

**OCCUPATIONAL SELF EFFICACY: AN OCCUPATIONAL THERAPY
PRACTICE MODEL TO FACILITATE RETURNING TO WORK AFTER A
BRAIN INJURY**

**A DISSERTATION SUBMITTED IN FULFILLMENT OF THE
DEGREE DOCTOR PHILOSOPHIAE IN THE FACULTY OF COMMUNITY
AND HEALTH SCIENCES**



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The sharing of knowledge is important.

However making use of that shared knowledge is even greater.

Shaheed



DECLARATION

I, SHAHEED SOEKER, hereby declare that the work on which this thesis: “Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain-injury”, is my own original work (except where acknowledgements indicate otherwise), and that neither the whole work nor any part of it has been, or is to be submitted for another degree in this or any other university.

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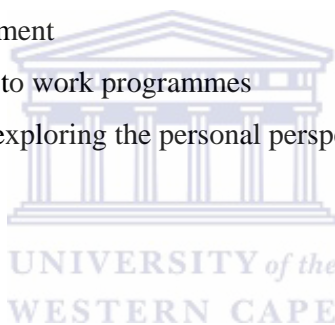


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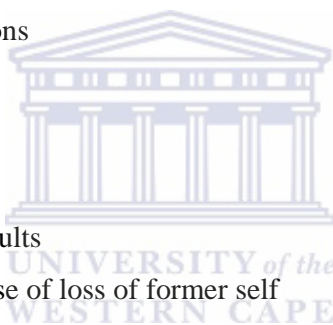
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Definition of terms

Traumatic Brain Injury: is defined as damage to the brain that occurs as a result of an external force such as accidents or assaults, thereby excluding neurological conditions such as cerebro-vascular accidents and degenerative brain diseases (Murdoch & Theodoros, 2001:1-2).

Return to Work: for the purpose of this study the term refers to the period of participation in vocational tasks after the client has completed or experienced interventions such as surgical treatment, physiotherapy and occupational therapy.

Occupations: these are defined as the things that we do, that provide us with feelings about ourselves and engage us in the world (Christiansen, Baum & Bass-Haugen, 2005:558). This engagement enables us to survive, interact with others, develop skills, pursue our interests and maintain ourselves.

Roles: these are defined as positions in society with expected responsibilities and privileges (Christiansen, Baum & Bass-Haugen, 2005:558). The American Occupational Therapy Association (2002) describes roles as a set of socially accepted behaviours. Examples include roles such as parent, worker, wife and husband.

Tasks, actions and activity: Tasks are defined as sets of activities that were determined as purposeful by the person. Whereby action is described as a basic unit consisting of behaviours directed towards the performance of a task (Christiansen, Baum & Bass-Haugen, 2005:558). Activity is described as a productive action required for development, maturation and use of sensory, motor, psychological and cognitive function.

Occupational Therapy: is defined as an art and a science that is aimed at improving functional independence of clients or patients through the therapeutic use of purposeful occupational activities in a holistic manner (Schwartz, 2003).

Client-Centred Approach: a practice modality that involves the client as the primary decision-maker especially in the establishment of therapeutic goals. The client must be actively involved in all phases of rehabilitation and must understand what the assessment involves. The client is directly involved in drawing up his/her own treatment aims, based on the problems he/she has agreed to work on (Sumsion, 1993).

Facilitators: the term refers to those factors that are seen as facilitating or contributing towards the return to work process. The World Health Organisation (WHO) also defines these as factors in a person's environment that, through their absence or presence, improve functioning and reduce disability. These include aspects such as the physical environment that is accessible, the availability of relevant assistive technology, and positive attitudes of people towards disability, as well as services, systems and policies that aim to increase the involvement of all people with a health condition in all areas of life. Absence of a factor can also be facilitating (e.g. that absence of stigma or negative attitudes). Facilitators can prevent an impairment or activity limitation from becoming a participation restriction, since the actual performance of an action is enhanced, despite the person's problem with capacity (W.H.O, 2001:192).

Barriers: the term refers to those factors that prevent or negatively influence participation in the return to work process. The World Health Organisation also defines these as factors in a person's environment that, through their absence or presence, limit functioning and create disability. These include aspects such as a physical environment that is inaccessible, lack of relevant assistive technology, and negative attitudes of people towards disability, as well as services, systems and policies that are either non-existent or that hinder the involvement of all people with a health condition in all areas of life (W.H.O, 2001:192).

Adaptations: this term refers to "an active response to a challenge in the environment that is self-reinforcing and that becomes most effective when it is organised subcortically as an unreflected habit" (Frank, 1996:47). It also refers to any adjustment or changes in response to new expectations or demands in order to

make tasks simpler or less demanding to promote greater success (Crepeau, Cohn & Schell, 2003).

Perceptions: the meaning the brain gives to sensory input. It is a subjective experience that is above and beyond the mere recognition of sensory data (Ayres, 1972). It is also defined as the mental process involving recognizing and meaningfully interpreting sensory information (Crepeau et al, 2003).

Experience: the direct participation in an activity over time (Crepeau et al, 2003). It is also defined as the process of gaining knowledge and skill through doing and seeing (Hornby & Ruse, 1988).

Model: the term refers to diverse concepts organized into unique occupational therapy theory. Its purpose is to develop theory, provide rationale for and guide practice (Keilhofner, 1992:14). It is also described by symbolic representations of an empiric experience in the form of words and pictorial or graphic diagrams (Chinn & Kramer, 1999:53)

Theory: the term refers to a creative and rigorous structuring of ideas that are structured as concepts. These ideas represent a tentative, purposeful and systematic view of phenomena (Chinn & Kramer, 1999:51)

Abstract

Statistics of vocational rehabilitation services show that individuals who had sustained brain injuries experienced difficulty in adjusting to their pre-morbid worker roles. Rehabilitation programmes developed to enhance vocational outcomes for this population in the Western Cape Province of South Africa have not yielded satisfactory return-to-work rates. Current intervention comprising medical intervention and rehabilitation appear not to be client- centred and do not consider the experiences and perceptions of brain injured individuals. This qualitative study explored and described the lived experience of people with brain injuries with regard to resuming their worker roles. Based on the results, an occupational therapy practice model to facilitate return to work was developed. The theoretical framework of occupational science with emphasis on occupational risk factors informed the study. The research design was a theory generative design based on a qualitative, phenomenological, explorative and descriptive research approach utilizing the methods of theory generation as advocated by Chinn and Kramer (1999), Walker and Avant (2005) and Dickoff, James and Wiedenbach (1968).

In the first phase, data was gathered by means of in-depth interviews with ten brain injured individuals who had returned to work after rehabilitation. The results were analysed and theorised according to theory-generative guidelines. Results indicated that participants experienced a sense of loss of function after the brain injury, fear of the future and loss of confidence in their worker roles. By means of accepting the sequelae of their injuries and restoring belief in their functional abilities, participants developed confidence in their worker roles. Successful participation in everyday occupational tasks enhanced the participants' self efficacy beliefs.

The second phase of the study focused on the development of a practice model for occupational therapists to facilitate returning to work. The model was based on the experiences and perceptions of the participants of the study and was developed by means of the theory generative design. This process included: concept analysis, construction of relationship statements, model description and evaluation, and guidelines for the operationalization of the model. The identified major concept of the model was Occupational Self Efficacy.

Keywords: brain injury; human occupation; work; occupational science; occupational therapy, occupational deprivation, theory generation, vocational rehabilitation; client-centred approach, phenomenology.

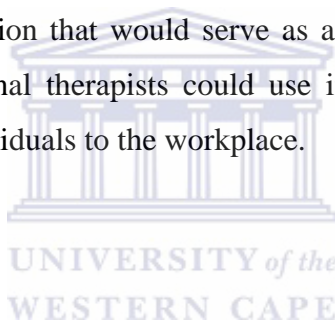


Chapter One

Brief overview of the study

1 Background

The focus of the study was on the lived experiences of ten brain injured individuals with regard to returning to work after a brain injury. As an occupational therapist, I felt compelled to investigate the reasons why some clients with brain injuries were returning to work while others were not. Health professionals continually seek further answers to medical and rehabilitation dilemmas. My experience with the rehabilitation of brain injured individuals prompted the investigation of the phenomenon from the brain injured individual's perspective. The participants' experiences of returning to work would hopefully yield some information that would serve as a base for the development of a practice model that occupational therapists could use in order to facilitate the higher return of the brain injured individuals to the workplace.



1.1 Introduction

An increase in the numbers of individuals who sustained brain injuries owing to motor vehicle accidents, trauma induced by violence and substance abuse, has resulted in more disabled individuals becoming non-productive members in society and inactive in the workplace (Gutman, 2001:672 and Zhang, Abreu, Massel, Scheibel, Christiansen, Huddleston & Ottenbacher, 2001:598). Research in the field of brain injury rehabilitation in South Africa is limited, with the majority of research focusing on the medical model of intervention. In the medical model, the disabled or injured individual is regarded as having problems that require medical-biological intervention mainly, with little or no attention given to the difficult process of reintegrating the disabled individual back into society, for example, in resuming their worker roles (Philpott & McLaren, 1997:182). The medical approach may result in feelings of disempowerment on behalf of the disabled with regard to the rehabilitation process (Jansen, 1994:20 and Philpott & McLaren, 1997:182). The lack of success of current rehabilitation interventions could be seen as a

result of an inability to generalize outcomes of rehabilitation in a clinical setting to the skills needed to return to work or re-integrate into the community.

As an occupational therapist working at the Tygerberg Hospital Work Assessment Unit, I have engaged with clients with brain injuries between the ages of 18 years to 55 years. These individuals suffered from mild to severe brain injuries and came from diverse vocational, socio economic and educational backgrounds. Generally it could be argued that individuals who suffered a severe brain injury would struggle to re-engage in any occupation including returning to work in the open labour market. Statistics from a tertiary hospital occupational therapy work assessment unit revealed that 97% of the brain-injured clients, the majority suffering from either a mild or a moderate brain injury were found unfit to return to work in the open labour market (Tygerberg Hospital, 2004). This is in contrast to statistics that suggest the possibility of an 84% return to work rate by individuals with brain-injuries in the United States of America (Ben- Yishay, Silver, Piatsetsky & Rattok, 1987:35). The assessment activities in the Work Assessment Unit comprised standardised tests and simulated productivity trials which were conducted on brain injured individuals after they had completed rehabilitation by occupational therapists. One of the main concerns was the fact that these brain injured individuals were not fit to return to work in any occupation in the open labour market despite having undergone the necessary rehabilitation in either a private or public facility. Rehabilitation in this context consisted of occupational therapy, physiotherapy and speech therapy. The poor functional work abilities or skills revealed by the assessment results prompted the research and my desire to explore the perceptions and experiences of these individuals when resuming their worker roles. The intended outcomes will be an attempt to develop a model to assist occupational therapists to reintegrate brain injured individuals back into their worker roles.

