stages of therapeutic intervention. In view of the end result of occupational therapy intervention, the OTPF illustrates how the improvement and enhancement of occupational performance can increase the individuals' participation in community activities. Furthermore, it explains how access to and participation in meaningful occupations (such as social inclusion and occupations influencing health, personal and social needs) can influence and facilitate occupational justice (De Trabajo 2014: 35). This is further supported by Townsend & Wilcock (2004: 78), who add that occupational justice enables people to thrive, reaching their greatest potential as individuals or within their community. Based on the above-mentioned, the researcher considered the OTPF to be a suitable framework to use as a data organising system. It allows for a descriptive backdrop to the various aspects within occupational therapy as well as relating those to community integration.

Table 4.2 offers the reader with an overview of the main domains of the OTPF. (Numbering in Table 4.2 is congruent with numbering of discussions regarding the domains the follow below the table.)

4.3 Occupations	***4.4 Client factors***	***4.5 Performance skills***	***4.6 Performance patterns***	***4.7 Context and environment***
ADL's	Values, beliefs and spirituality	Motor skills	Habits	Cultural
IADL's	Body functions	Process skills	Routines	Personal
Rest and sleep	Body structures	Social interaction skills	Rituals	Physical
Education			Roles	Social
Work				Temporal
Play				Virtual
Leisure				
Social participation				

Table 4.2 Main domains of the OTPF

4.3 Occupation

Occupation refers to meaningful, purposeful activities that an individual chooses to engage in to occupy time and meaning (De Trabajo 2014: S5) (cf. 2.1). The importance of the meaningfulness of the activities is explored by Reed, Hocking & Smythe (2010: 140). Reed, Hocking & Smythe (2010: 141) further explore the contribution of meaningful occupation to the identity of the person. This is supported by Wilcock (2014: 4) who discusses that occupation should not be limited to work, leisure, play and sleep in order to include all occupations that a person may find meaningful. The theme of occupation will be discussed according to the categories and subcategories as seen in Table 4.3 below, based on categories as described by the OTPF, as well as subcategories that emerged from data.

Theme	***Categories***	***Subcategories***
4.3 Occupation	4.3.1 ADL's	4.3.1.1 Self care (dressing, washing, eating)
		4.3.1.2 Functional mobility
	4.3.2 IADL's	4.3.2.1 Care of pets
		4.3.2.2 Child rearing
		4.3.2.3 Driving and community mobility
		4.3.2.4 Financial management
		4.3.2.5 Health management and maintenance
		4.3.2.6 Religious and spiritual activities and expression
	4.3.3 Rest and sleep	
	4.3.4 Education	
	4.3.5 Work	4.3.5.1 Employment interests and pursuits
		4.3.5.2 Employment seeking and acquisitions
		4.3.5.3 Job performance
	4.3.6 Leisure	4.3.6.1 Leisure exploration
		4.3.6.2 Leisure participation
	4.3.7 Social participation	4.3.7.1 Community
		4.3.7.2 Family
		4.3.7.3 Peer, friend

Table 4.3 Categories and subcategories of occupation emerging from the data collection, as described by the OTPF

4.3.1 ADL's

The phrase "Activities of daily living" refers to activities that are orientated towards taking care of ones' self (De Trabajo 2014: S19). Slater & Meade (2004: 9) state that sport appears to be advantageous in increasing self-efficacy in activities of daily living. In her experience as an occupational therapist, the researcher has found the ability to perform activities of daily living to be the most valued amongst patients who were previously unable to perform such tasks. During the individual interviews, a great deal of information was acquired when participants discussed their participation in activities of daily living. The subcategories that arose from the interviews include self-care and functional mobility.

4.3.1.1 Self care

In relation to asking the question during the interview, self-care refers to bathing/showering, dressing, feeding as well as toileting and toilet hygiene. Participants in this study mentioned an improved independence with regards to dressing, washing and feeding themselves. They compared their improvement in self-care activities in relation to their self-care activities prior to their participation in wheelchair basketball. Previously self-care activities would be done for the participant by a family member. However, as some participants reported, wheelchair basketball helped them change this dependence. One participant also mentioned that the speed at which he performs these activities has increased.

Harry: "It made it much easier to do things for myself."

Harry: "I'm not wait(ing) for someone to help me."

Mike: "The sport gave me the courage to help myself and to become more independent. This is what it did in my life."

Victor: "I can wash myself, I can go to the toilet."

Andrew: "But now I can do everything my way, because I don't need you anymore, because I just get up and do it myself."

Despite ADL's being a main category within the data collected in this study, it is interesting to note that in studies discussing community reintegration and SCI, as done by Donnelly & Eng (2005), Carpenter and other authors (2007) and Sekaran and other authors (2010), do not mention ADL's as a predominant category within their studies, despite working in rehabilitation environments. Slater & Meade (2004: 9) state that sport appears to be advantageous in increasing self-efficacy in activities of daily living.

The researcher is of the opinion that self-care may not have received as much discussion in the previously mentioned studies by Slater & Meade (2004), Donnelly & Eng (2005), Carpenter and other authors (2007) and Sekaran, Vijayakumari, Hariharan, Zachariah, Joseph & Kumar (2010) due multiple possible reasons. These may include:

- The main focus of the studies being reintegration into the community and not as much on the fundamental activities needed to return to these community (e.g. getting dressed and having a meal before participating in other activities) and
- Not many studies being done by occupational therapists regarding community reintegration and the various components it may comprise of.

The operational definition of community reintegration within the occupational therapy framework leads the researcher to question the justification for not including ADL's in research pertaining to community reintegration. As occupational 'experts', occupational therapists may be more inclined to approach the subject of ADL's, when compared to other members of a multidisciplinary team including doctors, physiotherapists and psychologists. From the participants' interviews, the positive effect that participation in wheelchair basketball has had on their ability to successfully participate in ADL's is evident. As evidenced by the following assertion of Mike:

Mike: "The sport gave me the courage to help myself and to become more independent. This is what it did in my life."

The researcher asserts that mastering basic self-care activities is key in obtaining mastery in other occupational performance areas that lead to community reintegration.

4.3.1.2 Functional mobility

Functional mobility refers to the ability to move from one position or space to another. This may include transferring from the wheelchair to the bed, toilet or shower as well as movement from one area of the house to another (De Trabajo 2014: S19). Participants relay a message of greater mobility since participation in wheelchair basketball. Many participants mention improved independence when transferring from the wheelchair to the bed, moving around inside the house, as well as transporting themselves (by pushing themselves in the wheelchair) to visit a local shop or for social gatherings.

Mike: "In the wheelchair, I move around in the house."

Justin: "I didn't at first get out of bed by myself, I can do even that now. My transfers are getting better because before that I've always wanted that help. But now I get to be well and to be more independent."

Robert: "It was difficult to get into that chair."

Andrew: "I get up, go to the bathroom to get into the shower. At first I didn't do that."

Again, functional mobility is not discussed in afore-mentioned research by Sekaran and other authors (2010) or Donnely & Eng (2005). Carpenter and other authors

(2007: 429) lists one of five themes associated with limited participation in activities as difficulty in transferring out of a wheelchair.

It can be argued that the ability to perform functional mobility tasks runs parallel with that of ADL's. Acquiring the skills necessary to wash oneself is futile if you are unable to move to the bathroom to do so. Being able to push oneself to the toilet, but being unable to transfer to the toilet proves also to be ineffectual. The skills that the participants have acquired through participation in wheelchair basketball have offered them opportunities to participate in above-mentioned activities twofold:

- Improving physical strength needed to perform such tasks (cf. 4.4.2.4)
- Teaching the most appropriate method to perform such tasks (cf. 4.3.1.1)

4.3.2 IADL's

Instrumental activities of daily living are supportive activities within the home or environment, and are often more complex that ADL's (De Trabajo 2014: S19).

4.3.2.1 Care for pets

The research values the dedication required when caring for animals, and notes the increased challenges faces when being wheelchair bound. Tasks such as going to purchase dog food and cleaning the kennel requires a different set of skills for those who are wheelchair dependent, when compared to their able-bodied peers. One of the participants mentions that he now owns six dogs, and revealed that caring for the dogs form a very important part of his life. He also uses the dogs as a form of assisted transportation, as he would harness two or three of them in front of his wheelchair to assist when travelling long distances. One infers a feeling of a mutually rewarding relationship between the participants and his dogs, where the participant cares for their physical needs, and the dogs assist the participant where he requires physical support.

John: "I've got six dogs that I am living with now and I wash them myself and they take me for runs."

Publicised research pertaining to the care for pets by people with a SCI was not found by the researcher though there are many articles written on the general health benefits of owning and caring for pets. Ryan & Ziebland (2015: 67) describes the positive influence that owning pets have on people with long- term conditions. They further explain that research pertaining to owning pets and health remains inconclusive due to conceptual and methodological weaknesses, as well as a lack of clarity surrounding research evidence. However, research related to dogs as service animals for people with SCI portray stories of heroic dogs assisting in times of emergency, aiding in picking up objects dropped on the floor and offering companionship (LoBello 2015). On behalf of the Christopher and Dana Reeve Foundation, LoBello (2015) continues to describe the assistance that service dogs offer people with a SCI within the home, garden and while shopping. Although the dogs owned by the participant in this study are not trained service dogs, they offer companionship and assistance with transportation.

Within the violence-prone area where the participant lives, it could be argued that dogs can also form part of the participants' security, alerting the participant of intruders. It may also be argued that participants may feel more at ease to leave their homes to attend activities in the community while knowing their homes are protected by their loyal four-legged companions. Relevant to some of the participants obtaining their injuries when being mugged or assaulted, the dogs may even offer protection to the owners while being used for transport.

4.3.2.2 Child rearing

The right to have children and to raise them to become contributing members of society forms part of the basic design of a young adult's life within the South African context. Spjaldnaes, Moland, Harris & Sam (2011: 4) further describe that within a low-socio-economic environment, aspiring to become a parent indicates a willingness to take on responsibility. Justin has a young daughter with his wife,

whom he helps care for. He met his wife two years ago through wheelchair basketball, where she was a spectator at one of his games.

Justin: "I met my wife, I got married even two years back... we've got a nice little daughter there."

An insightful article by Jabbar (2015) identifies that not only are people with a SCI often told they will not be able to have children, but the resources and support is limited to information generalised to all disabilities, and not to specific abilities and difficulties. In 2012 it was revealed that between 1929 and 1974, North Carolina in the USA conducted a mass-involuntary sterilisation campaign involving 7600 people with disabilities. Although society has moved on from that, the stigma still remains (Jabbar 2015).

Apart from the previously identified doubt of whether a person with a disability should have children, whether they would be able to raise has also been questioned by society. Kaiser, Reid & Boschen (2012: 124) report that minimal social and financial support are available for people with a SCI who are planning to have children. They further discuss the constant judgement experienced by people with SCI.

The researcher witnessed significant pride when Justin spoke about his daughter and about being a father. Although the judgement may still be present within the community, it does not appear to influence the participant's view of his parental abilities. None of the other participants mentioned being parents or described their role as parent or primary caregiver to a niece or nephew.

4.3.2.3 Driving and community mobility

Driving and community mobility can be described as moving around within the community. This includes using private or public transport, including driving, using taxis or busses and relying on others. It can be seen as a key role player in the participants' independence, as they would otherwise not be able to attend games,

practices, meetings, therapy or do shopping. The challenges of the public transport system in South Africa are well known.

Participants mention that using public transport is problematic. Busses are inaccessible due to the narrow entrance and stairs, and although more easily accessible than busses, taxis are also not 'wheelchair friendly'. One participant remarks that taxi's would drive past him, just to stop for two people standing further down the road, as drivers are reluctant to assist with breaking up the wheelchair and assisting the wheelchair user. Those taxi drivers who are willing to stop, often charge the participants an inflated fees to compensate for the extra space taken up by the wheelchair, as well as the time taken to assist with the wheelchair user. Maclachlan (2012: 142) echoes that public transport in South Africa is not wheelchair friendly.

Harry: "because some of the taxis don't have patience. If I'm sitting here and these two people they standing there, they (the taxi drivers) going to pass me and take those two people because (...) you must break the wheelchair up and put it in the taxi..." you must help this guy" that's a lot of stuff at the end of the day."

Participants were in agreement as to the solution to the transport problem. They simply push themselves wherever they need to go. Attending therapy at the local hospital would be an approximate 5 km road trip; a physically demanding journey to be undertaken before being required to participate in therapeutic activities. They further mention pushing themselves up to Summerstrand, which is a residential area at the beachfront in Port Elizabeth, and is a minimum 20 kilometre push for these wheelchair users. On the journey there, participants have to negotiate through residential areas, manage curbs, areas without sidewalks and normal road traffic. What is important to note is that the participants not only participate in the 20 km push to Summerstrand, but they also were required to push themselves back home, resulting in an average 40 km round trip.

Harry: "From there I must help myself to push to push me to Cleary Park (shopping centre) to Greenacres (shopping centre) to Provincial (Hospital)."

John: "Wheelchair basketball really helped me to cope with this taxi industry of ours, where I start pushing me from Galven (residential area) or from Shauder (residential area) to town."

Furthermore, the participants recall that this journey was not possible before wheelchair basketball. Their first attempt at this long distance was in preparation for a road race in George, specifically aimed at wheelchair users. As a team, they attempted the long journey, encouraging each other along the way. Victor recalls that the journey to George to participate in his first wheelchair race in 2012 was his first trip using a taxi since his (motor vehicle) accident in which he acquired his injury. At the time of taking the trip, he was 15 years post-injury. He mentions that the barrier associated with the fear of getting into a taxi was broken.

Victor: "I took a trip that with the taxi for the first time in my life again after my accident which means it did break a lot of barriers, like the fear for getting into a taxi."

Two of the participants made known that they are able to drive adapted, automatic vehicles. One of the participants owns his own adapted vehicle, and is able to drive it independently. Although able to drive, this participant revealed that prior to wheelchair basketball, he required assistance from his brother to transfer into and out of his vehicle. Once part of the team, his fellow team mates taught him how to perform vehicle transfers.

Andrew: "With the transfers and stuff, it was a problem at first, but I didn't know how to get in the car. My brother would pick me up and put me in the car, but one of the guys actually showed me how. I learned from him and then I learned that there is an easier way to go."

Carpenter and other authors (2007: 429) further report the availability of transport plays a valuable role in a person's ability to participate in activities, and that participant's in his study experience transport as being one of the five main limiting factors in activity participation. Difficulties related to transportation are also mentioned by Slater & Meade (2004:12). The improvement in the participants' ability (due to their participation in wheelchair basketball) to negotiate around difficulties related to transportation is evident. In addition, their pragmatic problem solving and clear resilience have also developed. It furthermore appears that in solving their transportation problem by transporting themselves with their own wheelchairs also speaks to the performance component of endurance. However, it does leave the researcher with many questions regarding occupational justice, where an informal transport system and the lack of a formal transport system alike, fail these people spectacularly.