1.2 Rationale

The rationale for this study emanates from reported poor return-to-work rates, the fact that currently rehabilitation is couched in the medical model and limited knowledge or insight into the actual experiences of people who return to work after having recovered from a brain injury. This study aimed to explore the experiences of people with brain injuries in returning to work in order to contribute to an alternative or adapted approach to the medical model of rehabilitation. In the medical model, rehabilitation as practiced in South Africa results in people with disabilities having minimal control or input with regard to the treatment that they receive (Philpott & McLaren, 1997:182). It could be argued that these rehabilitation approaches lack client centredness. In a client-centred approach, the client is viewed as the most important person in guiding the intervention, with direct involvement of the client in making decisions regarding their health (Sumsion, 1999:1-2). To date, limited data on return to work rates in South Africa are published. Watt and Penn (2000:27), report that only 32% of brain injured participants who sought compensation via the medical legal system returned to work in South Africa. Current brain injury rehabilitation models focus on remedial and compensatory approaches with no strong evidence supporting the effectiveness of either of these approaches in enhancing the brain injured individual's return to work rates (Blundon & Smits, 2000:187). I propose that we should understand the return to work process from the brain injured individual's perspective in order to develop a model that will facilitate the brain injured individual's process of returning to work and assist them in maintaining their worker role.

1.3 Research design

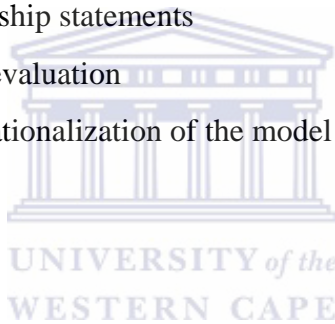
Theory development has been explored in great depth by authors such as Walker and Avant (2005) and Chinn and Kramer (1999) particularly in the field of nursing. Occupational therapy is also a profession which seeks to understand various phenomena from a qualitative perspective. The intention of this study was to develop a practice model that would aid occupational therapists in returning brain injured individuals to their worker role. A theory generative research design that is qualitative, exploratory,

descriptive, contextual and phenomenological was used in the current study. The above research design has been used with success in nursing research, particularly when the emphasis was on the development of practice models (James, 2006 and Van Rooyen, 2002).

1.4 Research method

In the current study the theory generative steps as suggested by Walker and Avant (2005), Chinn and Kramer (1999) and Dickoff, James and Wiedenbach (1968) were used. The steps were as follows:

- Concept analysis
- Construction of relationship statements
- Model description and evaluation
- Guidelines for the operationalization of the model



Phase One

Purposive sampling was used as the strategy of selecting ten brain injured participants for the study. In depth interviews were used as the data collection method. Ten participants were interviewed during the study. The interviews were audiotaped and transcribed by a professional transcriber. The data was analysed using the method of Morse and Field (1996), namely, comprehending, synthesising (decontextualising), theorising and recontextualising. The reasoning strategies incorporated included: inductive reasoning, analysis and synthesis.

The study incorporated the ethical principles of informed consent and confidentiality (Rumrill & Bellini, 2000:67-74). Trustworthiness was ensured by means of the use of the model advocated by Krefting (1991). The following strategies were implemented: determining truth value, applicability, consistency and neutrality.

Phase Two

During phase two a theory generative design was applied with a focus on theory development, concept analysis, creation of relationship statements, description/and evaluation of the model and guidelines for the operationalization of the model. The reasoning strategies included: synthesis and deduction.

There will be an in depth discussion regarding the above methods in Chapter three of the thesis.

1.5 Context

The context of this study was in the Cape Town Metropole region and specifically, people who had sustained a brain injury and who had received rehabilitation. The research participants consisted of nine males and one female. All of the participants were involved in some form of employment at the time of the interview. The individual interviews took place at the workplaces in Cape Town of two participants, two participants were interviewed at Tygerberg Hospital and the remaining six participants were interviewed at their homes in Cape Town.

1.6 Outline of the study

The purpose of the research project was to develop an occupational therapy practice model based on an in depth understanding of the brain injured individuals` perceptions of returning to work after a traumatic brain injury.


By means of in depth interviews data was gathered over a period of eight months. The interviews were audiotaped and a field work journal was kept in order to document every part of the study step by step. This therefore enabled the researcher to keep an audit trail. Qualitative analyses of the transcribed interviews were used to identify concepts. Concepts were then defined, described and organised into relational statements from which theory was generated. The theory formed the basis of an occupational therapy

practice model that would hopefully facilitate better return to work rates of people who had sustained brain injuries.

1.7 Deviation from original plans

The initial plan of the researcher was to conduct interviews with brain injured individuals selected from both Tygerberg Hospital and Rehabsa Rehabilitation Centre. It was however difficult to obtain access to brain injured individuals who met the inclusion criteria of my study (see page 37). At the time of the selection of participants, Rehabsa had a problem with their computer files and had lost the details of many patients who suffered traumatic brain injuries. As a result of the above the participants of this study were identified from the data bases of the Road Accident Fund.

1.8 Research question

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- 1.8.1 What is the “lived experience” for brain injured individuals who have resumed their worker roles after brain injury rehabilitation?
 - 1.8.2 What are the components of an occupational therapy practice model to facilitate returning to work for people with brain injuries?

1.9 Overview of chapters to follow

Chapter Two: Literature review

This chapter will focus on the epidemiology of brain injuries and the classification and impairments of traumatic brain injuries. There will be a discussion on human occupation with an emphasis on work as a meaningful occupation and risk factors within the work environment. Occupational science and occupational therapy will be discussed as well as cognitive theories of motivation. Thereafter, current rehabilitation approaches and return to work programmes will be analysed. Finally, there will be a discussion on the need for studies exploring the personal perspectives of brain injured individuals.

Chapter Three: Research Methodology

This chapter will focus on both the theoretical framework and the procedural methodological aspects. Two phases will be described. The first phase will be exploring the lived experience of returning to work after a brain injury through in-depth interviews. The second phase will be the development of a model through theorising the results of qualitative research and methods used in the study. Furthermore the researcher will describe the characteristics of participants, participant selection methods, methods to ensure trustworthiness and research ethics.

Chapter Four: Results

This chapter will focus on the description of the emerging themes, based on categories and codes from analysed data.

Chapter Five: Discussion of results

In this chapter the findings will be discussed and interpreted within the frame work of occupational science and human occupation. Thereafter there will be a discussion on the barriers and enablers of successful rehabilitation programmes.

Chapter Six: The development of a practice model for the reintegration of brain injured clients to the work place: An occupational therapy perspective

In this chapter there will be a discussion on theory generation and the development of an Occupational Therapy practice model. The operationalization of the practice model in the work context will also be discussed.

Chapter Seven: In depth description of Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain injury

In this chapter the Occupational Therapy practice model will be described.

Chapter Eight: Study limitations, conclusion and recommendations

In this chapter there will be a discussion on the conclusions of the study with a particular emphasis on the model that was developed in this study. Thereafter there will be a discussion on the recommendations that was developed based on the results of this study.

Chapter Two

Literature review

2. Introduction

In sections 2.1 and 2.2, the epidemiology of brain injuries and brain injury statistics will be discussed. In sections 2.3 and 2.4, there will be a discussion on the classification of traumatic brain injuries and social policies affecting return to work. In sections 2.5, 2.6, 2.7, 2.8 and 2.9 there will be a discussion on occupational therapy, occupational science, human occupation and work as a meaningful occupation. In section 2.9 and 2.10 there will be a discussion on risk factors within the work environment and adaptation and work. Finally in sections 2.11, 2.12, 2.13 and 2.14 there will be a discussion on cognitive theories of motivation, current rehabilitation approaches, return to work programmes and the need for studies exploring the personal perspectives of brain injured individuals.

2.1 Epidemiology of traumatic brain injuries

A traumatic brain injury can be defined as damage to the brain that occurs as a result of external forces such as accidents or assaults, thereby excluding neurological conditions such as cerebro-vascular accidents and degenerative brain diseases (Murdoch & Theodoros, 2001:1-2). In contrast, non traumatic brain injuries are caused by drug overdose, chronic substance abuse, carbon monoxide poisoning, brain abscess, meningitis and encephalitis (Tipton-Burton, McLaughlin & Englander, 2005:839). The annual incidence of traumatic brain injuries in Western countries is around 200 per 100 000 population with the highest incidence occurring in the 15- 24 age groups (Naugle, 1990:69-71). More males than females are affected with brain injuries at a ratio of approximately 2-2.5:1 (Murdoch & Theodoros, 2001:4). In South Africa there was a 60% increase in the number of mortalities due to brain injuries between 1997 and 2002 (Statistics South Africa, 2005). Statistics of one of the tertiary hospitals in the Western Cape reflect a 70% increase in the number of patients admitted with brain injuries between 2003 and 2004 (Tygerberg Hospital statistics on patients with brain injuries, 2005). In 1998 alone, an amount of R 56 971 148, 78 was paid to claimants with brain

injuries as a result of their incapacity to work (South African Department of Labour, 2003).

2.2 Injury statistics and the Road Accident Fund (RAF)

According to Gouse (2008:12) South Africa has the highest rate per capita of motor vehicle accidents (MVA). The number of people who were injured in road accidents during the period 1988-2000 varied between 126 000 to 147 000 per annum (Ministry of Transport, 2002). The Traffic Management Corporation interim report of 2006 recorded an amount of 14 135 fatalities during 2005 and 15 393 fatalities during 2006, thus indicating an 8.9 % increase in fatalities due to motor vehicle accidents. Statistics released from the RAF indicated that the majority of drivers involved in road accidents between 1994 and 1998 were in the 20-29 year age group (33.7%), followed by the 30-39 year age group (28%). Approximately 70% of road accident victims are men (Ministry of Transport, 2002). Of these injuries, 33% constituted head and neck injuries (Van Zyl, 2002). Disability resulting from car accidents were cited as 37% affecting the lower extremities, 22% owing to brain injuries, 12% to spinal injuries, 12% affecting upper extremities and the balance allocated to “other” (Ministry of Transport, 2002).

The categories of road users who were injured in road accidents were mostly drivers of motor vehicles, followed by passengers, then pedestrians. Passengers were the largest group (44%) to receive compensation from the Road Accident Fund, followed by pedestrians (28%), drivers (25%) and cyclists (3%). Furthermore, 52% of those injured were employed in the formal sector of the economy, whereas only 12% were employed in the informal sector. A further 12% were unemployed, and of those who were not economically active, 8% were students, 3% were homemakers and 3% were retired (Ministry of Transport, 2002).

2.3 Classification and impairments of traumatic brain injuries

After the life saving medical intervention is carried out, the initial stage of a brain injury is often that of a coma (Giles & Wilson, 1993:170). The Glasgow Coma Scale (Jennette

& Teasdale, 1981:77) is an accepted standardised measure used to predict recovery during the acute stage of the condition. According to the scale, an individual's brain injury can be classified as mild, moderate or severe, based on a score that patients achieve on the scale. If a patient obtains a rating of 13-15 on the Glasgow Coma Scale then his or her condition is classified as being mild. If the score is 8-12 then the condition is regarded as moderate and a score of less than 7 indicates severe brain injury. A poor prognosis for recovery is usually expected of an individual who sustains a severe brain injury. Other measures used to assess recovery include the measurement of the patient's post traumatic amnesia. If the post traumatic amnesia ranges from 5 – 60 minutes then the condition is regarded as mild, if it is 1- 24 hours then it is regarded as moderate and severe if the post traumatic amnesia is regarded as being 1-7 days (Rosenthal cited in Tipton-Burton, McLaughlin & Englander, 2005:843). Patients with longer post traumatic amnesia are associated with poorer long term cognitive and motor abilities and a decreased ability to return to work or school (Tipton-Burton, McLaughlin & Englander, 2005:843).

Brain injuries are classified into two different types, namely, focal contusions and diffuse axonal injuries (Pulaski, 2003:777). A focal contusion is defined as the bruising of the brain due to a direct blow to the head (Murdoch & Theodoros, 2001:3). Common findings of focal injuries include intracerebral and brain surface contusions particular in the inferior and dorsal lateral frontal lobes, anterior and medial temporal lobes. The above authors, further state that other areas of the brain, not involved with the direct blow to the head can also become injured. The directly injured area is known as the coup and the site of indirect injury is known as the contra coup.

Diffuse axonal injuries result in damage to the axons of the nerve fibres throughout the brain (Beers & Berkow, 1999:1427) for example, non-penetrating skull injuries (Murdoch & Theodoros, 2001:3). The degree of injury may vary from primary axotomy, with complete disruption of the nerve, to axonal dysfunction where the structural integrity of the nerve remains but there is a loss of ability to transmit normally along neuronal pathways. The prognosis after a head injury has a favourable outcome if the individual is of a young age, has a small lesion in a non-critical part of the brain and if

the injury is focal rather than diffuse (Pulaski, 2003:777). Individuals who have recovered from a severe brain injury usually retain severe functional limitations that may include cognitive impairments that prevent them from returning to work. Some may be able to function in a sheltered employment environment (McMordie, Barker & Paolos, 1990:57). However, people who have recovered from mild or moderate brain injuries and who do not retain serious functional impairments, may well be able to return to work. It is the latter group of clients that I suspect may be able to return to work, should the rehabilitation process support them sufficiently.

2.4 Social policies affecting return to work

Social policies that affected the return to work process of the brain injured individual include the employment equity act, basic conditions of employment act, skills development act, international policies influencing the worker, white paper on an integrated disability strategy and the disability rights charter. In the next section there will be a specific discussion on the above policies.

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2.4.1 Employment Equity Act and Basic Conditions of Employment Act

Employment Equity Act of 1998 emphasizes employment equity and affirmative action strategies which redress the disadvantages in employment experienced in the past (Employment equity act of 1998, online, 2008) Medium and large companies are expected by the government to employ people with disabilities including people with brain injuries. If companies comply, the government will reward employers (Silver & Koopman, 2000:23). The act protects both employees and job seekers against unfair discrimination related to the hiring and dismissing of prospective employees. The Employment Equity Act is supported by the Code of Good Practice and the Technical Assistance Guidelines for the Employment of People with Disabilities (Chief Directorate of Labour Relations). The Basic Conditions of Employment Act of 1997 aids the protection of disabled people's rights by means of improving their working conditions and by eliminating discriminatory practices (Basic conditions of employment, 1997). The 2001, census report of disability prevalence in South Africa revealed that 25.9% of

people with disabilities were employed in the 35-39 year age group compared to 52.2% people without disabilities (Statistics South Africa, 2005). Similarly in the 40-44 year age group, 25.7% of disabled people were employed compared to 53.5% of people without disabilities (Statistics South Africa, 2005). Unemployment rose from 17% of the adult population in 1994 to almost 30% in 2001 (Higson-Smith, Richter & Altman, 2004:254). Therefore, based on the unemployment rates, it could be argued that people with disabilities continue to struggle to find employment despite favourable legislation.

2.4.2 Skills Development Act

The Skills Development Act of 1998 advocates tax incentives for employers who employ people with disabilities, the unemployed and new or retrenched workers. The Act introduces a new institutional framework to determine and implement national, sector and workplace skills development strategies (Skills Development Act, 1998). It also ensures that the training provides workers with qualifications that are recognized by the National Qualifications Framework. The Sector Education Training Authority (SETA) serves as a discreet sector of the economy, that will prepare a sector skills plan and implement it through learnerships. The Ministry of Labour has established 25 SETA's, each within a specific area of industry, for example, construction, wholesale and retail. Learnerships consist of a learning component and practical work experience. It is linked to an occupation and must lead to a qualification registered by the South African Qualifications Authority. According to the Skills Development Levies Act, employers pay skills levies and the money is used by the SETA's for skills training. Learnerships are used for the purpose of skills training. However, the efficacy of the use of learnerships for the disabled is questionable. Evidence of under-utilization of learnerships for people with disabilities is reflected in the national targets set by government regarding the beneficiaries of learning programmes. These targets indicate that beneficiaries should be 85% black, 54% female and 4% people with disabilities (National Skills Development Equity Targets, online, 2009). Van Niekerk (2008:11) echoes that, nine years after the adoption of the Employment Equity Act, the situation with regard to the employment of people with disabilities has not improved. Van Niekerk (2008:11) suggests that legislation alone is not sufficient to achieve equity and that there should be emphasis on

affirmative action programmes that focus on the employment of people with disability in the workplace.

2.4.3 International policies

International policies such as the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities (1993), guide policy makers in order to ensure that people with disabilities may exercise the same rights as other citizens (Disabled persons unit department for policy co ordination, United Nations, 1993). These rules provide guidelines and standards to indicate how discriminatory practices can be prevented through an integrated approach. The Americans with Disabilities Act of 1990 created new and comprehensive civil rights protection for people with disabilities. It prohibits discrimination on the basis of disability in private employment, state and government agencies, places of public accommodation such as museums, restaurants and theatres. It mandates the accessibility of communication services for the deaf and speech impaired (Cosgrove, Simon, Darragh & Hartmann, 2008:288). The American Disability Act also advocates that a worker who had acquired a disability be allowed to perform their job functions with reasonable accommodation. Reasonable accommodation in this context refers to environmental modifications, job modifications and the use of specific equipment that will allow the employee to perform their jobs easier (Sanders & Wright, 2008:351). The policies above clearly indicate the rights of people with disability in the workplace.

2.4.4 White Paper on an Integrated Disability Strategy

The United Nations Standard Rules on the Equalization of Opportunities informed the White paper on an Integrated National Disability Strategy (1997). The Integrated National Disability Strategy is characterized by the principles of the social model of disability, which recognizes environmental barriers as sources of non-participation in occupation, acknowledgement of a strong relationship between poverty and disability, and the repositioning of disability as a human rights issue. Van Niekerk (2008:12) states that the ultimate goal of the Integrated National Disability Strategy is to enable full

participation of people with disabilities in society. It could be argued that full participation also implies full participation in the labour market.

2.4.5 Disability Rights Charter of South Africa

The charter aims to promote equal opportunities and facilitate the right for people with disabilities to live independently in a safe environment free from discrimination, exploitation and abuse (Disability Rights Unit of Lawyers for Human Rights, 1992). This charter was drafted by people living with disability for people with disability. It could be argued that this charter has elements of occupational justice, whereby the person with the disability has the occupational right to participate in occupations that are meaningful, safe and that eliminate exploitation and abuse.

In conclusion, it could be argued that nationally and internationally, there has been legislative improvement with regard to enhancing and protecting the rights of people with disability. It is clear from the above legislation that the brain injured individual has the right to be reasonably accommodated in the workplace and have access to work opportunities. However, the implementation of these rights tends to be questionable.

2.5 Occupational Therapy

Occupational therapy as a profession developed after World War I (1914-1918) and World War II (1939-1945). It was formalised in the United States of America when a course in occupational therapy for nurses (1911) was developed in Massachusetts. Thereafter it became a formal course at Columbia University (Mountford, 1992:93). A professional body called the National Society for the Promotion of Occupational Therapy Incorporated was developed by leading figures such as *George Barton (Architect)*, *Dr WR Dunton (Psychiatrist)*, *Eleanor Clark Slagle (Social Worker)* and *Adolf Meyer (Professor of Psychiatry)*. According to Niestad and Crepeau (1998) the profession could be described by three phase's namely moral treatment, arts and crafts movement and scientific medicine ideology. During the moral treatment phase people with mental illnesses were regarded as insane and sub-human. A new proposal developed which

argued that people with mental disorders could reason. This regimen assumed that a human approach that used daily routines and activities such as gardening and carpentry, would lead to recovery. Thereafter there was the establishment of the arts and crafts movement. Arts and crafts such as basketry, weaving and pottery, were used as a curative process. It was argued that crafts provided a stimulus for mental activity and muscular activity at the same time. The third phase consisted of scientific medicine ideology, engineering values of rationality, efficiency and systematic observation was applied as a method of reasoning to all areas of society's ills.