4.3.2.4 Financial management

With participants relying on grants as their main source of income, the management of their finances is vital as mismanagement may influence their ability to purchase food or pay for water and electricity. Financial management refers to planning and using finances and having short term and long term financial goals (De Trabajo 2014: S19). Andrew mentioned having a financial advisor who assists him with financial decisions. Although only two participants classified themselves as being (self) employed, one participant reported buying groceries in bulk and repacking it into smaller quantities to resell for additional income, and another recently started breeding budgies to sell. All other participants mentioned seeking employment in order to supplement their income, but attempts have been fruitless.

Mike: "financially yes I have two guys that work for me I pay them every day"

Mike: "and now I take care of three, four families, my family in law and my old family plus we are... I'm in a family of seven children four sisters, three sisters and four brothers and I help them, all of them."

Harry: "most of the guys want to work but there's no work at the end of the day most about problem of the day it's not about the money we just want to go out in the morning and come back in the night to show the people what we can do."

Within the South African context, research done by Maclachlan (2012: 110) notes one of the main environmental barriers experienced by people with SCI to be inadequate financial resources. In addition, the official unemployment rate in SA is known to be 25% according to the Quarterly Labour Force Survey of the second quarter, 2015 (Statistics South Africa 2015). According to the same unemployment rate in the Eastern Cape is 29.1% for the same quarter, being the third highest in the country.

Undeniably, financial management plays a major role in the lives of people with SCI, considerably more so for those living in low-socio-economic environments. The participants have demonstrated an ability to move past the limitations of their financial situation, searching for new opportunities. It may be argued that since joining the basketball team, participants have been motivated to improve their financial situation in order to obtain funds to transport to and from games and to participate in social team events such as going to Summerstrand and purchasing refreshments. Furthermore, they may have been motivated to improve their financial situation to better fulfil newly rediscovered roles within their homes such as resuming their role as breadwinner or acquiring new roles within their community such as assisting others within the team. It appears that the roles and responsibilities that developed through wheelchair basketball have positively influenced the participants financial management- not only have they sought further income generating opportunities, but they have also prioritised spending of such funds.

4.3.2.5 Health management

Medication routines, decreased health risk behaviour, nutrition, physical fitness, as well as developing, managing and maintaining these health management strategies are included under health management (De Trabajo 2014: S19).

It was mentioned by participants that advice regarding health queries is often shared amongst team members, such as home remedies for cystitis. Advice ranging from bladder and bowel management was mentioned by most participants, followed by improved functioning of bladder and bowel bodily functions. Some participants disclosed that they no longer need to use suppositories, and that they no longer need to use a catheter to urinate.

Victor mentioned that previously, his bladder and bowel difficulties prevented him from socialising with friends, as he was embarrassed.

Victor: "I don't get that problem anymore".

When getting together for practices, team members also remind others of pressure care, and check in on each other to monitor pressure sores. Before and during his initial involvement with the team, Robert has struggled with pressure sores. He now proudly asserts that he does not get pressure sores anymore.

Robert: *"...like not getting bedsores."*

In addition, during the interviews it was revealed that at practices or when visiting each other, participants give advice to each other on healthy eating, drinking enough water and when the member should rather visit the hospital. Victor also disclosed that he discontinued smoking since forming part of the team.

Victor: "Before that I couldn't really see that it is affecting me. So I think that the basketball that do. (...) where I could see that the bad habit of smoking is affecting my breathing."

Stanley: "At the end of the day, your health deteriorates. The basketball really did a lot of things for me, I did a lot of wrong things."

Andrew: "When you have infections...bladder infection, what will you do, because you know, I used to drink this and then, oh I drink this and I say no try this and you try it out."

Andrew: "...and the guys are there to share their stories and stuff, like health issues, health-wise and everything."

Carpenter and other authors (2007: 429) points out that one of the main themes within limitations in activity participation is that of poor health, and the associated complications such as pain and incontinence. Research pertaining to the health benefits of sports-participation for people with physical disabilities is bountiful. Ginis, Jörgensen & Stapleton (2012: 894) confirm the positive effects of sport of physical well-being. This is further supported by Giacobbi, Stancil, Hardin & Bryant (2008: 191) who notes a decreased risk in physical health related problems in people with disabilities who participate in sport.

However, what is striking here is that the individuals' health management is enhanced within the context of group cohesiveness. In Wilcock (2014: 4) it is further argued that in addition to aspects of doing, being, becoming, that belonging is instrumentally related to survival and health of both individuals and groups of people. The participants in this study have improved their health dramatically and knowingly chose to do so, based on the influence and support from other team members. Hammell (2014: 42) elaborates, stating that well-being is reliant on a sense of belonging and connectedness, which are both evident within the participants' wheelchair basketball team.

4.3.2.6 Religious and spiritual activities and expression

The role of religious activities within community reintegration depends greatly on the personal and cultural belief of the individual. Lack of community reintegration may negatively influence participation in religious activities such as attending church,

working at a local soup kitchen or accessing a church building. These activities refer to activities that are meaningful engagements to something larger that oneself (De Trabajo 2014: S20). Although not a prominent theme during the interviews, the depth of the participants' answers when discussing religion carries some weight within their reintegration into the community. Three participants discuss the 'plan' that God has for them, that there is a reason for them being in the wheelchair and that people should not judge, but rather help others.

Harry: "Because God has a plan with our guys..."

Harry: "God has a reason to sit me in a wheelchair."

Mike: "That means God has something in mind for me..."

When describing the Model of Human Occupation (MOHO), Turpin & Iwana (2011: 140) place spirituality at the centre of occupational meaning. These form part of the personal convictions of the participants, which form part of their views, and what they find meaningful in life. The researcher notes that spirituality adds purpose to the value a person attributes to certain beliefs or activities. In essence, spirituality gives individuals reasons to believe in what they do or believe in. The spirituality that the participants experience further creates a sense of obligation to act in a certain way (Turpin & Iwana 2011: 140) which in turn, can positively influence their overall health and activity choices. It could be argued that the aspect of spirituality as described by the CMOP as a central part of occupational meaning changed significantly in function and form since their participation in wheelchair basketball. Following their involvement in the team a shift within the participants view of spirituality is noted, which in turn motivated them to participate in other meaningful activities.

4.3.3 Rest and sleep

This refers to activities related to restorative rest and sleep, needed to maintain healthy, active participation in other occupations. It is further described as engaging in quiet and effortless activities, in order to prepare for sleep that is uninterrupted and allows for sufficient time to wake before initiating daily tasks (De Trabajo 2014: S20). From the participants' interviews, it is evident that prior to wheelchair basketball, their rest and sleep routines were unhealthy. Participants recorded spending excessive periods of time in bed. Prior to participating in wheelchair basketball, many participants would return to bed throughout the day; often lying in bed; watching television.

Harry: "I [would] do nothing during the day."

Mike: "At first, I was just lying in the house. I couldn't push myself, I had to call people to help me, take me to the toilet, take me that place and that place, but now I don't call them anymore."

Justin: "I was one that was just lying at home..."

When reading the above, the occupational deprivation of these participants is clear. When Molineux & Whiteford (1999: 126) discuss the occupational deprivation of prisoners, they describe it as an external circumstance which inhibits a person from doing or enjoying something, and has been known to have detrimental effects of health and well-being. Could the restrictions caused by the participants injuries in be seen as the 'prison', where they are 'locked up' and unable to engage in meaningful occupations? It could be argued that wheelchair basketball has given the 'imprisoned' participants an opportunity to engage in occupations that they were previously deprived from.

Park Lala & Kinsella (2011: 201) visually describe occupational deprivation as having one's belongings 'stripped away'. It could be argued that belongings do not only

refer to physical possessions, but also to abilities and skills, as one's ability to feed and dress independently is stripped away. This would in turn leave a person literally and figuratively naked and vulnerable, and understandably demotivated. However, by participating in wheelchair basketball, a sense of mastery in productivity, in overcoming challenges brings about an increased participation in occupational balance (Pierce 2009: 203-204).

4.3.4 Education

Education is another category which is discussed within the OTPF. It refers to learning and engaging within an academic environment. It is further categorised as formal and informal education (De Trabajo 2014: S20). Obtaining a qualification at a tertiary level appears nearly impossible for those from a low socio-economic environment. The "#FeesMustFall" (Mail & Guardian October 2015) protests that headlined newspapers and social media in South Africa in 2015 highlight the financial hurdles that are faced by many first generation tertiary education students. This highlights the struggles faced by South Africans attempting to further their education.

Based on the demographic questionnaire, the participants' levels of education vary from grade 7 to grade 12, with one participant being a qualified fitter and turner. Their level of education was not mentioned, nor discussed as a future aspiration for example during any of the interviews. It may be inferred that future aspirations for continuing education seems outside the framework of the participants, as they may find further education insignificant within their current situation. John commented on informal education, mentioning that he recently attended classes to assist family members of people with a SCI on how to deal with their injuries. He is currently living with others who also suffer from SCI, and he uses basketball to keep his housemates occupied and fit. Although he did not educate himself to improve his employability or to earn extra income, his informal education positively affects others who are also wheelchair bound.

John: "I even went for (...) lectures to teach people in wheelchairs about themselves and to teach their able body family members how to treat them."

When viewed from the perspective of the Model of Human Occupation (MOHO) (Turpin & Iwana 2011: 138) the participants' occupational identity as a teacher has possibly been enhanced by his participation in wheelchair basketball, where he is actively contributing to the community. Higher education has been described as resulting in increased economic self-sufficiency (Hanson, Nabavi & Yuen 2001: 336). One may derive from that participants may improve their financial situation by furthering their education. Although it may be argued that within the South African context of unemployment, a higher qualification may assist in obtaining suitable employment, this topic did not surface during the interviews. Other barriers that limit participants from furthering their education may be to blame, which are discussed in 4.3.5.

Wilcock (2007: 6) interestingly notes the relation between education and health, and describes education as one of the prerequisites for health. The participants improved their informal education regarding various health related concerns through interactions with and advice from other members of the wheelchair basketball team, which in turn improved their health. This questions Wilcock's interpretation of the influence of education on health, and whether the type of education, namely formal (at a school or University) or informal (through peer discussions or informal courses) further influences health. As demonstrated by the participants, their informal education has influenced their health positively. When looking at the role of the occupational therapist, it could be argued that further investigation is needed regarding the type of education regarding topics related to spinal cord injuries and health are relayed to patients while in hospital, and how these topics are relayed to patients. Perhaps if peer education is more consistently introduced within the hospital setting, less health related problems may occur once the patient has been discharged. Indeed, the participants themselves have identified a need for peer education, as discussed in (cf. 4.3.2.6).

Despite research pointing towards a need for higher education, only one participant sought to further his education since joining the wheelchair basketball team. This may be due to limited opportunities or finances and in occupational terms due to "occupational restrictions" (Galvaan 2005: 435). These restrictions may be inaccessibility to education facilities, limited knowledge into education possibilities (such as where to study and how to apply) and finances.

From the participants' responses, they have shown to be actively contributing to the community by educating themselves, other team members, other individuals with disabilities, as well as the families of those who have disabilities. It could be said that contributing to the community is the highest form of community integration as it can only be acquired once the more fundamental aspects of community integration relating to oneself have been addressed.

4.3.5 Work

Work can be considered as another important aspect of community reintegration. De Trabajo (2014: S20) describes work as the planning and process of delivering a product or service, with or without financial remuneration. Pierce (2001: 251) refers to the value of productivity, not only the work defined as employment. Pierce continues, noting the simultaneous existence of productivity, pleasure and restoration within occupational experiences. When combined with De Trabajo's definition, one can argue that work is defined as seeking and finding employment that provides meaning and challenge that can ultimately afford a sense of attainment. Subcategories derived from the OTPF relevant to the data collected include employment interests and pursuits, employment seeking and -acquisition and job performance. When measuring work, research pertaining to community reintegration and economic self-sufficiency shows that participants with a SCI score lower in work/ economic self-sufficiency subtests than in other subtests such as physical independence (Kumar, Kumar & Praveenraj 2012: 12).

4.3.5.1 Employment interests and pursuits

Employment interests and pursuits can be categorised as seeking appropriate employment based on interests and skills (De Trabajo 2014: S20). As previously mentioned, only two participants classified themselves as self-employed. Despite indicating that they are unemployed, two other participants also have informal, additional forms of income, based on community needs and/or personal interest.

Mike classified himself as self-employed. He and owns a grocery shop which he started after becoming involved with the wheelchair basketball team. He expressed that he used to be a 'receiver', and has now become a 'giver'. Despite needing the additional income, he feels that he has a responsibility to help others:

> *Mike: "... some of them, they're full of shame to ask me for something. I said no don't worry man, if you need, if you are in need I give you."*

He continues, saying that his daily routine includes buying stock every morning, going home to sort it into packets, and selling it to those within the community. He also mentions speaking to different people throughout the day, spreading the story of wheelchair basketball and how his life has changed. Here, Mike introduces the undeniable notion of the societal construct that people with disabilities are 'less' that those without. Mike's ability to care for others (financially and emotionally) serves as part of his motivation to succeed in his business. In the South African Voda du Toit Model of Creative Ability, volition is regarded as a key factor in rehabilitation (Casteleijn & de Vos 2007: 55). They continue, describing the relation between volition and action. This speaks to Mike's volition to care for others, resulting him in taking action in term of his business.

Justin classified himself as being unemployed, but later mentions he recently started breeding and selling budgies. He has since built cages, and appears excited about his new venture. He also coaches soccer to a local under-11 team, which occupies him most Tuesdays and Thursdays. Even though he does not receive remuneration for coaching, he considers it an important occupation. This illustrates Justin's need

to connect with the community, as described by Hammell (2014: 40), as he is willing to contribute to his community despite not receiving remuneration. This notion stands against the Western value of individualism, which focuses on oneself instead of the community, and highlights the greater values related to community occupations (Reed, Hocking & Smythe 2011: 304).

These researchers are supported in their views of the value of community occupation. Hammell (2014: 40) discusses the cultural attributes that people connect to their occupations, and the need to belong and connect within their community. Hammell continues, stating that there is still a great need for further research regarding the sense of 'belonging' within the field of occupational therapy (2014: 40). It could be argued that, by contributing to the community, the participants feel that they are more valuable and valued within their community, thus adding to their sense of belonging within their community.

Stanley also classified himself as unemployed, but reveals that he sells vegetables as a form of extra income. He buys vegetables in bulk to sell in smaller quantities with the help of two assistants, whom he remunerates financially, thus providing employment to others. John is a self-employed businessman, who describes his business as one of 'need and supply'. His work entails supplying illegal products. Occupational science describes work that falls within this category 'dark occupation', referring to occupations that do not promote health and well-being, and is often seen as harmful or disruptive. This may include abnormal sexual acts, drug and alcohol misuse, violence or other criminal activities (Twingley & Addidle 2012: 202-203). On the other hand, though this activity may be normatively seen as a dark occupation, it may be argued that it remains to be *meaningful* occupation as Doris Pierce's (2001: 249-259) model of contextual dimensions will explain, describing that occupation holds power due to being pleasurable (Pierce 2001: 253), irrespective of what the occupation is. John has participated in dark occupations even before his injury. Although he views violence within the community as having a negative effect, he continues to participate in other dark occupations which may co-create to such violence.