Moyers (2005:222) states that occupational therapists and occupational therapy assistants offer services to improve, maintain, or restore occupational performance in people who have been challenged by various problems or risks such as injury, disease, congenital abnormalities, delayed development, behavioral ill health, poor task and environmental design and or a lack of access to occupations. A traumatic brain injury could be described as a multifaceted condition which requires the treatment of an individual from a holistic perspective. In the context of the rehabilitation of the brain injured individual the occupational therapist is involved in treating the physical, psychological, cognitive and psychosocial problems arising from the condition. According to Tipton-Burton, McLaughlin and Englander (2005:870) the occupational therapist is involved with the coordination of evaluation and goal setting in conjunction with the interdisciplinary team inclusive of the client's family. The treatment is individualized and orientated toward functional outcomes that are meaningful to the client. Intervention strategies involve the use of therapeutic activities in order to treat the brain injured individual's functional limitations.

2.6 Theory of Occupational Science

Occupational science is defined as an academic discipline. Its purpose is to generate knowledge about the form, function and the meaning of human occupation (Zemke & Clark, 1996:vii). The above authors further acknowledge that the aim of occupational science is to inform the work of occupational therapists by enhancing their understanding of occupation. The academic discipline of occupational science, with its focus on human

occupation, has become prominent in the literature during the past two decades. Occupational science is further described as not only comprising the study of occupations such as self care, work and leisure, but includes the components of function related to occupational performance such as movement and cognition (Henderson, Cermak, Coster, Murray, Trombly & Tickle-Degnen, 1991:4).

As occupational science encompasses constructs that are vast and context specific, reference will be made only to concepts that are specifically related to the South African setting in this text. Of particular significance to the South African setting are meaning, occupational justice and the occupational injustices, namely, occupational alienation, occupational deprivation, occupational marginalization, occupational imbalance and occupational apartheid. According to Nelson (1995:776) meaning is described within the context of occupation as the sense a person makes of a situation. He views it as an active construction not a passive response to stimuli. Trombly (1995:102) further states that the importance that a person attributes to a specific task or activity contributes to the meaningfulness of occupation to that individual. It could be argued that the meaning that an individual relates to occupation is influenced by his experience of engagement in activities. Wilcock (1998:248-251) reflects on the concepts of “doing, being and becoming”. She indicates that the successful “doing” of occupations, influences an individual’s “being” which is described as being true to oneself. Ultimately an imbalance in “doing” and “being” influences what we become or reaching our potential as human beings. Therefore an individual that finds little meaning in doing certain occupations develops a negative sense of being, that limits who they become.

Occupational justice is defined as the recognition and provision of occupational needs of individuals and communities as part of a fair and empowering society (Wilcock & Townsend, 2000:84). Occupational alienation is described as a social condition of injustice that reinforces feelings of isolation and a sense of meaninglessness amongst people due to a lack of opportunities that enable occupational meaning to individuals (Townsend & Wilcock, 2004:80). Occupational deprivation is defined as the prolonged preclusion of individuals from engagement in occupations of necessity due to factors that are beyond their control (Whiteford, 2003:222).

The above concepts are evident in employment practices in South Africa, in that 85% of disabled individuals are unemployed (Bobat, 2003). In South Africa occupational deprivation is evident in a large section of the population who live in poverty (Watson, 2004:12) and the disabled who are denied work opportunities despite legislation that is favourable towards them in the workplace (Van Niekerk, 2004). As a result, people with disabilities have minimal choices and opportunities to develop their potential (Watson, 2004:12).

Other forms of occupational injustice include occupational marginalization and occupational imbalance. Occupational marginalization is described as a non direct discrimination to bar certain groups for example from paid occupations, recreational activities, regulatory policies, funding and laws (Townsend & Wilcock, 2004:81). Occupational imbalance refers to populations that do not equally share in labour, benefits of economic production, equal privileges, health giving routines, social inclusion and everyday decision making (Townsend & Wilcock, 2004:82). Most published occupational science literature focusing on the occupational injustices for individuals is written from a perspective of developed countries, with minimal studies focusing on influences such as poverty and racial discrimination, which are common in developing countries. It could be argued that another form of occupational injustice is occupational apartheid which is defined as the segregation of groups of people through their restriction of access to meaningful participation occupation (Kronenberg & Pollard, 2005:67). This segregation could be on the basis of characteristics such as colour, disability, age and gender.

Townsend and Wilcock (2004:75) emphasise the need for occupational science studies to be conducted in developing countries. The laws and policies of the previous apartheid regime had negative effects on the health of many black South Africans (Pelser, 2004:261). Black people were denied adequate housing, access to water and sanitation, and access to schools and hospitals. When black South Africans became ill they had to utilise racially segregated public health services that were of a lesser quality to that of the white population. Pelser argues that despite South Africa undergoing a dramatic socio-political transition, much of the dynamics and many distortions introduced by the

previous dispensation, remain (Pelser, 2004:261). There is a continuation of poverty and inequality in the health care as well as health status amongst non-white populations. This inequality is particularly evident in the brain injured population where individuals who can afford private health care services have better access to comprehensive rehabilitation services compared to those who can't afford it. This inequality in resources and quality treatments has a domino effect in that these people would struggle to return to work and to their previous occupations if their conditions are not treated appropriately. As a result occupational injustices are reinforced. In the current study, the effect of concepts such as occupational injustice, occupational deprivation, occupational marginalization and occupational imbalance on the lived experience of brain injured individuals was explored from a South African perspective

2.7 Human occupation

The study of Human occupation is viewed as the theoretical basis of occupational therapy. Adolph Meyer (1922:1), the forefather of occupational therapy, described one of the main assumptions of the profession as concerning the role of occupation in human life. He said:

Our conception of man is that of an organism that maintains and balances itself in the world or reality and actuality by being in active life and active use, that is using and living and acting its time in harmony with its own nature and the nature about it. It is the use that we make of ourselves that gives the ultimate stamp to our every organ.

Occupation is used by occupational therapists to define the profession's domain of concern (Hinojosa, Sabari, Pedretti, Rosenfeld & Trombly, 1993:1081). Occupations can be described as the activities that people engage in throughout their lives in order to fulfil their time and to give their life meaning (Hinojosa & Kramer, 1997:864). The above authors further state that occupations involve mental abilities, skills and may or may not have an observable physical dimension. Occupation is also regarded as a fundamental need, in that humans require creative, productive and playful pursuits (Kielhofner,

1992:49). These pursuits enable the individual to flourish by means of their participation in these pursuits. It is further described by having contextual, temporal, psychological, social, symbolic, cultural, ethnic and spiritual dimensions.

Yerxa (1983) states that an individual's level of health is dependent on the adaptive qualities of the individual's occupation, indicating that participation in occupations is essential to the client's biological, psychological and social well-being. Participation in occupation can positively influence the biological functions of individuals such as musculoskeletal and cardiorespiratory functioning. Sensory deprivation experiments reveal that if the brain does not receive the influx of information through interaction with the world then neurological disorganization occurs (Kielhofner, 1992:53). Psychologically, individuals are attracted to an occupation through intrinsically motivated properties of engagement in occupation such as self-affirmation and self-confidence. Occupations have their own rewards, such as extrinsic rewards (e.g. monetary, status). However, extrinsic rewards are not the primary motives for choosing occupations. Rather, the occupational motive emerges out of biologically and culturally based desires to engage in activity and to realise a degree of mastery (Kielhofner, 1992:53). Individuals continually engage in purposeful activities as part of their occupations (Hinojosa & Kramer, 1997:865). These purposeful activities are goal directed and involve the active engagement of the individual in order to meet his or her goals. Occupational therapy practitioners organise these life activities into categories of work, self care and play/leisure. For the purpose of this thesis there will be a specific focus on the occupational category of work.

2.8 Work as a meaningful occupation

Individuals are occupational beings who are defined by occupations such as activities of daily living, work and leisure pursuits (Barret & Kielhofner, 1998). Work is important to individuals with traumatic brain injuries because it is associated with age related role expectations and it provides essential opportunities for rehabilitation (Holzberg, 2001:247). Work has been described as being central to human existence as a means of providing sustenance, self worth and self identity (Bing cited in Sanders & Wright,

2008:331). According to Kielhofner (1992:50) work forms the basis for the development of products such as utilitarian or artistic objects, ideas, knowledge, assistance, information sharing and protection. It therefore enables the individual to improve his/her ability to be productive (e.g. studying) and inevitably to develop his/her worker role (Kielhofner, 1992).

Many individuals who have suffered a traumatic brain injury are of working age (Johannsson & Tham, 2006:60). As a result of the stage of their lives in which this injury occurs it could be argued that their worker roles become disrupted. This means that the meaning that they may attach to their worker roles may become altered as well. In a study conducted with people with mental illness, a lack of occupation and a lack of valued social roles such as the worker role were found to be a major barrier in their lives (Bryant, Craig & McKay, 2005:109). Together with social rejection this led people to develop a sense of alienation and not-belonging. In a study investigating the factors motivating return to work amongst clients suffering from chronic musculoskeletal pain, it was found that doing work that was considered meaningful by the worker and others was considered to be a motivating factor (Gard & Sandberg, 1998:100). However Johannsson and Tham (2006:60) found that work was no longer regarded as the primary event in life but rather that the social dimension became more evident. For example, the experience of having had a brain injury had resulted in some people reflecting on the meaning of life and being able to enjoy life, rather than focussing on work as being the central aspect of their lives. The above authors further describe that brain injured individuals perceived that their competency and work identity were threatened after the injury. Furthermore these participants viewed returning to work as an intense struggle and working was considered to be evidence of success after the brain injury.

Researchers agree that traumatic brain injured individuals experience profound difficulty in the area of returning to work (Cifu, Marcus, Lopez, Wehman, Kreutzer, Englander & High, 1997:125). It could be argued that individual's may struggle to return to work due to the multifaceted nature of the condition. In the brain injury rehabilitation literature, it is evident that a range of factors influence the individual's ability to return to work. Factors include psychiatric impairments, cognitive deficits, motorical changes and pre-morbid

characteristics (Tipton-Burton, McLaughlin & Englander, 2005). Psychiatric diagnosis such as post-traumatic stress disorder and depression are known to affect return to work success. A lack of insight as a symptom of the above disorders is known to alter the brain injured individual's perceptions or work performance and abilities (Holzberg, 2001:246). Cognitive difficulties in the areas of learning, perception, self awareness and memory are negatively associated with acquiring work related skills (Moore & Barlow, 1990:3). Motorical changes included motor impairments and ambulation difficulties (McMordie, Barker & Paolos, 1990:57). Pre-morbid factors include the level of education and professional training prior to the injury. In a study conducted by Crisp (1992:27) it emerged that brain injured individuals who had a more advanced education and professional training prior to the injury had more successful occupation re-settlement.

2.9 Risk factors within the work environment

Psychosocial factors within the work environment may not only contribute to the causation or aggravation of a disease but also affect the curative or rehabilitative measures of the disease (Kalimo, 1987). Feuerstein, Callan- Harris, Hickey, Dyet, Armbruster and Carosella (1993:396) define the psychosocial characteristics of the work environment as the employee's emotional response to workplace demands and stressors. Cognitive, emotional, behavioural and physiological reactions are elicited when the interaction between the worker, environment, or vocation does not fit (Levi cited in Keough & Fisher, 2000:101).

The psychosocial components of work environments have been found to affect the return to work rates of people with disabilities. It has been noted that psychosocial deficits are a greater problem than physical and cognitive deficits combined (Tipton-Burton, McLaughlin & Englander, 2005:862). Examples of psychosocial stressors include unemployment, threat of job loss, stressful work schedule, job dissatisfaction and discord with co-workers (Keough & Fisher, 2000:102). It is documented in the literature that the high unemployment rate of the brain injured individual is attributed to their adverse emotional, behavioral and neuropsychological changes arising from traumatic brain injury (Tipton-Burton, McLaughlin & Englander, 2005:862). It could be argued that the

individual's condition is aggravated by psychosocial factors such as the threat of job loss, a stressful work schedule and discord with co workers.

Physical risk factors that could exacerbate the complexity of the problem include physically heavy work and the repetitive movements that may lead to musculoskeletal injury (Soderback & Jacobs, 2000:85). These factors can seriously affect the individual's occupational performance of work that might result in occupational dysfunction. One of the areas of occupational dysfunction arises when the demands of the physical environment exceed the individual's functional capacity in executing tasks. Occupational dysfunction is characterized by an individual who has difficulty performing, organizing or choosing occupations and when occupational behaviour results in a decreased quality of life (Meriano & Latella, 2008:12). Occupational dysfunction occurs when there is an imbalance between multivariate factors including biological, psychological and ecological stressors. This could result in individuals not contributing to society and an increased burden and cost to society to support these dysfunctional members (Kielhofner, 1992). Occupational dysfunction is quite evident amongst the brain injured population whereby incongruence is seen in the individual's innate abilities such as the individual's physical and cognitive capacity in relation to the demands of the work environment.

2.10 Adaptation and work

According to Schultz and Schkade (2003) occupational adaptation is described as an internal adaptation process that occurs through occupation and for occupation. They viewed competency in occupation as a lifelong process of adapting to the demands of the person, occupation and the environment. Within the context of the brain injured individual's adaptation to their work roles, there is a void in the literature, thus suggesting that this is an area that needs further exploration. In a study conducted by Johansson and Tham (2006:68) the meaning of work to people after a brain injury was investigated. Their results indicated that the person with a brain injury adapted to their worker role by having external feedback from others and adapting their performance. This could probably be related to the fact that these individuals struggle with cognition and self

awareness, therefore indicating that external feedback from others may assist them in managing their behaviour.

Based on the poor return to work rates of this population it could be argued that these individuals struggled to adapt to their conditions. Ruffolo, Friedland, Dawson, Calantonia and Lindsay (1999:394) indicate that of the 50 brain injured individual's who participated in their study, 42% returned to work. They indicated that social interaction and jobs with greater decision latitude was associated with return to work. This means that the brain injured individual who had inadequate social interactions and poor decision making in the workplace struggled to return to work and adapt to their worker roles. Similarly McCarthy, Dikmen, Langlois, Selassie, Gu and Horner (2006:953) investigated the psychosocial health of 7612 brain injured individuals. They found that a substantial portion of these individuals that had been hospitalized, reported poor psychosocial health (e.g. vitality and social function) one year post injury. This reinforces the notion that these individuals struggle to adapt to roles such as their worker roles after the injury.

2.11 Cognitive theories of motivation and return to work

Cognitive theories of motivation such as Vroom's (1964) expectancy valency theory of motivation and Bandura's (1991) theory of self efficacy provide further clarity on return to work behaviour. Vroom's (1964) expectancy valency theory of motivation was originally developed in the context of understanding vocational behaviour. He conceptualized motivation as the explanatory construct for understanding the choices an individual makes among an alternative course of action. He indicated that an individual's choice depends on the motivation associated with each possible action. Valence refers to the anticipated satisfaction that could be obtained from an outcome (Vroom, 1964). Two components are involved in establishing valence, namely, the intrinsic value of the outcome and the cognized instrumentality of the outcome (Foreman & Murphy, 1996:45). Cognized instrumentality refers to the extent to which the individual believes that the given outcome (i.e. to obtain a promotion at work) will lead to further desired outcomes which may be positive or negative (i.e. increased social status and greater work pressure). Valence-expectancy theory therefore indicates that an individual demonstrates

motivated behaviour when they anticipate or believe that they have a chance of achieving a positive outcome (Foreman & Murphy, 1996:45). However, environmental events could influence behaviour to the extent that they can modify beliefs or the meaning of a situation relevant to the individual.

There is a similarity between Vroom's (1964) theory and Bandura's (1991) theory of self efficacy beliefs. Both advocate intrinsic motivation as a driver of behaviour. Bandura argued that self efficacy expectations are more potent influences on motivation and that outcome expectations contribute to motivation independently of self efficacy beliefs (Foreman & Murphy, 1996:45). Studies have documented that a self efficacy belief that is independent of actual ability predicts perseverance, performance and the selection of appropriate strategies (Bandura, 1991). In research conducted by Cicerone and Azulay (2007:260) on a sample of 97 brain injured individuals, it was found that self efficacy beliefs for the management of cognitive symptoms made the single greatest contribution to predicting quality of life amongst the participants. They further mentioned that higher levels of self efficacy during the later period of recovery may reflect an increased sense of mastery and acceptance of their participant's limitations (Cicerone & Azulay, 2007:265). Gagnon, Swaine, Friedman and Forget (2005:447) investigated the self efficacy beliefs of children who suffered a mild traumatic brain injury with reference to their participation in physical activity after the injury. The above authors found that these children lacked confidence and had poor self efficacy beliefs regarding their ability to engage in physical activity. They suggested that counselling sessions after the brain injury would minimize the impact of the mild traumatic brain injury as well as improve their self efficacy beliefs and self confidence. The above studies therefore indicate that there is a need to analyze and improve self efficacy beliefs in order to enhance occupational performance. It could also be argued that there is a link between cognitive theories of motivation and occupational science. Occupational science views the components of function such as motivation as integral to participate in occupations (Kielhofner, 1992:278). Self efficacy beliefs influence an individual's motivation to participate in occupation.

2.12 Current rehabilitation approaches

Rehabilitation in the context of occupational therapy is currently defined as ‘a service that aims to enable and empower people whose occupations are restricted because of disadvantage, illness or disabling physical or social barriers, to adapt to restrictions in function (Watson, 2004:13). In the North American health system, rehabilitation, inclusive of cognitive rehabilitation, starts immediately after the patient has been medically stabilised in the intensive care unit. Patients are then transferred to an in-patient rehabilitation facility and thereafter, they enter a transitional living programme as an out-patient (Zoltan & Ryckman, 1990:623-643).

The cognitive rehabilitation system in South Africa advocates a system similar to that of North America (Jansen, 1994:22). Two of the major cognitive rehabilitation approaches are the remedial approach and the adaptive approach. The remedial approach is characterised by attempts to improve memory and perceptual skills (Lee, Powell & Esdaile, 2001:42). The remedial approach is also referred to as the restorative approach focussing on attempting to remediate core areas of cognitive dysfunction by means of systematic training. Assessment procedures entail a sequence of highly structured psychometric tasks. These tasks are chosen in order to exercise the identified area of cognitive impairment and are graded by complexity, quality, speed or presentation and the cuing needed to complete the task. The therapeutic modalities include pencil exercises, computerised soft ware, table top tasks and graded occupations of daily living (Blundon & Smits, 2000:186). A popular critique of this approach is that the amount of transference of the learned skill to functional settings is minimal (Toglia cited in Blundon & Smits, 2000:186).

The compensatory approach, which is also known as the adaptive approach, is generally geared toward the facilitation of activities of daily living (Blundon & Smits, 2000:186). This approach capitalises on the intact area of cognitive abilities and attempts to bypass the area of cognitive impairment. The emphasis of this approach is on successful participation in daily occupations rather than specific cognitive skills underlying task performance. This approach is further characterised by internal compensatory strategies

such as verbal description, rehearsing and mnemonics. Whereas the external compensatory approach is characterised by memory aids such as diaries, calendars and electronic cuing devices (Blundon & Smits, 2000:186 and Giles & Wilson, 1993:370). Critique of these approaches include that they offer therapeutic intervention during the early stages of recovery but they fail to meet the client's needs in the later stages of recovery. Blundon and Smits (2000:187) also state that there is no strong evidence supporting the effectiveness of either of these approaches in enhancing occupational performance. Neither approach is client centred, nor do they take the client's personally felt or expressed needs into consideration.