Mike, Justin and Stanley all mention that prior to wheelchair basketball, they were isolated. They remained mostly home-bound and were unmotivated. These occupational patterns highlight their occupational deprivation (Molineux & Whiteford 1999: 124) due to the participation limitations that they experienced. It can be deduced from their interviews that they since their involvement in the team, it has had a significant impact on their employment, thus returning a sense of occupational balance to their occupational profile.

4.3.5.2 Employment seeking and acquisitions

According to De Trabajo (2014: S20) employment seeking involves seeking appropriate employment through preparing for interviews, planning applications and discussing benefits of employment. Most of the unemployed participants mention seeking employment and taking their CV's to companies where they have seen other people with disabilities work. The participants have however, not taken their skills set and qualification into account when approaching companies, and this may be one of the reasons for being unsuccessful. One participant mentions that he approached people with disabilities who are working at the bank about how they acquired the employment, but recalls that he did not get 'real answers'.

Justin: "I asked around, how you come about (this job), but you don't get real answers."

Although not verbalised, an understandable sense of discouragement is evident regarding seeking employment. Participants have either started their own business, or have become content with relying on their grant. One questions whether they may be more successful in their search for employment if education were offered regarding basic work seeking skills, such as setting up a CV and searching for appropriate employment.

4.3.5.3 Job performance

Another category of the OTPF is job performance. De Trabajo (2014: S20) discusses job performance as performing according to the requirements of the job in which one finds oneself. Job performance could further be described according to Hammell (2001: 251) as productivity within the employment environment. Productivity further adds to the satisfaction experienced when participation in work related activities, which could be argued to further improve productivity.

Mike measures his job performance not in a monetary manner, but according to the impact he has on the lives of those who purchase goods from him. As he only started his business after joining the wheelchair basketball team, he feels the need to motivate and educate shoppers about what it means to be in a wheelchair and that wheelchair users are still 'human'.

Mike: "the thing is, I use the shop to meet with people. Everyday different people, different times... learning every day, every minute of the day am talking to people, different people and that's how my day goes I'm busy all day long."

Mike's job performance also influences those around him, as he has two employees who rely on him business doing well. This motivates him to improve his business.

Mike: "I have two guys that work for me I pay them every day."

Mike is an ideal example of how restoration, productivity and pleasure, as described by the work of Pierce (2001: 251), are interrelated. Once his occupation (being employed) was restored, he experienced pleasure, resulting in increased productivity. This has resulted in more pleasure, as well as the restoration of occupations of others (the employees), which further improves his productivity.

4.3.6 Leisure

According to De Trabajo (2014: S21), leisure activities are defined as activities that are not compulsory, in which a person is intrinsically motivated to participate and engage in.

4.3.6.1 Leisure exploration

Leisure exploration (De Trabajo 2014: S21) entails identifying leisure activities that are appropriate in terms of interest, skills and opportunities. Participants were uniform in their discussion of leisure activities. Mentions of 'laziness' and inactivity echo throughout the interviews. Participants further agree that since introduction to wheelchair basketball, they have been introduced to a variety of leisure activities, including swimming and road races.

Mike: "But you see now, besides the basketball I'm busy with the road racing too, and that never happened before."

Stanley: "You see, I didn't play much sport because I was with the wrong people."

John: "If we didn't train basketball, throwing over each other, then we would push each other down the street. Also, it let us started to do this road race in George."

John: "We started doing road races and then some of the other guys went into tennis. The others are still in tennis now. The others is doing weightlifting."

While the OTPF framework does not always provide room for the complex and often nuanced ways in which so-called leisure and other aspects of time use overlap and interplay, Pierce explains that engaging in activities that gives sensory input, constitute as pleasurable activities (2001: 253). Csikszentmihalyi & LeFevre (1989: 821) make an interesting statement, saying that "people have many more positive experiences at work that in leisure, yet saying that they 'wish to be doing something else' when they are at work, not when they are at leisure".

Contrary to Csikszentmihalyi & LeFevre's statement (1989), most participants have not had positive work experiences, as they have struggled to find employment, yet continue to seek employment. Those who are employed, such as Mike, express positive experiences in both work and leisure. From Mike's responses, it is clear that he would not 'wish to do something else' while at work. When considering the work of Jonsson (2008: 7) the notion of 'time-killing' occupation arises. This can be defined as occupations in which people participate to 'keep them busy'. From the participants' responses, it is clear that this was the case prior to wheelchair basketball. However, there is a clear increase in participation in meaningful leisure occupations. As previously mentioned, meaningful occupational engagement is followed my mastery, which in turn leads to further occupational engagement. Jonsson (2008: 6) further depicts an occupational balance, where the occupations in which a person participates in is divided into three equal parts, namely family/ home, work and leisure.

4.3.6.2 Leisure participation

Participation in leisure activities while balancing other occupations is key, as described by De Trabajo (2014: S21). Participants mentioned not only a broader choice of leisure activities since joining the basketball team, but also spending more time dedicated to such activities. They also mention that, when unsure of what to do with their time (such as waiting for transport, visiting others), 'throwing balls' is often the chosen activity. There was also a decrease in participation in dark occupations (Twinkley & Addidle 2012: 202), as two participants mention that they are no longer involved with violence related activities and alcohol misuse since being part of the team.

Justin: "I was one that was just laying at home, being at home, watching TV. Laziness."

Stanley: "I was sitting at home, doing my thing, maybe went for a drink to forget about my problems."

For those who experience physical impairments, participation is leisure activities may prove difficult, requiring some adaptations. Within the South African context, sport appears to be a culturally-related 'must' when considering leisure activities for specifically men. Considering this, wheelchair basketball has offered participants an opportunity to engage in socially expected leisure activities, which has in turn allowed them to gain acceptance within their community.

4.3.7 Social participation

Social participation involves engaging in activities within the community, with peers as well as family. This includes social situations in person as well as through technology (De Trabajo 2014: S21).

4.3.7.1 Community

Throughout the data collection, this appeared to be a predominant category. Community involves engaging in community based activities including neighbours, organizations, work, school and religion. Participants shared valuable insight into their struggles and triumphs within their community.

Participants report that prior to wheelchair basketball, they were uninvolved in their community. Their days were spent at home, participating in meaningless activities. Since their involvement in the team, participants narrate various engagements within the community (cf. 4.3.3).

Harry recounts an instance where he casually spoke to a group of young men in his community. According to Harry, these young men were involved in dark occupations. The participant shared his story with these men, after which they proceeded to start their own taxi company and discontinue their previous, destructive occupations.

Harry: "So I told him that is not a good thing to do...you have your legs, your hands, you can do everything. You see me, I am sitting in a wheelchair. (...) He told the guys we must look after these people (people with disabilities) because tomorrow it can be our people."

Mike has become more socially involved since owning his own business, as he is now able to support other families within his community. He has identified four families within the community who are in need, including his family-in-law, whom he supports.

Mike: "I help them, all of them. I help them solve the problem. What about the wheelchair? Don't worry about the wheelchair, I'm not in a wheelchair. No, I am not a 'wheelchair'. There's nothing wrong with me, I will help you."

He further mentions that he plays ball with the street children, in order to 'distract' them from the crime. Robert is also involved with community projects to assist children who live on the street. Robert talks about a drastic change in his own life, which can be described as a move from a victimic life plot, which is filled with mistrust and resignation, to an agentic life plot, which displays hope and optimism as discussed by the seminal works of Polkinghorne (1996: 301). When describing this in terms the Vona du Toit Model of Creative Ability, it can be said that his level of creative ability has shifted from passive participation, where participation is product centred, to contribution or competitive contribution where participation is aimed at contributing to the community or society at large (Casteleijn & de Vos 2007: 57). When participating in activities related to 'doing' for *others*, it results in the enhancement of a sense of meaning and meaning of life for the person (in this case, Robert), in addition to enhancing the community, as described by Hammell (2014: 45).

Justin reminisces about his childhood days, spent playing soccer at a local club. He is currently coaching the under-11 team at the club he used to play at, on Tuesdays and Thursdays. This year (2015) will be his fourth year coaching soccer there. He

continues, saying that, although he is not able to run with the children, he teaches ball skills and fitness. His interaction with the children in his community could also be seen as educating the youth in his community regarding acceptance and the capabilities of people with disabilities, perhaps reducing social stigma in his community.

Victor explains his involvement in youth activities in his community. Since joining the basketball team, he has had the courage to get involved with a hip hop organization for the youth. He advises those who sing, rap and do graffiti.

John lives in a house with six other wheelchair users. He assists them with tasks that they are unable to do themselves, encourages them to participate in meaningful occupation and offers support to families.

From aforementioned, it can be said that since participating in wheelchair basketball, the participants have become involved in community activities and so contribute to others within the community. When examining research pertaining to occupational therapy within community development, little has been documented about the collective occupations of such community (Reed, Hocking & Smythe 2011: 304). The correlation between community occupations and cultural occupations have also been questioned by above-mentioned authors. Hammell (2014: 45) emphasizes interdependence on others within many cultures, which again stands against the notion of individualism and self-orientated needs, and rather focuses on the needs of the ‘group’ or community.

From above-mentioned research the importance of participation in community activities or occupational is vital. It is evident that the participants have developed improved engagement in community activities since participation in wheelchair basketball.

4.3.7.2 Family

Families are sometimes considered to be the first space of social interaction. According to De Trabajo (2014: S21) this involves activities related to familial roles, requiring successful interacting with said family. Urbanski, Bauerfeind & Pokaczajlo (2013: 96) state that family support influences the level of social integration of people with SCI. Research done by Carpenter and other authors (2007: 429) lists support from family as a main theme when participants were asked what supports their participation in activities. Mothabeng and other authors (2007: 24) states that participants experienced positive support from their family members, and found that it helped them cope.

The participants in this study describe an interesting shift in family participation. Initially, the participants were dependent on family members, almost feeling that they are a 'burden'. This supports Mothabeng and other authors' theory that family support can lead to psychological distress. Since basketball, the participants describe 'not needing' the family member(s) anymore, alluding to becoming more of an equal member of such a nucleus of their lives. Participants reveal that family members generally portray the role of carer, with the participant relying on these family members for dressing, washing, toileting and household management. Since regaining their independence after joining wheelchair basketball, participants mention moving out of their parents' house, moving into flats or moving in with their wives.

Since joining the wheelchair basketball team, Andrew has been more independent, relying less on his brothers and mother to assist him.

Andrew: "At first I would just be getting help from my brothers and stuff like that, because it was in the back of my mind that they must do it because I'm their brother."

Andrew: "So, it made life easier. It made my mothers' life easier."

Andrew: "...Started staying on my own, not being dependent on people anymore, seeing that I could do things, even though I fall I could get up and that's okay- you can carry on."

Since improving his ability to transfer, John does not rely on his family to clean him.

John: "I had to do everything in the bag and that irritated me. Because I couldn't clean myself and I had to wait for somebody to come and clean me for three, four hours. I waited for them to come and clean me."

Sekaran and other authors (2010: 628) mention the valuable role of family support in the improved community reintegration of people with SCI, and the effect it has on restrictions in participation. Family support could have both a negative and positive effect on participation in activities. For instance, a person with a SCI being assisted by a family member may not be exposed to the opportunity to develop the skills needed to perform the activity independently. This is apparent from the participants' responses. However, they were more motivated to become independent through the influence of their peers, which has led to a shift within their family roles and expectations. The wheelchair basketball team serves as a motivator for participants to attempt these activities independently, as relying on family members would often result in being late for practice or a scheduled game.

4.3.7.3 Peer, friends

Undoubtedly, peer interaction and friendship is valued by many. De Trabajo (2014: S21) describes this as engaging in activities with peers/friends, on different levels of interaction and familiarity. Research by Mothabeng and other authors (2007: 24) illustrates the loneliness experienced by people with a SCI. They state that participants anticipate that their friends will not 'always be there'.

This notion has been echoed by participants in this study, as they report a sense of isolation and being cut off from society. Mike reveals that he was uneasy when 'mixing' with others. He further mentions that he did not want to be near people, and would rather spend time with his 'thoughts'.

Harry: "I was afraid to go out to meet people."

Victor: "Before the Basketball I was like, the friend circle was very close. It was closed down and then the (negative) attitude started again building up."

Victor: "I can communicate with people without getting uncomfortable. I can speak to people- like have a relationship, not to like I was in the beginning. I was speaking out of turn, I didn't have respect. But now I have respect. Because since the basketball team it showed me respect automatically through the basketball team."

Andrew: "It's the easiest way to communicate with other guys."

It seems as though the basketball team has created opportunities for the participants to socialise with other people with disabilities, both locally and from other parts of South Africa. They further mention that they experience these interactions as opportunities to learn from others, and for others to learn from them. Peers and friends thus also become part of the participants' informal education, while participants are empowered by being able to educate others. Activities that able-bodied people deem 'normal' such as going to the shopping centre for lunch has become 'normal' for the participants as well. Participants also mention a greater confidence when talking to unfamiliar individuals.

4.4 Client factors

Another main domain within the OTPF is client factors. The OTPF describes client factors as residual factors within a person that influences his/her performance. This includes values, beliefs and spirituality, body functions and body structures (De Trabajo 2014: S22-S24). Table 4.4 aims to surmise the themes presented by the OTPF, well as the subcategories that have emerged from data in accordance with the OTPF.

Theme	***Category***	***Subcategory***
4.4 Client factors	4.4.1 Values and beliefs	
	4.4.2 Body functioning	4.4.2.1 Specific mental functions-emotional
		4.4.2.2 Global mental functioning-temperament and personality
		4.4.2.3 Sensory functions
		4.4.2.4 Neuromusculoskeletal and movement related functions

Table 4.4 Client factors

Client factors which will be discussed further include values and beliefs, as well as body functions. Data directs body function to be subcategorised into:

4.4.2.1 Specific mental functions (emotional)

4.4.2.2 Global mental functioning (temperament and personality)

4.4.2.3 Sensory functions

4.4.2.4 Neuromusculoskeletal and movement related functions

4.4.1 Values and beliefs

Values and beliefs is the first category to be discussed under the domain of values and beliefs. Values and beliefs serve as the motivation to engage (or not) in occupations that give meaning to life. The OTPF continues to explain values as the principles, standards and qualities that the client considers worthwhile. It goes further to describe beliefs as cognitive content that the client considers to be true.

From the interviews it has been derived that the participants acquired a new level of value for their friendships. A sense of responsibility is evident, especially towards other team members. Harry mentions that, as a team, they are a 'family', always trying to assist each other, whether it be physically, emotionally or financially.

> *Harry: "We are now family. (...) And if someone has a problem with money we make a plan, we buy him something to eat or to wash his clothes. You see, all this stuff, tomorrow it's my turn and then they can help us. They can help me at the end of the day."*

In Hammell (2014: 42) the value of interrelatedness and belonging is identified. It further describes those who value relationships with family, friends and neighbours, and how this is an important contributor to quality of life. Grech (2011) in Hammell (2014: 42) describes the importance of interdependence and obligation towards others, especially where there is a need to share resources as in the case of the participants in this study as the participants rely on each other for money, food, information and assistance.

4.4.2 Body functions

Body functions are another category as discussed within the domains of the OTPF. According to the OTPF, body functions refer to the musculoskeletal, sensory, mental, cardiovascular, respiratory and endocrine functions. It is important to note that the

presence or absence of certain body functions do not necessarily equate to the success or failure when participating in various occupations (De Trabajo 2014:S7).