2.13 Return to work programmes

2.13.1 Holistic return to work programmes

Another programme that is used to gain employment among the brain injured population is the holistic cognitive rehabilitation programmes. It is normally described by three phases, namely, holistic remedial intervention focussing on the general strategies to aid daily living; guided occupational trials in vocational placement and support for the maintenance of employment. Ben-Yishay, Silver, Piatsetsky and Rattok, (1987:35) investigated the return to work success rates of 94 participants who participated in a head trauma programme which utilised a holistic cognitive approach. The study results revealed a 63% return to competitive work at the levels (academic, skilled and unskilled).

Sarajuuri, Kaipio, Koskinen, Niemelä, Servo and Vilkki (2005:2296) describe a comprehensive neurorehabilitation programme as an alternative to returning to work. The above programme, which could be classified as a holistic cognitive programme, consisted of a post-acute, intensive interdisciplinary six week rehabilitation programme. In this programme a treatment group was compared to a control group. The treatment group received neuropsychological rehabilitation, psychotherapy, vocational intervention and follow up support. The control group received conventional care and rehabilitation. In the latter study productivity was defined as working, studying or participating in volunteer activities. The results indicated that 89% of treated patients returned to a productive

pursuit in comparison to 55% of the control group. One critique of this study is that of the 19 participants, only three participants returned to part time work and one to full time work.

2.13.2 Supportive employment

Supportive employment is defined as competitive employment in an integrated setting with ongoing support services for people with the most severe disabilities (Cook & Burke, 2002:548). Jones, Perkins and Born (2001:53) further described supportive employment as programmes that promote self sufficiency and improve the quality of life of people with disabilities by motivating them to pursue work in the traditional environment at equal pay to non-disabled people. Supported employment programmes provides assistance with job coaches, transportation, assistive technology, specialized job training and tailored supervision (Holzberg, 2001:250). Wehman, West, Kregal, Sharron and Kreutzer (1995:27) conducted a study utilising the supportive employment framework in which 87 participants participated. The results indicated that only 51.3% of the participants were employed after a period of 12 months. The above authors attributed the poor return to work rates to medical/health problems, economic lay off, slow/poor quality work, poor job match and inappropriate behaviour by the participants. In a study conducted by Wehman, Sharron, Kregal, Kreutzer, Tran and Cifu (1997:355) of the 80 participants, the monthly employment ratio increased from 13% before services to 67% after participation in the supportive employment programme. However, only 46% of these participants maintained continual employment. The authors attributed the poor return to work rates to psychiatric/psychological complications, social adjustments and substance abuse.

2.13.3 Summary of return to work programmes

Holzberg (2001:249) states that the most effective treatment approaches in North America are holistic cognitive rehabilitation and supported employment services. These approaches consist of elements of the remedial and adaptive approaches but go further in assisting the client to gain or maintain employment. However, neither the holistic

cognitive rehabilitation nor the supported employment services reveal highly successful return to employment rates (Ben-Yishay et al. 1987:35 and Wehman, West, Kregel, Sherron, & Kreutzer, 1995:27). According to Sarajuuri et al. (2005:2296) employment rates for patients with traumatic brain injury have ranged from 19% to 99%, thus indicating that there is disparity pertaining to return to work rates of this population.

2.14 A need for studies exploring the personal perspectives of brain injured individuals

In preparation for the current study I researched popular journals, books and electronic sources that focus on brain injury rehabilitation. This research revealed a lack of studies that address the personal experience of brain injured individuals when adapting to their worker role after rehabilitation. Johansson and Tham (2006:61) indicate that one area in which there is a lack of knowledge is the meaning of work to people with brain injuries. Similarly, there are minimal occupational therapy studies that focus on the lived experience of brain injured individuals (Darragh, Sample & Krieger, 2001:192-3). The literature suggests that the quality of intervention programmes and services tend to be ineffective when the health professional does not take the brain injured individual's self identified needs into consideration, hence it needs to be client centred (Darragh, Sample & Krieger, 2001:197). My exploration of the literature also revealed only one study that focused on the best practice for maintaining employment (Holzberg, 2001). The study described the best practice for gaining and employing people with brain injuries from a developed world perspective. However the study lacked information on how brain injured individuals adapt to different working environments and it lacked the incorporation of the personal perspectives of the brain injured individuals themselves.

2.15 Conclusion

The current rehabilitation approaches of brain injured individuals are criticised for lacking client centredness and for lacking mechanisms to enable clients to transfer the skills learnt in rehabilitation to skills needed in the workplace. Currently there is a need for studies that utilise a phenomenological framework in understanding the manner in

which brain injured individuals adapt to their worker roles to support a model for reintegrating them to their worker roles. In the current study a model was developed to support brain injured individuals to resume their worker roles. This was achieved by exploring the challenges that they face when resuming their work role from their lived experience.



Chapter Three

Research Methodology

This chapter is divided into two phases.

In section 3 and 3.1, the aim and the objectives of the study will be discussed. In section 3.2, there will be a discussion on the conceptual framework of the study. In section 3.4, phase one of the study will be discussed. In 3.4.1, 3.4.2 and 3.4.3, there will be a discussion on the research approach used in this study, the sampling strategy and data collection methods. In 3.4.4, 3.4.5, 3.4.6 and 3.4.7, there will be a discussion on data analysis strategies, literature control, bracketing and the use of a pilot study.

In section 3.5, 3.5.1, and 3.5.2, phase two of the study, theory generation methodology and the steps of theory generation will be discussed. In 3.5.2.1, 3.5.2.2, 3.5.2.3 and 3.5.2.4, concept analysis, construction of relationship statements, model description and evaluation, and guidelines for the operationalization of the model will be discussed. Finally in 3.6 and 3.6.5 the trustworthiness of the study and ethical considerations will be discussed.

3 Aim of the study

The aim of the study was to explore and describe the lived experience of people with brain injuries with regard to resuming their worker roles after rehabilitation. The findings were used to theorize an occupational therapy practice model that could facilitate returning to work for people with brain injuries.

3.1 Objectives of the study

The objectives of this study were realized in two phases:

Phase One

To explore and describe the lived experience of people with brain injuries with regard to resuming their worker roles, in order to identify the central concepts of the model.

Phase Two

To develop an occupational therapy practice model to facilitate the return to work process of people with brain injuries by:

- Concept analysis
- Construction of relationship statements
- Model description and evaluation
- Guidelines for the operationalization of the model



3.2 Conceptual framework of the study

The conceptual frame work used in this study is occupational science. Occupational science is described as a basic science that is devoted to the study of humans as occupational beings (Yerxa, 1993:5). As a basic science it is free to pursue the deepest questions concerning human beings as actors who adapt to the challenges of their environments by the use of their skills that are organized or categorized as occupations (Yerxa, 1993:5). Occupation is a central aspect of human experience, as occupation fulfils the basic human needs essential for survival and provides a mechanism for people to adapt to environmental changes (Wilcock, 1993:17). It could therefore be argued that engagement in occupation such as engaging in worker tasks facilitates a healthy being.

3.3 Research design

The research design consisted of two parts. In the first part, phase one consisted of a phenomenological study of the lived experiences of brain injured individuals. For phase one, a qualitative phenomenological approach was used, it is described below in terms of qualitative research that is explorative, descriptive, contextual and phenomenological in nature. The second part, phase two, consisted of theory generative methodology for the purpose of developing a practice model.

In the following section there will be a discussion on the research design that will be qualitative, explorative, descriptive, contextual and phenomenological in nature.

3.4 Phase one

3.4.1 Research approach

- **Qualitative research**

Qualitative research is fundamentally interpretive and includes a description of the individual, setting, analyzing data for themes and eventually drawing conclusions about its meaning (Creswell, 2003:181-182). Creswell (2003) mentions that qualitative research enables the researcher to develop such a level of detail about a research participant that he or she is highly involved in the actual experiences of the participants. In the current study, a qualitative strategy enabled the researcher to explore the lived experience, perceptions and attitudes of brain injured individuals when returning to work.

- **Explorative research**

Mouton and Marais (1993:43) indicate that the aim of exploratory research is to explore an unknown research area in order to gain new insight into the phenomenon of interest.



Kvale (1996:100) confirms that the purpose of an exploratory study is to discover new dimensions to the subject matter.

An exploratory perspective was utilised in order to get new, rich and meaningful insights into the participants' experiences. These insights facilitated the development of the central concepts that were used to generate a theory. The experiences of brain injured individuals with regard to returning to work after the brain injury was explored in depth. Open ended questions and the clarification of the brain injured individuals' experiences aided the researcher to determine the perspectives of the brain injured individuals with regard to returning to their worker role.

Creswell (2003:15) states that in phenomenology, when a researcher identifies the "essence" of human experience concerning a phenomenon, the research participants usually describe it. It was for this reason that the experience of the brain injured individuals that was identified during the exploratory stage of the research was described thus indicating a descriptive research design.

- **Descriptive research**

Geertz (1998) indicates that the traditional functional positivist, behavioural approaches to human disciplines were giving way to a more open-ended and interpretive perspective. He called for "thick description" of particular events, rituals and customs. Burns and Grove (1999:24) describe descriptive research as the exploration and then the description of phenomena found in real life situations. This indicated that after the lived experience of brain injured individuals returning to work were explored then thick descriptions of the phenomena had to be given. Mouton (1996:192) further states that a descriptive statement makes a claim about the reality of the situation. It could be argued that the description of phenomena provides the researcher with the opportunity to discover new meanings by describing what exists within the context of his or her study. In this study the researcher wanted to obtain an accurate portrayal of the lived experiences of the brain injured individuals. The lived experience of the brain injured individuals were obtained by listening, observing, describing and documenting their experiences naturally as it occurred (Polit & Hungler, 1991:175).

The data gathered during the study enabled the researcher to proceed to the processes of concept identification, definition, the development of relationship statements and ultimately theory generation. However after the processes of exploration and description was completed, the brain injured individuals` experiences and perceptions had to be contextualized.

- **Contextual Research**

A contextual strategy is described as when phenomena are studied because of their intrinsic and immediate contextual significance (Mouton, 1996:133). Greeff (2002:301) indicates that human behaviour becomes more meaningful when it is placed in the context of their lives, without the context there is minimal possibility of exploring the meaning of the experience. Schurink (1998:280) further indicates that researchers should visit and spend time in the participant's natural habitat. This supports the perspective of Holloway and Wheeler (1996:65) where they explain that context is of particular significance in qualitative research and distinguishes four types of contexts namely: immediate context, specific context, general context and meta-context.

Holloway and Wheeler (1998: 192) further emphasised that the context is also associated with factors such as the environment, people, time and the historical background. Within the current study the socio-economic background of the participants and the cultural context was considered.

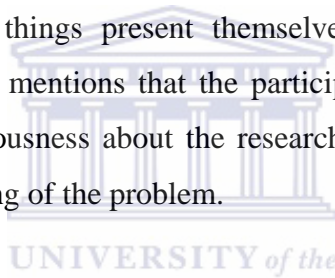
The research design was reinforced with the use of phenomenology as a research approach. Phenomenology as an approach will be explained in detail.

- **Phenomenology Research**

Phenomenology began as a movement that opposed the dogmatic authority of religion (Spiegelberg, 1965:30-31) and later developed into a movement that explored a basis for the construction of knowledge (Spiegelberg, 1965: 92-93). According to Creswell (1998:51) and McKenna and Slevin (2008:72), a phenomenological research approach

seeks to describe the meaning of the lived experiences for several individuals about a certain phenomenon. McKenna and Slevin (2008:72) states that to understand the lived experience requires reflection, which forms the basis of phenomenology. The characteristics of phenomenology include an intersubjective understanding of the world and the analysis of the human mind or consciousness as a means to understanding society and people (Babbie & Mouton, 2001:28).

Phenomenologists emphasize that the social world cannot be understood in the same manner as the natural world that is underpinned by positivism. Rather, phenomenology focuses on exploring multiple realities (Babbie & Mouton, 2001:28) and making sense of or finding meaning in an individual's everyday life worlds (Holstein & Gubriam, 2003:485). Sokolowski (2000:2) described phenomenology as the study of human experience and of the ways things present themselves to us in and through such experience. Heagert (1997:49) mentions that the participants, by describing their lived experiences, reveal the consciousness about the research problem and thus provide the researcher with an understanding of the problem.



The phenomenological strategy of enquiry was utilized in the study in order to allow for the exploration and in-depth description of the experiences of the participants relating to returning to their worker role after the brain injury. This approach enabled the researcher to get the essence of the brain injured individual's lived experience of returning to work. Kvale (1996) indicated that the investigation of these essences enables the revelation of common essences. In this sense, exploration of the phenomenon enabled the researcher to identify the central concepts of the brain injured individual's experience.

3.4.2 Sampling strategy

Data collection will be discussed in terms of the participant selection criteria. Thereafter there will be a description of the study participants.

- **Participant selection**

In this study participants with brain injuries were selected through purposive sampling. Purposefully selected participants provide the best data to understand the research problem (Creswell, 2003:185). Denzin and Lincoln (1994:229) indicate that purposeful sampling allows for the selection of participants who will best be able to explore concepts related to the phenomenon. The judgement of the researcher in selecting information rich participants is very prominent in purposeful sampling (Strydom & De Vos, 1998:198).

Of the fifty brain injured individuals identified from the statistical records of Tygerberg Hospital's Occupational Therapy Department and the Road Accident Fund Organization, only ten individuals met the inclusion criteria of the study.

The following criteria were used to select participants:

- **Inclusion criteria**



The participants were diagnosed with a brain injury that was either mild or moderate according to the Glasgow Coma Scale; were employed before and after the diagnosis in work for remuneration for a period of 6 months; received medical intervention and rehabilitation such as physiotherapy, speech therapy and or occupational therapy; lived in Cape Town; were over the age of 18 years; lived a minimum of one year with the brain injury; and could understand verbal questions and communicate effectively in English and Afrikaans. The participants were selected from diverse race and gender groups.

- **Exclusion criteria**

The participants who had sustained a severe head injury were excluded from the study as the literature revealed that residual effects of the injury implied that they would struggle to work in the open labour market. Participants were excluded if they had additional

psychiatric diagnosis according to the DSM IV, as this would affect fulfilment of their worker roles.

The number of participants included in this study depended on the point at which the data became saturated. Strauss and Corbin (1998:136) described saturation as a point in the research process where no new information is generated from the collected data. In this study the point of saturation became evident after interviewing ten participants.

- **Description of the participants**

The age of participants in this study ranged from 31 to 64 years old. For the purposes of this study the racial classification of black, white and coloured will be used according to the classification of the South African Population and Registration Act of 1950 (South African Population and Registration Act of 1950, online)¹.

The demographic information of the study participants was as follows: five participants were classified as coloured, four were classified as white and one participant was classified as black. Nine participants were males and one participant was a female. Regarding their level of education, nine participants had a high school level of education and one participant completed a diploma in higher education. Their job classification was as follows: eight participants were classified as having a blue collar type of occupation and two had a white collar type of occupation. The severity of the head injury could be classified as follows: five participants suffered a mild head injury and five suffered a moderate head injury. At the time of the interviews all the participants were involved in some type of employment, seven participants were employed full time and three part time (see Appendix E on page 276).

¹The classification system used in this study to identify the research participants was purely used for the purpose of the study. The researcher does not agree with the discriminatory aspects of classifying by race.

Participant one (P1): P1 is a forty year old coloured male, who has a high school level of education. He sustained a mild brain injury in 1990 that resulted in a left hemiplegic condition. According to his medical history he also sustained a fracture to his right knee and had injuries to his left arm on another occasion (this occurred in 1999). At the time of his brain injury, he worked as a bouncer at a night club. Currently, he is working as a porter at a rehabilitation facility for patients with physical or neurological medical conditions. He is currently married and has a young child. P1 acknowledged that he struggled to adapt to his condition functionally.

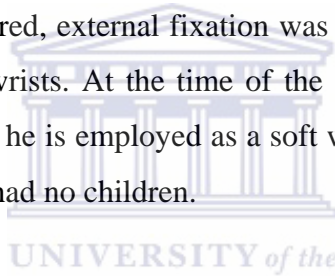
Participant two (P2): P2 is a thirty three year old white male, who has a high school level of education. He sustained a mild brain injury due to a motor bike accident on the 23 October 1999. Medical notes revealed that his Glasgow Coma Scale rating was 14/15 and he had a fracture of his left collar bone. Computerised Tomography revealed no bleeding in the brain but he had fractured bones of his skull. At the time of the injury, he worked as a cartographer. Currently, he is working as a production manager for a newspaper company. He currently lives as a bachelor and P2 mentioned that he is actively involved in leisure activity such as karate and body boarding.

Participant three (P3): P3 is a thirty five year old coloured male, who has a Grade ten level of education. He sustained a mild brain injury, his brother in law assaulted him with a screw driver in 2003. Medical notes revealed the following: he sustained a penetrating head injury with a Glasgow Coma Scale rating of 15/15 and he had signs of right hemiplegia. At the time of the accident he was working as a welder. Currently, he is working as a general assistant on a part time basis. According to P3 he struggles to find permanent employment due to the extent of his injuries. P3 is married and has four dependents.

Participant four (P4): P4 is a sixty four year old white male, who has a high school level of education. He sustained a moderate brain injury due to a motor bike accident in 2003. Medical notes revealed the following: Glasgow Coma Scale rating was 12/15, he had a dislocated right shoulder and abrasions to his coccyx, he fractured his 3rd, 4th and 6th ribs and he sustained bilateral 6th nerve palsies. A computer tomography (CT) scan

showed a diffuse axonal injury. At the time of the accident he was a self employed restaurant owner. Currently, he is still working in his restaurant but has fewer responsibilities. P4 is married and has five children. After the brain injury his quality of life was significantly affected as he could not engage in leisure pursuits such as running, hiking and swimming. He reported that his family had to manage his business. This was previously his responsibility.

Participant five (P5): P5 is a fifty five year old white male, who has a tertiary level of education. He sustained a moderate brain injury due to his involvement in a motor vehicle accident in 1999. Medical notes revealed the following: Glasgow Coma Scale rating of 11/15, x- rays revealed a left haemothorax, injuries to his spleen, fractures to his right tibia and wrists (bilateral). An intercostal drain was inserted and a laparotomy was performed, his spleen was sutured, external fixation was performed to the right tibia and K wires were inserted in his wrists. At the time of the accident he was employed as a computer technician. Currently he is employed as a soft ware technician. P5 was married at the time of the accident and had no children.



Participant six (P6): P6 is a forty one year old coloured male, who has a Grade twelve level of education. He sustained a moderate brain injury. He was assaulted by his brother in law with a baseball bat. The medical notes revealed the following: Glasgow Coma Scale rating of 13/15, sub arachnoid bleeding and monoparesis of the left leg. Treatment included a craniotomy and physiotherapy. P6 was employed as a boiler maker at the time of the injury. Currently, he is dependent on a state disability grant and does work on a part time basis. P6 is currently divorced and has three children.

Participant seven (P7): P7 is a thirty eight year old black male, who has a Grade twelve level of education. He sustained a mild brain injury due to his involvement in a motor vehicle accident in 2000. His Glasgow Coma Scale rating was 14/15, he had a fracture of the left humerus, radius and ulna, fracture to the tibia & fibula. He also had a haemorrhagic contusion bilateral in the trunk region. P7 was in the hospital for many months due to his head and orthopaedic injuries. P7 was employed as a brick layer at the

time of the injury. Currently, he is dependent on a disability grant and is employed on a part time basis. He is currently divorced from his wife and is supporting his two children.

Participant eight (P8): P8 is a thirty two year old coloured male, who has a Grade ten level of education. He sustained a moderate brain injury due to his involvement in a motor vehicle accident in 2004. The medical notes indicated the following: Glasgow Coma Scale rating of 10/15, Computerised tomography revealed a right occipital contusion with minimal oedema and left sided hemiparesis. At the time of the accident he was employed as a machine operator. Currently, he is employed as a driver assistant. According to the participant his wife divorced him after the brain injury. Currently he has remarried and has one child.

Participant nine (P9): P9 is a forty five year old coloured female, who has a Grade ten level of education. She sustained a mild brain injury due to her involvement in a motor vehicle accident in 2000. The medical notes indicated the following: mild brain injury, her neck was tender, she sustained a C3 spinous fracture and whiplash injuries. At the time of the accident she was employed as a machine operator at a printing company. Currently she is still employed as a machine operator but doing less strenuous tasks. She is married and has two children.