4.4.2.1 Specific mental functions- emotional

De Trabajo (2014: S22) describes emotional functioning as the regulation and range of emotion. This includes emotions such as anger, love, fear, and anxiety. It has been observed by many researchers, including Urbanski, Bauefeind & Pokaczajlo (2013: 96), that physical activity positively influences psychosocial aspects of the life of a person with a SCI. Mothabeng and other authors (2007: 22) also find that there is a great need for the emotional component of acceptance after injury. It can be classified as one of the coping skills needed to cope with the effect of the injury of one's' life. Emotional functioning is further classified as 'journey' and that they are still who they were before.

Overall, participants convey experiencing more positive emotions since joining the basketball team. Most recall a journey of fearful, depressive behaviour, followed by 'guts', and positivity once they became part of the team. The emotional journey of the participants is also discussed in cf. 4.5.2.

The positive effect of wheelchair basketball on Victor's emotions is clear from his interview:

Victor: "Because I did see that sport for people with disabilities is like the greatest gift you can get because you just have that that can get your mental straight."

Harry shared that it makes him feel 'good', while Justin repeatedly express that it makes him more positive. Victor also mentions that it has the effect of making him feel more alive.

This feeling of having received a new lease on life is echoed by Mike, who shares perhaps the most significant account of the emotional and spiritual effect of wheelchair basketball:

Mike: "After discharge from hospital, my life was in darkness. There was no way I could move forward. Several times I attempted suicide because what could I do now? A year ago I married my wife, you know she will leave me because who'll care for a cripple man that cannot work and support his wife? After I join the sport, my life changed. Really it changed. Now, I live in the light, I am out of the darkness. I can tell people how it feels to walk in the light. Really I am a new person. I enjoy the new life, I really enjoy it to the fullest. I never think back, I think forward. I think forward that's all that's going to my mind because I've got 40 years to 50 years to go, I have to reach 100's (years old) (chuckles at himself)."

This is supported by Muraki, Tsunawake, Hiramatsu & Yamasaki (2000: 309), who find that wheelchair basketball players have significantly better mental health profiles than the comparison groups in their study, which consisted of a groups of college players and a group of college men. Crawford, Hollingsworth, Morgan & Gray (2008: 3) further mention the positive influence that participation in sport has on the personal resilience of the participants. The participants of this study face numerous factors that negatively influence resilience, such as poverty, violence in the community, and a peer group that participate in dark occupations (Law 2002: 644). Although the participants are unable to influence factors such as poverty and crime, Stanley mentions 'mixing with the wrong people' prior to joining the wheelchair basketball team. Factors that positively influence resilience that the participants have been exposed to since joining the team include extracurricular activities and interacting with other adults (Law 2002: 644). Although not directly related to their community reintegration, the positive emotions and interactions experienced while part of the wheelchair basketball team has significantly influenced them to move past the factors that negatively influence their resilience and participation such as poverty and violence. Due to the team, there is also decreased participation in dark occupation, which positively influences their community reintegration.

4.4.2.2 Global mental functioning- temperament and personality

The global mental functioning is another category as discussed within the OTPF. When referring to temperament and personality according to the OTPF, global mental functioning refers to extroversion, introversion, conscientiousness, self-control, confidence and motivation. From within the data collection, the main areas that arose from the participants' responses were extroversion/introversion, confidence and motivation.

Participants mention that, before wheelchair basketball, they were introverted, struggling to talk to people and avoiding social interaction. Two members mention becoming more comfortable around people and feeling less introverted. Participants continue, pointing out the impact that basketball has had on their confidence. They mention their willingness to try new activities, such as going down a flight of stairs. Furthermore, Stanley mentions his new found confidence in himself, being willing to talk about his disability and being in a wheelchair without fear of judgement.

Stanley: "because I don't like to speak about the wheelchair you see, it's a bit difficult for me but now (...)you must share something about the wheelchair."

Victor mentions the activities that he can participate in that others with his level of injury cannot, such as self-propelling for 15 minutes. This confidence, according to him, stems from his skills acquired from wheelchair basketball.

Victor: "I'm not even supposed to play wheelchair basketball you understand but yet it did give me that... it gives me the ... guts."

Another prominent category is motivation. The participants express that the individuals in the team play a vital role in motivating each other. They motivate one other to attend therapy, attempt new activities, share their stories, and to be more competitive on the playing field.

Mike: "I want to be better and it's the thing that basketball makes (me)."

The participants can thus be said to be motivated to improve their own lives and the others' lives. The Vona du Toit Model of Creative Ability (Casteleijn & de Vos 2013: 4) describes the evolution of behavioural and skills development through self-actualization. The motivation for competitive participation results in competitive centred action. As this develops, it develops into a contribution which is aimed at a situation centred action. Continuing this development, it furthers to competitive contribution which results in the action which is society centred. The participants' journey through this development is evident in their desire to be 'better' in order to help themselves as well as others.

4.4.2.3 Sensory functions

Sensory functions are divided into visual, auditory, vestibular, taste, smell, proprioceptive, tactile, pain and sensitivity to temperature and pressure (De Trabajo 2014: S23). Although not a dominant category, the response of one participant is noteworthy. John recalls that prior to wheelchair basketball, he was aware of tactile sensations, but was unable to identify various textures specifically. He continues, stating that he is now able to identify between various sensations and can identify objects based on their sensory profile e.g. a needle or cotton wool.

John: "I [can] feel if you prick my feet underneath me with a needle, I [can] tell you that is a needle, or that is cotton wool, but I couldn't move it. But now, it's (the feeling) stronger."

It is interesting to note that Donnely & Eng (2005: 276) found that 25% of individuals with SCI report that pain negatively influences their ability to participate in activities related to community reintegration. Pain, or the absence of pain, was not mentioned by any of the participants in this study; possibly affirming their levels of active and successful occupational participation and community reintegration. If this theory

holds true for the participants in this study, it may point to their positive, active and successful community reintegration.

4.4.2.4 Neuro-musculoskeletal and movement related functions

From within the OTPF framework, the following subcategories arouse from the data collection: joint mobility, muscle power and endurance, respiratory system functions.

The main response from participants included being 'fitter and stronger'. Justin mentioned that he is now able to do his stretches needed for maintaining joint range, which he could previously not perform.

Justin: "I can stretch me I can do different things now that I can't do before."

Team members reported now having the physical strength to perform transfers, push themselves independently (within the home and community environment), being able to participate in wheelchair basketball for longer periods of time and even sitting unaided for longer periods. John has noted improved hand function since joining the team, while Justin feels that it gives him more control of his body.

Andrew: "it's the easiest way to stay fit."

Victor notes that since participating in wheelchair basketball, his breathing has improved. He is able to breathe more easily, and "does not get out of breath as quick".

Maclachlan (2012: 27) notes the high probability of people paraplegia developing pressure sores. She continues, stating the influence a SCI has on urinary, musculoskeletal, cutaneous and cardiovascular systems. Participants echo this, claiming noticeable improvement in their musculoskeletal abilities since starting wheelchair basketball.

4.5 Performance skills

Performance skills relate to the elements that an action consists of. It consists of the various components needed to perform a purposeful task (De Trabajo 2014: S25). Categories of performance patterns which emerged from the data are motor skills and social interaction skills.

Table 4.5 demonstrates the theme of performance skills, in conjunction with its categories in alignment with the OTPF framework (De Trabajo 2014: S25).

4.5 Performance skills	4.5.1 Motor skills
	4.5.2 Social interaction skills

Table 4.5 Performance skills

4.5.1 Motor skills

The OTPF describes motor skills as skills related to occupational performance which allow participation in activities and occupations (De Trabajo 2014: S25).Although the participants did not specifically mention motor skills, it can be derived that the improvement of motor skills are related to the improvement of other skills since the participants' participation in wheelchair basketball. Table 4.5.1 aims to indentify the motor skills that have been identified through the participants responses.

Skill:	***Activity identified by participants:***
Stabilises	Improved ability to sit unaided (cf. 4.4.2.4)
Reaches/ bends	Improved ability to dress independently (cf. 4.3.1.1)
Grips	Grips the basketball, kitchen utensils and gripping the wheelchair wheels to break, stop and turn (cf. 4.3.1.2)
Manipulates	Improved hand function (cf. 4.4.2.4)
Moves	Self-propelling of a wheelchair (cf. 4.3.1.2)

Table 4.5.1 Motor skills as identified according to participants' responses

It is therefore clear that these skills have been assimilated and mastered via their participation in wheelchair basketball, with further allowed for improved reintegration into the community.

4.5.2 Social interaction skills

The OTPF describes social interaction as those occupational performance skills detected during social exchange. The social skills included in the OTPF discussion that were observed during the interviews with the participants, as well as from data collection are discussed in Table 4.5.2. The improvement in social interaction skills was not just evident from the participants' responses, but also through the participants' interactions during the interview as recorded in the field notes.

Skill:	***Activity identified by participants:***
Approaches/starts	Approaches strangers with more ease, starts conversation more easily. (cf. 4.3.7.3)
Gesticulates	Participants used hand gestures to facilitate their message. (observed during interviews)

Speaks fluently	Although participants mix Afrikaans and English when speaking, they speak fluently. (observed during interviews)
Looks	Participants report more self-confidence, and looked both the interviewer and researcher in the eyes. (cf. 4.3.7.3)
Expresses emotion	More appropriate emotional expression. (cf. 4.4.2.1)
Discloses	Participants are more open to sharing their story/ experience. (cf. 4.4.2.2)

Table 4.5.2 Social interaction as identified by the participants

The appropriate expression described in 4.4.2.1 is essential to the participants' social survival. From the participants' responses, there is a clear development of an emotional language which they use to interact with friends, family members and within the community. It could also be said that by becoming more emotionally aware, they are able to transfer the appropriate expression of emotions to others with which they are in contact.

4.6 Performance patterns

Performance patterns are roles, routines and habits that a person engages in while engaging in occupations. These refer to automatic behaviours, routines or structures of daily life, behaviours expected by society, as well as activities that have symbolic meaning (De Trabajo 2014: S8). The latter theme was found to be least overt throughout the participants' interviews. The main category that arose from the data is that of the roles of the person and population/group, although one could infer secondarily to their roles as parents (cf. 4.3.2.2), members of the community (cf. 4.3.7.1), role as member of wheelchair basketball team (cf. 4.3.6), group coherence and responsibility towards each other (cf. 4.3.7.2), and daily routines (cf. 4.3.6.2). These aspects are now discussed further:

4.6.1 Roles- person

One's role as a person is defined by society and shaped by culture. Each individual then needs to individualize and define his or her roles (De Trabajo 2014: S27). Within the basketball team, participants identify with roles such as husband, friend, brother and son. Since participating in wheelchair basketball, there has been a shift in the behaviours associated with these roles. A husband (Mike cf. 4.3.2.4) who previously felt that he could not provide for his wife now provides for three or four families. A friend (Harry cf. 4.3.2.3) who avoided going out or interacting with others now joins his friends for lunch at the shopping centre. A brother and son (Andrew cf. 4.3.7.2) who was once dependent on his family to wash, dress and clean him can now fulfil more appropriate roles such as sharing chores and participating in family activities.

Justin: They (his family) took a lot off my shoulders and everything was about her (his mother), like mom do this, mom do that. It was a lot on her shoulders, but now, ever since I am doing other stuff, she can do what she wants. She can leave when she wants. So it's a lot of stress off her. I am not that dependant more on her. Now, she can do whatever she likes.

The participant's ability to realise the influence that his independence has had on his mother, indicates a sense of selflessness and actualization of self towards others. It restores the 'traditional' roles within the family, as mother and son, compared to caregiver and dependent as previously experienced. These developments in the traditional roles enable engagement in meaningful occupations. This enables the participants to actively participate in their community in various age and gender appropriate roles.

4.6.2 Roles - group/population

Individuals not only fulfil roles as persons, but also in relation to groups or the population. The roles in which a person is expected to behave according to standards set by the community, group or population (De Trabajo 2014: S27). The

role of the group in terms of its members become evident when Tasiemski *et al* (2011) and Kennedy *et al* (2006) in Urbanski, Bauerfiend & Pokaczajlo (2013: 96) find that athletes participating in group sports achieved better psychological adjustment than individuals participating in individual sport. The role of the wheelchair basketball team is defined by the activities that they deem important as a group. These include assisting other with disabilities, by visiting newly injured individuals in hospital, visiting people with SCI within the community, and also educating community members regarding the difficulties of having a SCI.

Mike: "it's just sometimes when I do nothing I go to the hospital and go and inspire the people with spinal cord injuries."

It is evident that the participants value 'giving back' to the community, despite not receiving anything. Again, actualisation in the form selflessness and contribution toward the community being part of is demonstrated by participants since joining the wheelchair basketball team.

4.7 Context and environment

Interconnected circumstances that are in and around the person define context. It includes cultural, personal, temporal and virtual. Environment refers to the external (both physical and social) circumstances that a person finds him or herself in on a daily basis (De Trabajo 2014: S28).

4.7.1 Cultural context

The cultural environment plays a vital role in the persons' identity and activities he/she chooses to participate in. It encompasses customs, beliefs, activity patterns and expectations of the individual (De Trabajo 2014: S28).

Throughout the interview, a clear sub-theme that encompasses the cultural context of the participants includes that of violence. This was evident from the way in which participants acquired their injuries, to their descriptions of their daily encounters with gangs. Gang-related violence within the Northern areas makes headlines in local and national newspapers, including journalistic television program Carte Blanche (Carte Blanche 2015) and popular online news networks, such as News24, which highlight numerous articles during database searches.. The participants all sustained their injuries due to crime-related violence, either being stabbed, shot at, or as part of a motor vehicle accident where the driver of the taxi was shot. Participants echoed the need to combat violence, and try to educate youth to avoid gang-related activities. Violence in South Africa is not an unfamiliar sight, as described by Van Dongen (2003) & Kynoch (2008). Increasingly, violence associated with gangs is evident in communities within South Africa (Ward 2007; Lindegaard 2009; Abrahams 2010; Makombe 2014).

It is interesting to note that since participants gained standing within their community through the wheelchair basketball, gangs have more respect for them and do not view them as vulnerable 'targets' anymore.

Culture forms a vital part of the occupations that a person participates in (Hocking 2006: 147). The participants feel that they are able to be a positive influence within their community through acquiring roles as mentors within their community. This mentorship is not limited to other with a SCI, but also to the youth, and family members of those who have a SCI.

John: "Don't shoot guns, shoot hoops."

The workload of the occupational therapist within the community can be lightened if the participants can be utilised within certain areas to educate the community. Participants can be deployed to change the cultural stigma associated with SCI, to provide support and assistance to other members within the community who

sustained a SCI, and to alert the occupational therapist should the participant regress or require further intervention.

4.7.2 Personal context

The personal context refers to that which is not defined by the health condition, such as the age, gender, marital status and education of the person (De Trabajo 2014: S28). This has been discussed at length in the participant discussion section of this chapter (cf. 4.1). It is noteworthy that according to Kumar, Kumar & Praneenraj (2012: 11), demographic variables do not have a significant impact on community reintegration, except on the occupation and education level of individuals. It is also noted from a project undertaken by the Western Cape Rehabilitation Centre, that despite being motivated to further their education, people with SCI continue to struggle with physical accessibility of buses/taxis, cost of such transport and lack of full time carers (Hendry 2012).

4.7.3 Physical environment

Another important environment that should be considered a person's ability to engage in meaningful occupations is the physical environment. The physical environment refers to the manmade and natural structures within the persons' environment. This includes houses, buildings, roads and other community structures such as the basketball facilities. Carpenter and other authors (2007: 429) list accessibility difficulties as one of the five limiting factors with regard to activity participation.

From the data gathered it is evident that accessibility to buildings, including their homes, posed a difficulty to the participants. Research done by Maclachlan (2012: 73) also mention accessibility difficulties experienced by participants in her study. This is echoed by Slater & Meade (2004: 12), who comment that transport appears to be a 'barrier to participation'. Architectural barriers, which lead to accessibility

difficulties, are further mentioned by Kumar, Kumar & Praveenraj (2012: 16) as an influencing factor on the community reintegration by people with a SCI.

Victor: "We have environmental problems like the environment is not accessible for me."

Since joining the basketball team, the participants in this study have assisted fellow team members in the following ways:

- Assist with building ramps/slopes to compromise for steps.
- Teach members new mobility techniques to assist with managing difficult terrain, including how to ride on two wheels, go down stairs and ramping up a curb.

Justin: "I feel I can go all over the place. Actually, I had a few ramps put in to make it movable for me, but there at home I'm all right, I have no problems."

From the researcher's experience with the team it is also known that there is no wheelchair basketball court or any hooped sport court for the participants to practice on. Participants practice in the community hall, stacking chairs on top of each other to serve as 'goals'. The only opportunity team members have to practice with actual hoops is during games played at other teams' home ground. Maclachlan (2012: 110) also found a lack of sports facilities to be a barrier for the participants in her study.

Based on the participants' responses, it is evident that wheelchair basketball has equipped the participant to overcome various physical environmental barriers. They have done so in two ways:

a) By adapting the environment. This includes building ramps at their homes or adapting their requirement such as making make-shift goal-posts.

b) By adapting their approach to the environmental barrier. This includes learning new skills to cope in areas where there is no access to ramps.

It can therefore be said that wheelchair basketball has improved the participants' ability to reintegrate into their community by equipping them with the necessary knowledge (e.g. how to build ramps) and skills (e.g. how to negotiate curbs and steps) through interactions with other team members who have already overcome these difficulties.

4.7.4 Social environment

The social environment refers to the friends, colleagues, groups and relationships in which a person has contact with on a social/personal level (De Trabajo 2014: S28). Sekaran and other authors (2010: 630) report a definite decline in social interaction in people since acquiring a SCI.

The social environment for the participants has changed significantly since their involvement with the team as discussed in cf. 4.3.6.1 and 4.3.7. Participants report that they are more comfortable engaging in conversations, and that they socialise as a team and attend therapy together. An overshadowing factor in the social environment in which the participants find themselves is the perception of community members. Participants recall that, prior to wheelchair basketball, they perceived that community members 'looked down on them'. This is echoed by Noe, Bjerrum & Angel (2014: 2), where participants express a 'need for understanding from the community'. Since joining the team, participants in this study feel that they are more respected by community members as well as other with disabilities.

4.8 Other

Notwithstanding the valuable themes as described by the OTPF, the researcher notes other powerful comments made by the participants that are not covered by the OTPF.

Harry: "I do everything myself."

Andrew: "But now, with the guys, I will do everything."

Victor: "For me, it was the best thing that could happen."

Harry: "I look forward to more things."

Andrew: "I'm asking nothing from no one."

Harry: "I can do everything."

Mike: "I can do everything."

John: "I can do everything that I didn't do before."

Andrew: "If I just had these types of friends earlier in my life, it would have been a lot different. It would have been much easier."

These comments made by the participants, speak volumes of the impact that wheelchair basketball has had on their occupational engagement and quality of lives. It encompasses the holistic summary of the data as previously described according to the OTPF. The improvement in multiple aspects of each participant's ability to resume activities that contributes to their community reintegration is apparent. The most evident appears to be the emotional and physical impact, which has had a ripple effect into various spheres of the participants' lives. The core of occupational science is echoed throughout by the value of being able to master something and of experiencing various sorts of occupations (Pierce 2001: 251), such a being able to wash oneself.

The Vona du Toit Model of Creative Ability (Casteleijn & de Vos 2007) describes the growth that occurs within exploration, participation and mastery- all unmistakable in the participants' detailed accounts of their journey into community reintegration. When considered in the context of Polkinghorne (1995: 300), the participants' self-stories relating to their community reintegration illustrate body feelings, emotions, thoughts and directed activities. These all highlight the growth from victimic to agentic roles within their lives. It can be said that since their participation in wheelchair basketball the participants form part of their community, and the community forms part of the participants' lives.

4.9 Conclusion

Chapter 4 has dealt with data revealed throughout the individual interviews of the member of the Northern Areas wheelchair basketball team. The data reflected on their ability to resume meaningful, everyday activities which supports community reintegration. Data indicates that participants show an improvement in activities of daily living such as dressing, washing and home management. They also show improved physical abilities, resulting in easier transfers, improved endurance and improved breathing. A positive effect on their emotional, as well as, social interaction is also evident, with greater involvement in community activities.

As an occupational therapist, the value of occupational engagement is clear, as the engagement in wheelchair basketball has improved the participants' ability to participant in other meaningful occupations. Not only has it directly influenced them, but it has also had a significant influence on their friends, family members and members of their communities. Family members return to traditional roles, while community members gain valuable insight into the different abilities of those with a SCI. In addition, friendship circles reignite as participants are more emotionally available to participate in peer activities.

Although the OTPF gives a detailed description of various occupations within the occupational realm of participants, the researcher is of the opinion that the OTPF

lacks a hierarchical description of the various domains. A hierarchical layout may present occupational therapists using the framework with a more appropriate starting point when setting goals with the patients. Should the OTPF be redesigned to include a hierarchical system it may be more in line with various models used within this research, as most models have a starting/ central point, and evolve outwards.

When combined with a hierarchical system such as Maslow's Hierarchy of Needs (Viljoen 2008: 11), a clear development of mastery is evident from the descriptions of the participants in this study. In short, Maslow's Hierarchy of Needs describes five levels of needs: 1) physiological needs, 2) safety and security, 3) belongingness and love needs, 4) the esteem needs and 5) self actualisation. It can be said that the participants in this study have shown an improvement in their ability to satisfy their physiological needs independently since their participation in wheelchair basketball. Although they are unable to fully control their safety and security needs, participants are aware of the dangers associated with gangs within their community. Interestingly, 'belongingness' is a term much discussed in this dissertation, and found to be a prominent feature put on view through the participants descriptions. Self-actualization, the top of the needs-pyramid as described by Maslow, was also achieved by many of the participants. It can be described as what a person *needs* to do in order to feel fulfilled.

Chapter 5 provides a conclusion of findings, as well as recommendations for this study as well as future studies.

Chapter 5: Conclusions and Recommendations

5.1 Introduction and recommendations

Chapter 4 presented the findings related to this study. Chapter 4 also integrated the presentation of the findings with the triangulation with appropriate literature and a concomitant discussion. The findings describe the community reintegration of people with a spinal cord injury who participate in wheelchair basketball.

In this chapter, the conclusions of the study with the aim of achieving the objectives of the research are summarised. Recommendations regarding findings are made, specifically relating to community reintegration of people with a spinal cord injury (SCI). Further recommendations pertaining to supplementary research are made according to all areas that are discussed. Recommendations regarding training of occupational therapists and other health care professionals are also discussed. A discussion pertaining to the limitations of this study follows, which serves as the final concluding section of the dissertation in 5.5.

5.2 Conclusion and Reflexive Comments

The conclusion for this study is discussed according to the aim of the study as presented in Chapter 1 namely:

To explore and describe how participation in wheelchair basketball influences the community reintegration of people with a SCI in a low socio-economic environment.

Based on this, the researcher can infer the following based on the findings as set out in the OTPF:

5.2.1 Occupations (cf. 4.3):

Watters, Pearce, Backman & Suto (2013: 1) describe occupations as experiences that are individual and distinct. Findings relating to occupations as a whole were highlighted by the participants' discussions regarding ADL's, IADL's, rest and sleep, education, work, leisure and social participation. The mastery of these occupations is evident in the participants' responses and the value of mastery is further support by Pierce (2009: 203-204).

An increased ability to perform ADL's independently was noted by all participants. Participants report that they find activities such as washing and dressing 'easier', as well as 'faster'. As they previously relied on family members to assist, the participants spent expended periods of time resting, waiting for someone to lend a hand. This influenced not only their family environment, but also their social environment as they would often be late or miss an event or gathering due to waiting to be assisted. Participants unanimously state that they are more involved in social activities since becoming part of the wheelchair basketball team. They describe that previously, they felt isolated and the wheelchair basketball team gave them the 'courage' to go out and participate in social gatherings.

Their level of education varies, but this seemingly has had no influence on their ability to find suitable employment within the open labour market. Most participants remained predominantly unemployed since the time of their injury, and they only relied on a government disability grant as their main source of income. Since joining the wheelchair basketball team, some participants started to create their own employment by opening informal shops. Within their community, one of these shops have become a source of income for other families, as the participant has employed two other assistants to assist him.

The participants further describe a change in their choice of leisure activities. Since joining the wheelchair basketball team, the participants' leisure activities have shifted from predominantly sedentary activities, such as watching television, to increased socialising with peers, participating in wheelchair basketball and other sports (such

as road racing and tennis) as well as hobbies involving animals such as breeding budgies.

The participants further mention that since participation in wheelchair basketball, their participation in social activities within the community, as well as, with family and peers has changed. They recall events including playing with street children, motivating community members and interacting with other wheelchair users. Within their family, the resumption of appropriate roles is evident, as family members are not responsible for caring for the participants anymore. Participants also mention feeling more comfortable when communicating with peers, and being able to approach people with more ease. The participants have also shared activities with others, which the OTPF refers to as co-occupations (De Trabajo 20414: S6), which further results in social engagement.

When noting the above-mentioned variety of occupations that the participants engage in, the notion of occupational balance as described by Jonsson (2014: 4) is evident in the participants' responses. When describing occupational balance, Jonsson (2014: 4) discusses participating in the appropriate amount of occupations for the appropriate amount of time. When studying the OTPF, it is clear that there is no mention of balance within the linear description of the framework.

5.2.2 Client factors (cf. 4.4)

The client factors discussed in Chapter 4 include values, beliefs and spirituality as well as body functions and body structures including sensory and neuro-musculoskeletal functions. Throughout the interviews it became evident that the participants experience a great sense of accountability and responsibility towards team members which speaks greatly of their value system. They value their team members, and refer to them as 'comrades'; also used as a political term. The participants' agency and the importance of giving back to the community is evident when viewing their values and beliefs (cf. 4.4.1), as well as, their interdependence towards each other and members of the community. The community discussed here

can be compared to the group as defined by the OTPF (De Trabajo 2014: S22). The group is further described as family members and community members (De Trabajo 2014: S42). However, there is a need for the community to be more clearly defined within the OTPF, as there are different roles and occupational expectations when comparing family members and the community as a 'group'.

It may be argued that since their participation in wheelchair basketball, the participants' value system has shifted to place more emphasis on contributing to the community as a meaningful occupation. This speaks to their selflessness, and valuing the needs of others highly. Furthermore, there is a likelihood that the highly valued community contribution may be due to the valuable contribution that the team has made in their lives, and could be referred to as 'paying it forward'.

Although only mentioned by one participant, the improvement of his ability to identify various sensory stimulations such as light touch and deep pressure, as well as improved sensory differentiation is noteworthy. The neuro-musculoskeletal improvements experienced by the participants through their engagement in wheelchair basketball and the ripple effect it has had on their abilities to participate in community activities is significant. Improved physical strength, improved endurance and skills such as balance, hand function and coordination were reported by participants. This has assisted participants to engage in community activities by being able to push themselves to events, participate for longer periods of time as well as having more control over his body.

5.2.3 Performance skills (cf. 4.5)

Performance skills described in Chapter 4 include motor skills, process skills and social interaction skills and relates to the person's "demonstrated abilities" (De Trabajo 2014: S7).

By performing an activity analysis on the activities mentioned by the participants (e.g. getting dressing, sitting in and pushing a wheelchair, catching a basketball and preparing a meal) the motor skills that are discussed within the OTPF under the section of motor skills become apparent. These include stabilising, reaching, bending, manipulating and moving. Participants use these motor skills, supported by body functions and structures, to participant in fundamental activities required to participate in community activities. Although it cannot be solely accredited to wheelchair basketball, from the participants responses it became evident that these motor skills are needed to participate in various occupations have improved drastically since their participation in wheelchair basketball.

The social interaction skills required to engage appropriately in community activities were described by participants, as well as noted by the researcher while taking field notes. Participants made good eye contact, were able to share their experiences and express emotions. According to the OTPF, these skills can be described as "approaches, looks, expresses emotions and discloses" (cf. 4.5.2). Such skills form part of successful interaction between participants and other community members, family members and others with which the participants come in contact, such as the soccer team being coached by one of the participants. It could be said that through wheelchair basketball, participants mastered new skills that transformed their victimic view to one of agency (Polkinghorne 1996: 301). This allows them to not only reintegrate into their community, but also serve as agents of change within their community.

Emotionally, the positive emotions experienced by the participants since joining the basketball team has had a positive influence on their participation in community related activities. One participant describes moving from the "dark into the light" (Mike; cf. 4.4.2.1) and being more motivated to engage in community activities. Words such as 'positive', 'motivated' and 'feeling more alive' is echoed throughout the data collection. The positive emotions experienced by the participants may be due to the spill over of positive emotions that the participants experienced due to successful participation in meaningful occupations, such as activities of daily living (ALD's). It could also be said that their emotional repertoire has broadened since

participating in wheelchair basketball, not only equipping them to cope with their own emotions, but also cope with emotional challenges within their community, thus improving community reintegration.

5.2.4 Performance patterns (cf. 4.6)

Performance patterns are used to describe the habits, routines, rituals and roles, both as an individual as well as in a group (De Trabajo (2014: S27). Although the least mentioned theme, the individual and group roles disclosed by participants remain valuable.

When examining the habits of the participants, one notes a positive change towards increased participation in occupations. One participant mentioned laying in front of the television for most of the day, but since engaging in wheelchair basketball he has adopted various other occupations that contribute to a healthier life balance (cf. 4.3.6.2). By developing healthy habits and engaging in them more frequently, the participants create healthy routines which could be said to have a more long lasting influence on their positive occupational engagement.

The OTPF describes routines as a sequence of activities. These activities provide structure to daily life, and can satisfy, promote or damage health. It is clear from the participants' responses that there has been a shift in the routines that occupy their daily lives since their participation in wheelchair basketball. The shift occurred from routines of occupations that damage health, such as alcohol abuse and other dark occupations. Although some participants note a shift to participating in more healthy routines, one participant continues to participate in dark occupations. Numerous reasons could be basis for continuing with dark occupations. One could speculate that due to the environment in which the participant grew up, he is unaware that he is participating in dark occupations, and sees these occupations as appropriate within his context.

Regaining a role as a husband and provider, friend and family member empowers participants to engage more actively in activities related to their role within the

community. A man who does not experience himself to be the provider for his family will now venture into the community to provide for others. This is evident from the findings that the participants have since embraced central and agentic roles within the community, including supportive roles for others with disabilities, their families as well as community members without disabilities.

5.2.5 Context and environment (cf. 4.7)

The OTPF describes the variety of conditions that are interrelated, both within and around the person. This includes cultural, personal, temporal and virtual. From the findings cultural, personal, physical and social context were most predominantly mentioned. In the OTPF, the cultural environment can be described as the activity patterns and activity choices of the society, also including customs and behaviour standards. In the cultural environment in which the participants find themselves, violence and poverty is of the norm. This is also evident through the dark occupations in which some participants engage in.

Participants acquired their injuries through violence, either directly by being shot or stabbed, or indirectly due to a motor vehicle accident cause by the driver of the taxi being shot. However, the resilience shown by the participants to thrive within this culture of violence is remarkable. This further supports their shift to agentic life roles (Polkinghorne 1996: 301), where their previous life roles included a more victimic outlook. Since their participation in wheelchair basketball, the violence and poverty which surrounds them has served as a catalyst for further involvement in an attempt to assist those less fortunate, or those struggling with the same disabilities.

The physical environment is experienced by the participants as one with numerous challenges, including accessibility. Participants mention using the physical abilities acquired through wheelchair basketball, as well as the motivation of team members, to learn the necessary skills to adapt and cope within their environment. This includes skills such as negotiating curbs, stairs and traffic. The interrelatedness of categories and subcategories is demonstrated here, as the difficulties experienced

within their environment and transport (cf. 4.7.3) has improved the participants' physical strength and endurance (cf. 4.4.2.4). Though this does not calibrate with the idea of occupational justice, it can be said that since joining the wheelchair basketball team, the participants have consciously co-created to enhance their own 'occupational justice' by mastering activities that which they were previously unable to participate in; by employing resilience in the adversities that had to face after a SCI and moreover: actively contributing to the community.

A significant change in their social environment was noted by all participants. A shift from a feeling of isolation, to more comfortable social interactions, and feeling more respected by members of the community is relayed. Although mentioned in the OTPF, the temporal and virtual environment was not described by the participants.

From the participants' descriptions, they have experienced an increase in participation and ability in numerous activities and occupations. Participants expressed feeling more motivated, life being 'more easy' and having the courage to attempt activities that they previously did not participate in. This again relates to the notion of mastering occupations, which further promotes occupational engagement. This is echoed when they mention participating in more activities outside of the home, with their teammates as well as with other members of the community. Significantly, the participants express a need to assist others in wheelchairs, by visiting them in hospital or visiting their homes to offer assistance and advice there. Again there is an expression of a clear need to contribute to the community as expressed in previous sections as well (cf. 4.4.1; 4.6.2).

Despite the valuable structure derived from the Occupational Therapy Performance Framework (OTPF), it is evident that there is a lack of description relating to three domains/ categories that require further development:

- The hierarchical development between domains/categories (For example first developing skills needed to master occupations such as activities of daily living (ADL's) before attempting to master activities within a social context);

- The complex interrelatedness of different domains/categories (For example ADL's cannot be mastered without the necessary motor skills);
- The description of assistive devices and adapted methods of performing activities (For example if the necessary motor skills are not able to be improved in order to master ADL's, assistive devices or adapted techniques of performing the activity may be required) and
- The lack of a communalist perspective which presented itself throughout the interviews.

These descriptions form an important part of the occupational therapists grading or 'level of difficulty' at which the goals for a specific patient is set. For example, although activities of daily living (ADL's) and motor skills are both mentioned first under their separate domains within the Occupational Therapy Practice Framework (OTPF) motor skills such as balance need to be developed until the patient can sit independently for at least two minutes, before it can be expected that he will be able to attempt finishing a meal. However, attempting to finish a meal may assist him in improving his balance skills even further. This further highlights the interrelatedness of the various domains within the OTPF that are not apparent when studying the framework. When taking above-mentioned shortcomings into account, it may result in the OTPF being redesigned to move away from the lineal structure of its current design, and option for a more circular or spiral design when implementing it into practice.

Furthermore, it may be argued that despite the broad framework given by the OTPF, it lacks the complexity and depth to fully describe the complex contextual data obtained from the participants in this study. Although the OTPF offers structure to the data analysis, it has also proven to be limiting in terms of complex descriptions of various occupations.

5.3 Implications and suggestions for practice

The problem statement formulated for this study expresses the need to investigate the community reintegration of people with a spinal cord injury (SCI) who participate in wheelchair basketball and live in a low-socio-economic environment. This was done in order to describe their community reintegration (cf. 1.2) and the conclusions drawn from the findings of this study, can possibly guide occupational therapists working within a similar context to assist patients in achieving better reintegration into their community. Through the findings, various shortcomings in the prominently used Occupational Therapy Practice Framework (OTPF) have been identified, which may further indicate why occupational therapists have not sufficiently focussed on community reintegration.

Although limited time and resources is a reality within the context of this study, occupational therapists should not be bound by these limitations. By utilising knowledge of the community, additional support can be obtained to further assist the patient. As much as the focus is directed to the patient and his/her community reintegration, focus should also be placed on the occupational therapists' knowledge of community reintegration and the importance thereof.

Throughout the findings presentation in this dissertation, themes that arose included that of being able to 'do more' both for the participants themselves and for the community. It is therefore recommended that occupational therapists *enable* their patients to do *more.* This could be achieved by allowing patients to explore different occupations, or addressing difficulties that the patient currently experiences related to certain occupations in order to enable them to return to these activities. Although certain activities are not directly defined as related to community reintegration, activities as fundamental as eating and washing are crucial in enabling a patient to reintegrate into his/her community. It has already been established that mastery leads to further occupational engagement. By allowing patients to master activities related to self-care, work, leisure and other occupations, the occupational therapist is providing an opportunity for further occupational engagement. As the participant

continues to master these occupations, it will facilitate further occupational engagement, which will, in turn, contribute to furtherer mastery of occupations- inevitably leading to reintegration into community-related occupations.

5.3.1 Suggestions for the occupational therapist

For the occupational therapist aiming to improve or facilitate the community reintegration of a patient with a spinal cord injury, many factors should be taken into consideration. These may include, but are not limited to:

- Obtaining a thorough and contextualised knowledge of the community to which the patient will be returning (including domains from the OTPF such as physical environment and cultural context).
- Availability of peer support within the community, including individuals of the same gender and cultural background.
- Continued re-evaluation of the patient's/community member's occupational adaptation, engagement and occupational justice.

5.4 Recommendations

The findings discussed in 5.2 provide a better understanding of the community reintegration of people with a SCI, specifically relating to those who participate in wheelchair basketball. The researcher aims to gather certain recommendations as deduced from these findings. It is important to note that within this qualitative study, the researcher does not aim to generalise, but rather encourage transferability of this study to similar settings for the perusal of other researchers. This may encourage learning from the sample, findings and recommendations and the application of similar strategies in other occupational therapy practices.

5.4.1 Recommendations regarding the role of the occupational therapist in the rehabilitation of people with SCI, specifically relating to their community reintegration

When noting the participants' difficulties prior to joining the wheelchair basketball team, the need for more client-centred rehabilitation for people with SCI is evident. Occupational therapists may opt to be more mindful of applying a purely biomedical approach, and adopt a more client-centred approach to preparing a person with a spinal cord injury to go home and return to an integrated occupational existence. From the occupation-client- centred core that is occupational therapy it is important to note the valued of the bio-medical approach. However, the occupational therapist should primarily consider the context in which he/she finds the person they are rendering a service to, and at all times design a treatment plan consider the context of the person. This may include exploring various avenues to determine the clients' needs, as he/ she may not be aware of certain difficulties that may be encountered e.g. collaborating with community therapists, stepping out of the hospital and into the world of the patient to gain a visual map of the environment that the patient will be returning to. By gaining insight into the community and what it has to offer the therapist might uncover additional resources to assist the patient through his/her rehabilitation. There may be tennis court around the block from the patients' house, where he/she can join in during a practice session to determine whether it is an interest for them.

A focus on using meaningful occupation is crucial to allow the patient to engage in the rehabilitation process. It is further recommended that as the time for discharge from hospital approaches, therapists consider moving therapy out of the hospital and into the community itself. This may lend itself to a more 'real' world representation of the patients' abilities and possible difficulties in the community.

Home-visits to determine the accessibility of the immediate environment, as well as follow-up visits at home are recommended. This could further contribute to family education regarding how they can assist the person with a SCI. By including family members in the home visit, a greater follow through and supportive environment

could be expected if the family has a better understanding of the needs and requirements of the patient.

It is also vital that the occupational therapist is familiar with the community, and is aware of what structures are available to the patient. This could include other members of the community who have a SCI, which may serve as a valuable resource and motivator for newly discharged patients. These members of the community could assist newly discharged patients the 'trick of the trade'. This may include which roads are more wheelchair friendly, when and where access public transport and how to access various community resources. The value of a supportive group is evident from the research, and the occupational therapist should aim to maintain a healthy, professional relationship with key role players within the community.

The occupational therapist should furthermore be aware of the shortcomings of the models and frameworks that she is applying in his/ her therapy. Being aware and adapting according to the needs of the patients allows for occupational justice and meaningful activity choices. As with the variations of models and frameworks, the occupational therapist should be aware of his/her limitations within the scope of the profession, professional experience and available resources, and utilise collaborate with support structure to optimise therapy interventions.

5.4.2 Recommendations regarding the occupational therapist as a role player in the wheelchair basketball team

It is recommended that a therapist that is involved in wheelchair basketball consults with experts in the field. This may require emails to coaches and other key role players. This may assist the occupational therapist to optimally assist the participants in the team, by sourcing information regarding team registration, sourcing funding, attending training camps, provincial and national team trials and general team management. It is imperative that certain team duties remain the responsibility of the team to ensure further growth and maintaining independence. Occupational therapists tend to fulfil many roles in the lives of their patients, but it

remains the core responsibility to facilitate independence together with mastering fulfilling life regardless of physical disability, and should therefore not create dependence on the support offered by the occupational therapist.

5.4.3 Recommendations regarding wheelchair basketball and community reintegration

The value of wheelchair basketball on the community reintegration of players is unmistakable. Findings from research emphasise the value of wheelchair basketball. It is therefore recommended that occupational therapists create structures such as a wheelchair basketball team to facilitate community reintegration. Although this study has focussed on wheelchair basketball, the researcher recommends that occupational therapists identify activities within the community that is accessible, financially viable, culturally appropriate and meaningful to the patients.

Although it may be thought to be an uphill battle, many government- and non-governmental resources are available to the occupational therapist which can be used to further community reintegration. The occupational therapist would be required to research the availability of resources such as additional funding through the Department of Sport, Recreation, Arts and Culture which can be allocated to more appropriate wheelchairs and training facilities. Approaching structures such as local Universities may provide the occupational therapist with wealth of resources such as wheelchair basketball courts, physiotherapists to assist with training and experts in the field of disabled sport.

When considering the 11 Batho Pele principles, the tenth principle of 'Customer impact' resonates most with the findings of this study (Community safety and Liaison 2011). Occupational therapists are compelled to consciously be aware of the impact they have on their patients' lives. How far is this impact reaching? Is the impact lasting and valuable to the patient? Is it enabling occupational justice through the impact of our therapy? When considering the patients' constitutional rights regarding discrimination, the inaccessibility of structures in the community unfairly

discriminates against them based on their disability. The occupational therapist has the responsibility to assist the patient in addressing there inequalities, whether by improving their skills or by advocating for better access to buildings and resources. By facilitating these transitions to equality and fairness, the patients' ability to reintegrate into the community is further supported.

5.5 Recommendations for further research

The researcher recommends further research regarding the community reintegration of people with a SCI who participate in wheelchair basketball.

- This study may be repeated in other settings, e.g. with the Motherwell Wheelchair Basketball team, Londt Park Wheelchair Basketball team as well as NMMU teams. This may improve the transferability of the study, and also offer valuable insight into the role that culture and socio-economic status plays on the community reintegration of people with a SCI who participate in wheelchair basketball.

- Conducting interviews with the participants' family members may also provide a valuable comparison towards the participants' perception of the community reintegration compared to that of their family.

- It is also recommended that further research includes documentation of the environment and daily activities of the participants. This may include joining a participant for a day and noting all activities and how these activities are performed. This may expose different methods of, for instance, performing certain transfers, or difficulties not yet addressed.

- The researcher also recommends further research using a standardised tool to measure the community reintegration of wheelchair basketball players. Although the qualitative nature of this research has produced valuable findings, using a standardised tool may assist measuring community

reintegration of the same participant across different time frames, e.g. before joining the team, 3 months after joining the team, 6 months after joining the team.

- Further research into other sport and recreation activities would also be of value. This may include team and individual activities. A comparative study between group and individual activities may also be noteworthy.

- Research pertaining to other diagnosis' may also contribute to the transferability of the study, and assist therapists in including various patients in a community reintegration program.

5.6 Limitations of this study

The following aspects are described as limitations to the current study:

- The sample is restricted to the participants who are members of the wheelchair basketball team of the Northern Areas. This sample is limited to a specific cultural and socio-economic environment. It excludes participants from other environments such as higher socio-economic environments which may influence their community reintegration in entirely different ways.

- The sample was relatively small, despite being in line with research guidelines and yielding data saturation. A larger number of participants may provide a wider range of personal context to further support the transferability of the findings.

- The OTPF has been used as a guideline to discuss findings. Despite being a comprehensive framework, the researcher notes that although the contents of the subcategories would have been consistent, the categories and

subcategories may have differed if inductive coding was used exclusively, though pre-set coding created much room for viewing adopted theoretical frameworks more critically in future.

- Limited research pertaining to wheelchair basketball and the community reintegration of people with a SCI within the profession of occupational therapy limited background reading for this study. Although this is a limitation, it affirms the purpose of the study and highlights the importance of publication thereof.

5.7 Closure

The aim of the study was reached, as wheelchair basketball participation and the community reintegration of people with a SCI was described. The role of wheelchair basketball in community reintegration is evident. By better understanding community reintegration, occupational therapists can better assist patients in achieved related goals and successfully participating in meaningful occupations.

Realising the limitations of well-known models and frameworks such as the Occupational Therapy Practice Framework (OTPF), occupational therapists may learn the value of combining frameworks. This will not only assist them in supplementing sections that are lacking, but also to find the most suitable combination of intervention for their patients. Limitations such as resources, time and experience should not be seen as scapegoats for sub-optimal therapy for reintegration into the community. By utilising the variety of community based recourses the occupational therapist is in the unique position to facilitate and improve the community reintegration of patients who suffer from a spinal cord injury.

The word of Victor epitomises the participation in wheelchair basketball and community reintegration best:

“For me, it was the best thing that could happen.”

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List of appendix

Appendix A: Informed consent (Coach/ manager)

Coach/ manager information and consent letter

Title: Wheelchair basketball and the community reintegration of people with a spinal cord injury.

Researcher: Wilene van Rooyen (B. Occupational Therapy; UFS)

To the manager/coach of the wheelchair basketball team

I would like your permission to approach the wheelchair basketball team in which you are involved, to invite them to participate in a research study regarding wheelchair basketball. The study is aimed at describing the community reintegration of people with a spinal cord injury and their participation in wheelchair basketball in a low socio-economic environment. I have been motivated to research this topic as part of my Master's degree in occupational therapy, due to the importance of community reintegration of people with SCI, as part of the occupational therapy rehabilitation.

Background: As part of the occupational therapy rehabilitation of the patient with a Spinal Cord Injury (SCI), it is important that therapists focus on the reintegration of patients into their community, and assist them in achieving a well-balanced social, occupational and financial environment.

From previous experience it was noted that occupational therapists in the acute hospital setting often focus too little on the community reintegration of patients with a SCI. Factors such as lack of time, resources and an inappropriate understanding of the importance of community reintegration could be the reason for this. Previous research describes community reintegration as resuming participation in roles that are age, gender and culture appropriate

within their natural community and relationships (Dijkers 1999; 80:8676-6). The occupational therapist has the important function in assisting the patient in resuming these roles.

Research done by McVeigh, Hitzig and Craven (2009; 32 (2): 115-124) found that the sports participants achieved better community reintegration than the non- participants. Limited publicised research could be found on the influence of wheelchair basketball as a sport for people with Spinal Cord Injuries. Wheelchair basketball is a favourite sport amongst many who have mobility impairments. It is played on both social (informal) and professional level.

Methodology: An interview will be completed, and will take about 45 – 60 minutes to complete. The interview will be audio-recorded. The participants will be interviewed by Mr Kegan Toppers [B Psych (counselling- NMMU), MA Psych (counselling- UFH)]. He is a researcher at the School of Clinical Care Sciences at the Nelson Mandela Metropolitan University in Port Elizabeth, who is well in conducting interviews for research purposed. They will be asked questions about their day-to-day life before participation in wheelchair basketball as well as after joining a wheelchair basketball team. The interview will remain confidential. This is achieved by giving each participant a number which could be used for further research purposes. All consent forms and interview will be kept by me and will be kept confidential.

Participants: Participants will receive an informed consent letter, and voluntarily participate in this study. For the purpose of this study, I will focus on participants who are part of the Northern areas wheelchair basketball team who suffered a SCI.

Ethical considerations: Various ethical implications should be considered before executing the research. These considerations ensure the protection of the human rights of the participants. Informed consent will be sought from the potential participants. They will be informed regarding the research activities,

possible emotional discomforts and have the opportunity to ask questions. The participants will not receive any remuneration for their participation in the study, but will be reimbursed for any transport expenses incurred to reach the venue where the research will be conducted. All information obtained within this study will remain confidential, by numbering the consent forms and interviews. No names of participants will be mentioned in presentations or publications.

Ms T. van der Merwe, the study leader (tel: 051 401 3287) as well as the secretariat of the Ethics committee (Ms M Marais, tel: 051 401 7795) may by contacted for any questions regarding this research. The research study has been approved by the Ethics Committee of the Faculty of Health Sciences, University of the Free State.

I have focused and will continue to focus on honesty and integrity throughout the duration of the planning and execution of the research. The results of the research will be made available to the participants.

I aim to describe the community reintegration of people with a spinal cord injury and their participation in wheelchair basketball. This will enable me to make recommendations to other occupational therapists working with people with SCI, enabling them to set up successful community reintegration programs at their institutions.

I would like to have the opportunity to speak to the members of the wheelchair basketball team that you are affiliated with, to discuss with them the research proposal.

Regards

_____

The researcher

Wilene van Rooyen – 0722472999

I, Wilene van Rooyen (the researcher) have discussed the information letter with the captain of the wheelchair basketball team. I have answered his/her questions honestly and am of opinion that he/she understands what the research entails.

Signature: _____ Date: _____

I have discussed the information letter with the researcher and have asked any questions that I have so far. I willingly give consent to her approaching the member of the wheelchair basketball team that I represent. She may contact them to discuss the information letter and possible participation in her study.

Coach:

Name: _____

Signature: _____ Date: _____

Witness: _____ (Brink 2010: 36-38)

Manager:

Name: _____

Signature: _____ Date: _____

Witness: _____ (Brink 2010: 36-38)

Appendix B: Ingeligte toestemming (Bestuurder/ afrigter)

Bestuurder inligting brief en ingeligte toestemmings brief

Titel: Rolstoel basketbal en die gemeenskaps herintegrasie van persone met ‘n spinaalkoordbesering.

Navorser: Wilene van Rooyen (B. Arbeidsterapie; UV)

Aan die bestuurder/ afrigter van die rolstoel basketbal span:

Graag vra ek u toestemming om die rolstoel basketbal waarby u betrokke is, te nader om deel te neem aan ‘n navorsing studie rakend rolstoel basketbal. Die navorsing is gemik daarop om die gemeenskaps herintegrasie van persone met ‘n spinaalkoordbesering en hul deelname aan rolstoel basketball in ‘n lae sosio-ekonomiese omgewing te beskryf. My motivering vir die studie as deel van my Meestersgraad in arbeidsterapie is die belang van gemeenskaps herintegrasie vir persone met spinaalkoordbeserings as deel van die arbeidsterapie rehabilitasie proses.

Agtergrond: As deel van die arbeidsterapie rehabilitasie van ‘n person met ‘n spinaalkoordbesering (SKB) is dit belangrik dat die terapeut fokus op die herintegrasie van pasiënte in hul gemeenskap in, en om hulle te help om ‘n goed gebalanseerde sosiale, funksionele en finansiële omgewing te behaal.

Van vorige ervaring is dit opgelet dat arbeidsterapeute in akuut hospitale te min fokus op gemeenskaps herintegrasie van pasiënte met SKB. Faktore soos beperkte tyd, hulpbronne en onvoldoende begrip van gemeenskaps herintegrasie kan die rede hiervoor wees. Vorige navorsing beskryf gemeenskaps herintegrasie as volg: om aan te hou met ouderdoms- geslags- en kulturele toepaslike role en aktiwitiete binne ‘n natuurlike omgewing en

verhoudinge (Dijkers 1999; 80:8676-6). Die arbeidsterapeut het die belangrike rol om die pasiënt te fasilteer om met hierdie rolle voort ge gaan.

Navorsing gedoen deur McVeigh, Hitzig en Craven (2009; 32 (2):115-124) het gevind dat persone wat deelneem aan sport beter vaar in gemeenskap herintegrasie as persone wat nie aan sport deelneem nie. Die navorser kon beperkte gepubliseerde navorsing vind rakend die deelname aan rolstoel basketbal en gemeenskaps herintegrasie. Rolstoel basketbal is ‘n gunsteling sport vir parsone met bewegings inperkings, en word op beide informele (sosiale) en profesionele vlak gespeel.

Metadologie: ‘n Individuele onderhoud sal met die deelnemer gevoer word. Die onderhoud sal klank-opgeneem word. Dit behoort 45-60 minute te duur en sal uitgevoer word deur Mnr Kegan Topper [B Psych (berading- NMMU), MA Psych (berading- UFH)]. Hy is ‘n navorser by die Skool van Kliniese Sorg Wetenskappe aand die Nelson Mandela Metropolitaanse Universiteit in Port Elizabeth, en is goed gesout in die proses van onderhoude voer. Ek sal teenwoordig wees tydens die onderhoud en notas neem. Tydens die onderhoud sal vrae gevra word rakend daaglikse aktiwiteite en deelname aan gemeenskaps aktiwiteite, vandat daar by die rolstoel basketbal span aangesluit het.

Hierdie onderhoud sal konfidensieel bly deur genommer te word. Die onderhoud en transkribsie sal in ‘n geslote kluis gestoor word, en sal slegs deur die navorser, vertaler en studie leier gesien word.

Deelnemers: Deelnemers sal ‘n ingeligte toestemmings brief ontvang, en neem vrywillig deel aan die studie. Vir die doel van hierdie studies al lede van die Noordelike voorstede rolstoel basketbal span genader word.

Etiese aspekte: Verskeie etiese aspekte is oorweeg voor die uitvoering van hierdie studie. Hierdie aspekte beoog om die mense regte van die deelnemers

te bewaar. Ingeligte toestemming sal versoek word van die deelnemers. Hulle sal ingelig word rakend moontlike emosionele risiko's, en sal geleentheid ontvang om vrae te vra. Deelnemers sal geen finansiele vergoeding ontvang nie, en sal verged word vir vervoer kostes om die lokaal te bereik. Alle inligting verkry sal konfidensieel bly, deur vraelyste te nommer. Geen name van deelnemers sal bekend gemaak word tydens publikasie nie.

Die studie leier, Me. T. van der Merwe (tel: 051 401 3287) asook die sekreteriaat van die Etiese kommitee (Me M. Marais, tel: 051 401 7795 kan ook gekontak word vir vrae rakend die navorsing. Die studie word goedgekeur deur die Etiese kommitee van die Departement Gesondheidswetenskap, Universiteit van die Vrystaat.

Ek het gefokus, en sal voordurend fokus op 'n hoë vlak van integriteit en eerlikheid. Die resultate van die navorsing sal aan die deelenemrs bekend gemaak word.

My doel is om die gemeenskaps herintegrasie van persone met 'n SKB en hul deelname aan rolstoel basketbal te beskryf. DIt sal my in staat stel om aanbevelinge te maak aan ander arbeidsterapeute wat werk met persone met 'n SKB, ten einde hul in staat te stel om suksesvolle gemeenskapsherintegrasie programme saam te stel.

Ek sou graag die geleentheid wou bekom om met die lede van die rolstoel basketbal span te praat, ten einde die navorsing met hulle te bespreek.

Die uwe

_____

Die navorser

Wilene van Rooyen – 0722472999

Kontak my gerus indien u enige vrae het rakend die navorsing, op 0722472999.

Ek, Wilene van Rooyen (die navorser) het die inligtingsbrief met die span bestuurder/ afrigter bespreek en het al sy vrae eerlik beantwoord. Ek is van opinie dat hy die navorsing verstaan.

Handtekening: _____ Datum: _____

Ek het die inligtingsbrief met die navorser bespreek, en het enige vrae wat ek moontlik mag hê met haar bespreek. Ek gee vrywillig toestemming dat sy die lede van die rolstoel basketbal span mag kontak.

Afrigter:

Naam: _____

Handtekening: _____ Datum: _____

Getuie: _____ (Brink 2010: 36-38)

Bestuurder:

Naam: _____

Handtekening: _____ Datum: _____

Getuie: _____ (Brink 2010: 36-38)

Appendix C: Informed Consent (Participant)

Participant information and consent letter

Title: Wheelchair basketball and the community reintegration of people with a spinal cord injury.

Researcher: Wilene van Rooyen (B. Occupational Therapy; UFS)

Dear Participant

I would like to invite you to participate in a research study regarding wheelchair basketball. The study is aimed at describing the community reintegration of people with a spinal cord injury and their participation in wheelchair basketball in a low socio-economic environment. I have been motivated to research this topic as part of my Master's degree in occupational therapy, due to the importance of community reintegration of people with a SCI, as part of the occupational therapy rehabilitation.

By participating in this research, you will not receive any financial remuneration. You will be reimbursed for transport costs to get to the venue at which the research will take place. Your participation will contribute to information, which will be compiled into a report. This report will be used to help other wheelchair users and occupational therapists who are working on the community reintegration of the wheelchair users.

Your participation will involve an individually completed interview, which will be conducted by Mr Kegan Topper [B Psych (counselling- NMMU), MA Psych (counselling- UFH)]. He is a researcher at the School of Clinical Care Sciences at the Nelson Mandela Metropolitan University in Port Elizabeth, who is well in conducting interviews for research purposed. It will last between 45 and 60 minutes and will be audio-recorded. During the interview, I will be present to

take notes during the interview. You will be asked questions relating to your day-to-day life and participation in community activities, and the wheelchair basketball team. This interview will be kept confidential by numbering the interview. The interview will be kept in a locked safe, and will not be seen by anyone other than the researcher, translator and the two study leaders. The findings of the study may be publish, and the names of the participants will not be mentioned.

Participation is voluntary. Should you decide to take part in the research, you may withdraw at any time during the research. Withdrawal will not cause any penalties to you or anyone else. Participants are requested not to discuss any part of the interview with other participants, as this could influence the answers given by participants.

Please feel free to contact me should you have any questions regarding participation in the research. I can be contacted on 0722472999. The study leader (Ms T. van der Merwe, tel: 051 401 3287) as well as the secretariat of the Ethics committee (Ms M Marais, tel: 051 401 7795) may by contacted for any questions regarding this research. The research study has been approved by the Ethics Committee of the Faculty of Health Sciences, University of the Free State.

I, Wilene van Rooyen (the researcher) have discussed the information letter with the potential participant. I have answered his questions honestly and am of opinion that he understands what the research entails.

Signature: _____ Date: _____

I have discussed the information letter with the researcher and have asked any questions that I have so far. I willingly give consent to participate in this study, and understand that I may withdraw at any time.

Signature: _____ Date: _____

Witness: _____ (Brink 2010: 36-38)

Appendix D: Ingeligte toestemming (Deelnemers)

Deelnemer inligting brief en ingeligte toestemmings brief

Titel: Rolstoel basketbal en die gemeenskaps herintegrasie van persone met ‘n spinaalkoordbesering.

Navorser: Wilene van Rooyen (B. Arbeidsterapie; UV)

Geagte deelnemer

Graag nooi ek u uit om deel te neem aan ‘n navorsing studie rakend rolstoel basketbal. Die navorsing is gemik daarop om die gemeenskaps herintegrasie van persone met ‘n spinale koord besering en hul deelname aan rolstoel basketbal in ‘n lae sosio-ekonomiese omgewing te beskryf. My motivering vir die studie as deel van my Meestersgraad in arbeidsterapie is die belang van gemeenskaps herintegrasie vir persone met spinaalkoordbeserings as deel van die arbeidsterapie rehabilitasie proses.

Vir deelname aan hierdie navorsing sal jy geen finansiele vergoeding ontvang nie. Jy sal vergoed word vir vervoer kostes om na die lokaal waar die navorsing sal plaasvind te kom. Jou deelname sal bydrae tot inligting wat gebruik sal word om bevindinge saam te stel. Hierdie bevindinge sal gebruik word om ander rolstoel gebruikers en arbeidsterapeute te help om die gemeenskaps herintegrasie aan te spreek.

Jou deelname sal ‘n individuele onderhoud behels, wat deur jou voltooi word. Dit behoort 45-60 minute te duur, en sal klank-opgeneem word. Tydens die onderhoud sal jy vrae gevra word rakend jou daaglikse aktiwiteite en deelname aan gemeenskaps aktiwiteite, voor en nadat jy by die rolstoel basketbal span aangesluit het. Die onderhoud sal uitgevoer word deur Mnr Kegan Topper [B Psych (berading- NMMU), MA Psych (berading- UFH)]. Hy is ‘n navorser by

die Skool van Kliniese Sorg Wetenskappe aan die Nelson Mandela Metropolitaanse Universiteit in Port Elizabeth, en is goed gesout in die proses van onderhoude voer. Ek sal teenwoordig wees om notas te neem.

Hierdie onderhoud sal konfidensieel bly deur genommer te word. Die onderhoud en transkribsie sal in ‘n geslote kluis gestoor word, en sal slegs deur die navorser, vertaler en studie leier gesien word. Die bevindinge van die navorsing sal moontlik gepubliseer word, en die deelnemers se name sal nie genoem word nie.

Deelname is vrywillig. Sou jy besluit om aan die navorsing deel te neem mag jy enige tyd om enige rede onttrek. Onttrekking sal geen straf of gevolge vir jou inhou nie. Deelnemers word versoek om geen deel van die vraelys met mekaar te bespreek nie, aangesien dit die antwoorde van die deelnemers kan beïnvloed.

Kontak my gerus indien jy enige vrae het rakend die navorsing, op 0722472999. Die studie leier, Me. T. van der Merwe (tel: 051 401 3287) asook die sekreteriaat van die Etiese kommitee (Me M. Marais, tel: 051 401 7795 kan ook gekontak word vir vrae rakend die navorsing. Die studie word goedgekeur deur die Etiese kommitee van die Departement Gesondheidswetenskap, Universiteit van die Vrystaat.

Ek, Wilene van Rooyen (die navorser), het die inligtingsbrief met die moontlike deelnemer bespreek en het al sy vrae eerlik beantwoord. Ek is van opinie dat hy die navorsing verstaan.

Handtekeing: _____ Datum: _____

Ek het die inligtingsbrief met die navorser bespreek, en het enige vrae wat ek moontlik mag hê met haar bespreek. Ek gee vrywillig toestemming om aan die studie deel te neem, en verstaan dat ek enige tyd mag onttrek.

Handtekening: _____ Datum: _____

Getuie: _____ (Brink 2010: 36-38)

Appendix E: Background and demographic information (Section A)

Background and demographic information

For Office Use

Participant number: ☐☐ 1-2

1. Date questionnaire is completed ☐☐☐☐☐☐ 3-8
d d m m y y

2. What is your date of birth? ☐☐☐☐☐☐ 9-14
d d m m y y

3. Are you currently employed? ☐ 15

5. What is your current occupation? ☐☐ 16-17

6. What was your occupation prior to your injury? ☐☐ 18-19

7. What is your highest qualification? ☐☐ 20-21

—

8. What is your marital status? ☐ 22

1 Unmarried

2 Married/Traditional marriage

3 Divorced/Separated

4 Widow/Widower

5 Living together

9. What is your home language? ☐ 23

1 Afrikaans

2 English

3 Xhosa

4 Zulu

5 Other, specify……..…

10. What is the level of your spinal cord injury? ☐☐ 24-25

_____

11. What is the date of your spinal cord injury? ☐☐☐☐☐☐ 26-31

d d m m y y

_____

12. When did you start playing wheelchair basketball? ☐☐☐☐☐☐ 32-37

d d m m y y

_____

13. How often do you play wheelchair basketball? ☐ 38

_____

14. Did you take a break from participation? How long? [ ][ ] 39-40

15. Do you receive a Government grant? [ ] 40

16. What type of grant? [ ] 41

17. How did you come about playing wheelchair basketball? [ ][ ] 42-43

18. Do you feel wheelchair basketball has influenced your ability to resume meaningful activities since your discharge from hospital after your SCI?

Yes / No [ ] 44

Appendix F: Agtergrond en demografiese inligting (Afdeling A)

Agtergrond en demografiese inligting

Vir kantoor gebruik

Deelnemer nommer: ☐☐ 1-2

1. Datum waarop onderhoud voltooi is: ☐☐☐☐☐☐ 3-8
d d m m j j

2. Wat is jou geboorte datum? ☐☐☐☐☐☐ 9-14
d d m m j j

3. Het jy op die oomblik werk? ☐ 15

5. Wat is jou huidige werk? ☐☐ 16-17

6. Wat was jou werk voor jou besering? ☐☐ 18-19

7. Wat is jou hoogste kwalifikasie? ☐☐ 20-21

8. Wat is jou huweliks status? [ ] 22

1 Ongetroud

2 Getroud/ tradisionele huwelik

3 Geskei

4 Wewenaar

5 Woon saam

9. Wat is jou huis taal? [ ] 23

1 Afrikaans

2 Engels

3 Xhosa

4 Zulu

5 Ander, spesifiseer……..…

10. Wat is die vlak van jou spinaalkoordbesering? [ ][ ] 24-25

---

11. Wat is die datum van jou spinaalkoordbesering? [ ][ ][ ][ ][ ][ ] 26-31

d d m m j j

---

12. Wanneer het jy begin rolstoelbasketbal speel? [ ][ ][ ][ ][ ][ ] 32-37

d d m m

---

13. Hoe gereeld speel jy rolstoelbasketbal? [ ] 38

---

14. Het jy 'op 'n stadium opgehou speel? Vir hoe lank?		39-40
15. Ontvang jy 'n Staats-toelaag?		40
16. Watter tipe toelaag?		41
17. Hoe het jy begin rolstoelbasketbal speel?		42-43
18. Voel jy dalk rolstoelbasketbal jou vermoë om aan om aan betekenisvolle aktiwiteite beïnvloed het na jou ontslag van die hospitaal na jou SKB? Ja / Nee		44

Appendix G: Interview (Section B)

1. Tell me how wheelchair basketball has influenced / shaped / changed your ability to resume the activities which you find meaningful after discharge from hospital after the SCI?

Appendix H: Onderhoud (Afdeling B)

1. Vertel my hoe rolstoelbasketbal jou vermoë om aan betekenisvolle aktiwiteite beïnvloed of verander het na jou ontslag van die hospitaal na jou SKB?

Appendix I:Curriculum Vitae of Kegan Topper

Address: 6 Morrison Street, Glendinningvale, Port Elizabeth, 6001

Tel: +27 76 162 3811(c)

Email: kegan.topper@nmmu.ac.za

Personal details:

Nationality: South African (ID number: 8205285118086)

Marital Status: Married

Home Language: English (fluent in reading, writing and speaking) *Other Language:*Afrikaans (read, write and speak reasonably well)

Religious Affiliation: Christian

Criminal Offences: No

Computer Literacy: Microsoft Office Suite, Internet, Email and more.

Driver's License: Code 08

Registration No: 0117633

Practice No: 0467324

Work related experience:

Feb 2012 – Current (Part-time):

- Counselling psychologist in private practice.

Feb 2012 – Current (Part-time):

- Research and student support at the School of Clinical Care Sciences at Nelson Mandela Metropolitan University (NMMU).

During 2011:

- Internship year (M2) for Master of Social Science in Counselling Psychology at the University Psychology Clinic at NMMU under the supervision of Lisa Currin and Alida Sandison. This involved individual and group psychotherapy, psychological assessment and lecturing.

  Time for completion: 1 January 2011 – 31 December 2011

During 2010:

- Practical component of first year (M1) Master of Social Science in Counselling Psychology at the University of Fort Hare (UFH) under the supervision of Dr Dirk Odendaal. This involved individual and group psychotherapy, psychological assessment and community work.

  Time for completion: 1 February 2010 – 30 November 2010

During 2009:

- Junior student counsellor at Student Counselling, Career and Development Centre, North Campus, NMMU

  Time for completion: Aug 2009 – Dec 2009

- Administration and assessment assistant at the Centre for Access Assessment & Research at NMMU.

  Time for completion: June 2009 – July 2009

During 2008:

- Internship year as a Registered Counsellor at the Student Counselling, Career and Development Centre, North Campus, NMMU.

  Time for completion: July 2008 – December 2008

During 2007

- Admin and assessment assistant at the Centre for Access Assessment & Research at NMMU.

Time for completion: November 2007 – February 2008

Education:

MASTER OF SOCIAL SCIENCE: COUNSELLING PSYCHOLOGY

TIME ATTENDED (JAN 2010 – DEC 2011)

Second year (M2) completed at the Nelson Mandela Metropolitan University Port Elizabeth, Eastern Cape, SA

First year (M1) completed at the University of Fort Hare East London, Eastern Cape, SA

B. PSYCH IN COUNSELLING (REGISTERED COUNSELLOR)

TIME ATTENDED (JAN 2005 - DEC 2008)

Nelson Mandela Metropolitan University Port Elizabeth, Eastern Cape, SA

SENIOR CERTIFICATE MATRICULATION ENDORSEMENT

TIME ATTENDED (JAN 1996 - DEC 2000)

Grey High School Port Elizabeth, Eastern Cape, SA

Short courses:

PERSONAL GROWTH TIME ATTENDED (FEB 2007 – APRIL 2007)

COUNSELLING SKILLS TIME ATTENDED (JULY 2007 – SEPT 2007)

Lifeline Port Elizabeth, Port Elizabeth, Eastern Cape, SA

VOLUNTEER TRAINING AND COUNSELLING SKILLS TIME ATTENDED (MAY 2007 – JUNE 2007)

Alternatives Pregnancy Crises Centre Port Elizabeth, Eastern Cape, SA

Community Involvement:

- Fountain Vineyard Fellowship: Counselling and facilitation of training programs (personal growth and counselling skills).
- Time of completion: May 2012 - Current
- Career Development Services: Counselling and assessment of disadvantaged youth in Nelson Mandela Bay

  Time for completion: October 2013 – Current
- Lifeline PE: Counselling and facilitation of training programs (personal growth and counselling skills).
- Time for completion: January 2007 – Current
- Umzewethu: Mentoring students

  Time for completion: May 2011 – Dec 2012
- Alternatives Pregnancy Crises Centre: Co-facilitated psycho-educational workshops

  Time for completion: June 2009 - November 2009
- Working World Exhibition: Assist high school learners with subject and career choice

  Time for completion: August 2008/2013/2014
- MTR Smit Children's Haven: Provided support and guidance to adolescents and young children

  Time for completion: June 2007 – November 2007
- Phelaphepa Train (Community Health Train): Counselling and psych-educational workshops

  Time for Completion: July 2006

Research:

Papers:

- Masters research study titled: 'Narrative play therapy and the journey of a child diagnosed with a learning disability: A case study' to meet the requirements of a master's degree in counselling psychology.

- Andersson, L. M. C. Schierenbeck, I, Strumpher, J. Krantz, G., Topper, K. Backman, G. Ricks. & Rooyen, R. M. 2013. Help-seeking behaviour, barriers to care and experiences of care among persons with depression in the Eastern Cape, South Africa. *Journal of Affective Disorders,*Vol 151(2):439-448.
- van Rooyen, R. M. Topper, K.Strümpher, J. Andersson, L. M. C., & Schierenback, I. 2014. Barriers to accessing mental health care in the Eastern Cape Province of South Africa. *African Journal of Nursing and Midwifery*, Vol 16(1): 45-59.
- van Rooyen, R. M. Topper, K. Morton, D. Strümpher, J. Andersson, L. M. C. & Schierenback, I. 2014. Health care practitioners' perceptions of public mental health care in the Eastern Cape, South Africa. *Journal of Psychology in Africa,*Manuscript submitted for publication.
- Topper, K. Van Rooyen, K. Grobler, C. Van Rooyen, D.& Andersson, L. 2015. Posttraumatic Stress Disorder and Barriers to Care in Eastern Cape Province, South Africa. *Journal of Traumatic Stress*,Manuscript accepted for publication April 2015.

Conference Presentations:

- Presented a research poster titled: 'Narrative play therapy and the journey of a child diagnosed with a learning disability: A case study' at the Faculty of Health Sciences 2012 Annual Student Research Conference at NMMU.
- Presented an article titled: 'Barriers to care and the right to health for people with mental illness in the Eastern Cape, South Africa' at the 2013 Annual Nursing Education Conference.
- Presented an article titled: 'Health care practitioners' perceptions of public mental health care in the Eastern Cape, South Africa' at the 2013 Mental Health Colloquium at NMMU
- van Rooyen, R. M., Topper, K., Strümpher, J., Morton, D., Schierenback, I., & Andersson, L.M.C. Health Care Professionals Perceptions of Public Mental Health Care in the Eastern Cape, South Africa. 4th Global Congress for Qualitative Health Research. 18 – 20 March 2015. Merinda, Yucatan, Mexico.

Developed skills:

My working experience has enabled me to:

- Work under pressure and meet deadlines
- Work well as a team player
- Get along with a wide variety of people and cultures
- Take charge of situations and remain calm
- Reach goals and maintain a high level of service delivery

Referees:

Name:	Contact details:	Relationship:
Ruth Connelly	041 504 3222 (w)/ 084 923 4569 (c)	SUPERVISOR: NMMU
Lisa Currin	041 504 2330(w)/ 082 448 8410 (c)	SUPERVISOR: NMMU
Dalena van Rooyen	041 504 2960 (w)/ 083 269 4448 (c)	DIRECTOR: NMMU

Appendix J: Letter from language editor

To whom it may concern

Regarding: Dissertation titled: “Wheelchair basketball and the community reintegration of people with SCI”, to be submitted by Wilene Wiggill.

Here I, Janine Pohlmann, state that I have checked the language and that I have found it to be correct.

Regards

Janine Pohlmann

BA Media Communication and Culture (NMMU)

BA Hons Cum Laude (NMMU)

MA English Lit. (NMMU)

Appendix K: Ethical Approval letter

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

UFS·UV
HEALTH SCIENCES
GESONDHEIDSWETENSKAPPE

IRB nr 00006240
REC Reference nr 230408-011
IORG0005187
FWA00012784

04 June 2015

MS W VAN ROOYEN
DEPARTMENT OF OCCUPATIONAL THERAPY
UFS
BLOEMFONTEIN

Dear Ms W van Rooyen

ECUFS NR 95/2015 **DEPARTMENT OF OCCUPATIONAL THERAPY**
PROJECT TITLE: WHEELCHAIR BASKETBALL AND THE COMMUNITY REINTEGRATION OF PEOPLE WITH A SPINAL CORD INJURY

1. You are hereby kindly informed that, at the meeting held on 02 June 2015, the Ethics Committee approved the above project.

2. Any amendment, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

3. A progress report should be submitted within one year of approval of long term studies and a final report at completion of both short term and long term studies.

4. Kindly use the ECUFS NR as reference in correspondence to the Ethics Committee Secretariat.

5. The Ethics Committee functions in compliance with, but not limited to, the following documents and guidelines: The SA National Health Act. No. 61 of 2003; Ethics in Health Research: Principles, Structures and Processes (2015); SA GCP(2006); Declaration of Helsinki; The Belmont Report; The US Office of Human Research Protections 45 CFR 461 (for non-exempt research with human participants conducted or supported by the US Department of Health and Human Services- (HHS), 21 CFR 50, 21 CFR 56; CIOMS; ICH-GCP-E6 Sections 1-4; The International Conference on Harmonization and Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH Tripartite).

Yours faithfully

.....
DR SM LE GRANGE
CHAIR: ETHICS COMMITTEE

Cc: Ms R Hough

Ethics Committee
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