Participant ten (P10): P10 is a thirty one year old coloured male, who has a Grade eleven level of education. He sustained a moderate brain injury due to his involvement in a motor vehicle accident in 2004. His Glasgow Coma Scale rating was 12/15, he sustained a cortical contusion, right parietal damage and a liver laceration. He received outpatient physiotherapy and speech therapy. He indicated that he woke up after three days in the hospital as he was heavily sedated. At the time of the accident he was working as a machine operator. Currently he is employed as a driver assistant. He is married and has one child.

3.4.3 Method of data collection

In depth interviews

An in-depth interview is defined by Fontana and Frey (1994:364-365) as a technique to collect data through the interaction between an interviewer and an interviewee in order to understand the complex behaviours of society. It is also viewed as a method to gain an understanding of the meaning of experiences and events in peoples` lives (Rudman & Moll, 2001:24). In-depth interviews was the data collection method used to explore the experiences of brain injured individuals who met the inclusion criteria of the study. In the context of the current study, it was utilised as a method of exploring “the lived experience” of ten brain-injured individuals returning to work after their injuries. One in-depth interview of an hour in duration was conducted with each of the ten participants, until a level of saturation was reached. The data for this study was collected from January 2008 to November 2008.

Greeff (2005:293) indicates that the purpose of unstructured interviews is not to test hypothesis but rather to understand the meaning people relate to their experiences. Although some experts prefer unstructured interviews for data-collection in phenomenology, Schurink (1998:296) indicates that no interview is really totally unstructured and that a semi- structured guide is useful particularly when conducting interviews. Schurink proposes (1998:301) the following phases when conducting interviews: preparation for the interview; becoming acquainted with the participant; establishing the contractual relationship; developing a relationship of trust and formally terminating the interview.

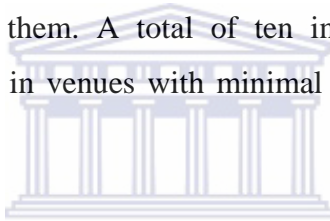
- **Preparation for the interviews:**

During this phase the researcher carefully studied the literature on the topic. This enabled the researcher to define concepts, assess data and construct an interview guide. In addition to the latter, emotional preparation for the interviews was also initiated as the

researcher would enter into the worlds of the interviewees. A semi-structured guide was used during the interviews.

- **Description of the interview process**

The researcher contacted the participants telephonically in order to arrange an appointment to discuss possible participation. The aim of the study was explained verbally and in writing. Informed consent was negotiated and dates for the interviews were set. Two of the interviews took place at the Occupational Therapy Department of Tygerberg Hospital, two interviews took place at the workplaces of participants and six interviews took place at the homes of the participants. A written letter and verbal explanation, describing the purpose of the study as well as what was required of the participants, was provided to them. A total of ten interviews were conducted. The researcher met the participants in venues with minimal distractions that could interfere with the interviews.



The same question was posed to all the informants for example: *Tell me about your experience of returning to work after the brain injury.* An example of the type of open ended questions that was asked included: *Tell me about your experience of returning to work after rehabilitation.* This was followed up with probing questions such as: *You say that rehabilitation helped you. Which aspects of rehabilitation are you referring to?* Other questions included: *Tell me about what it is like to live with a brain injury?* (Please see Appendix D on page 276).

The researcher utilised several communication techniques such as those advocated by Greeff (2002:294) including paraphrasing, clarification, reflection, encouragement and probing.

- **Observation**

The researcher used simple observation as advocated by Babbie and Mouton (2001:293) as a data collection method. This method enabled the researcher to get additional visual information and to understand the perceptions and experiences of the participants returning to work after the brain injury. The advantages of observations as a method is that the researcher has first hand experience with participants, information can be recorded as it is revealed, unusual aspects can be noticed during observation and that it is useful for the exploration of difficult topics (Creswell, 2003:186). The researcher observed the exterior physical signs of the participant`s homes and workplaces; their expressive movements and language behaviour as described by Denzin cited in Babbie and Mouton (2003:293). Observation assisted the researcher in clarifying and strengthening the findings of the study. Observation therefore served as an additional data collection method that added richness to the data analysis.

- **Field notes**

The observations were recorded in field notes. Taking field notes was a measure of observation whereby the behaviour and activities of individuals were documented (Creswell, 2003:185). Strydom (2002:286) indicates that the field notes should contain a comprehensive account of the respondents themselves, the events taking place, the actual discussions as well as the observer`s attitudes and feelings. Schatzman and Strauss (1973) developed a model for field workers which consisted of observational notes, theoretical notes and methodological notes.

3.4.4 Data analysis

According to Creswell (2003:190) data analysis involves the preparation of data for analysis, moving deeper and deeper into understanding the data, representing the data and making an interpretation of the larger meaning of the data. The interviews were audiotaped and transcribed verbatim by a professional transcriber. The transcriptions

were then checked by the researcher for errors or omissions before continuing with the analysis process. The data was managed manually using a cut and paste method for the coding process. As a result of the large volume of data that was generated, the researcher utilised the strategy suggested by Kvale (2001:192) namely data condensation and interpretation in order to manage the data.

- **Condensation:** interview statements were simplified into more specific formulations named codes and then categorized
- **Interpretation:** all the interview transcripts, field notes and observations during the study were analyzed in order to create meaning and discover the essence of the data

Creswell (2003:190) further states that qualitative analysis is an ongoing process involving the continual reflection about the data, asking analytic questions and writing memos throughout the study. In the current study thematic content analyses of the in-depth interviews were applied in order to delineate themes emerging from the texts. Codes, categories and themes were developed by means of the four cognitive processes as described by Morse and Field (1996) namely comprehending, synthesising (decontextualising), theorising and recontextualising. This system is similar to the analysis methods described by Tech (in Creswell, 1994:153) and the phenomenological methods proposed by Creswell (1998:149).

The information was then coded via line-by-line analysis to uncover the underlying meanings in the text (these codes were viewed as being units of meaning). Thereafter, the researcher was able to identify experiences that were part of the topic and patterns that predicted potential outcomes. The researcher placed codes that were deemed as meaningful to the study in columns on the side of the transcript. Initially this was done manually and then it was done on the computer. All ten transcriptions were compared during the analysis, where codes were developed into categories by means of commonalities, consisting of segments of transcripts. It was difficult for the researcher to see the links in between the individual interviews. As a result it was decided to re-analyze each transcript and mind map the categories related to each transcript. This process

enabled the researcher to see the links between the transcripts more accurately, for example when analysing the characteristics of good intervention programmes these characteristics were clearly seen in the mind maps of each transcript. This process therefore enabled the researcher to see the commonalities regarding individual categories and themes more clearly.

3.4.5 Literature Control

It could be argued that a literature control provides a benchmark for comparing the results of a study with other findings (Creswell, 2003:30). A literature control was conducted after the data analysis in order to support the conclusions and the findings made in the study. The information from the literature was compared with the results or findings of the current study. Similarities and differences regarding the experiences of brain injured individuals returning to work were identified as well as unique contributions of the study to the knowledge base of the profession. Literature from psychology, neurology, psychiatry, physiotherapy and other disciplines was consulted. In chapter five which is the discussion chapter the comparison of the findings of this study to existing literature will be made explicit.

3.4.6 Bracketing

The researcher assumed that the participants` severity of brain injuries and their intellectual level would negatively influence their level of participation in the in-depth interviews as well as the findings of the study. The researcher observed that the brain injury affected each individual differently and that a person with a more serious injury could easily adapt to the worker role when compared with someone who had a less severe injury. The researcher was therefore of the opinion that there should be a substantial re-organization of current rehabilitation practices in order to facilitate the early return of the brain injured individual to work. It was envisaged that a rehabilitation model that was transdisciplinary in nature would be able to improve the return to work rates of brain injured individuals.

The researcher felt that participants would be reluctant to talk to him because they placed little emphasis on research and improving interventions for brain injured participants. After engaging with these participants it became obvious that they meticulously examined what happened to them after their injuries and were not afraid to criticise or praise the medical/rehabilitative treatment that they received. Another assumption was the researcher's view of the negative influence he would have on the responses of participants as he assessed some of them in the Tygerberg Hospital Occupational Therapy Department. The researcher's assumptions and pre conceptions were highlighted and controlled by means of bracketing.

To bracket means to suspend or lay aside what is known about the experience being studied (Burns & Grove, 1987). The researcher eliminates preconceived ideas and constructs, this therefore enables him or her to see all facets of the phenomenon and therefore leads to the formation of new constructs.

The researcher had regular discussion with supervisors, an independent consultant and a mentor (expert in qualitative research) about the project. This enabled the researcher to become aware of his own biases and perceptions about the project. These sessions required that the researcher reflect on past experiences of being a professional, working with clients with brain injuries and therefore analysing reasons/motivations for exploring the perceptions of brain injured individuals when entering their worker roles. This enabled the researcher to ponder upon his views and enabled him to rigorously examine the research process. Reflexivity was enhanced when the researcher's experiences and feelings were entered into a journal throughout the data collection and data analysis stages. These journal entries were therefore viewed as a method of self-realisation and debriefing. At the end of the interview the researcher recorded his feelings, thoughts and reflections about the interview immediately.

3.4.7 Pilot study

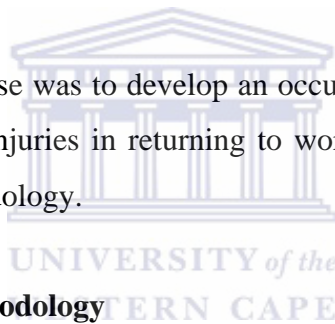
Strydom (2002:210) describes a pilot study as a way in which the prospective researcher can orientate himself or herself to a project, to perfect the formulation of the research

problem and the planning of the modus operandi. One pilot interview was conducted and the data was analyzed to check whether the researcher was really exploring the participants` in-depth experiences relating to the research question. The questions asked and the setting where the pilot study was done were appropriate. The data that was generated during the pilot study interview was analysed using the method advocated by Morse and Field (1996). Rich data was obtained during the pilot study interview that was also included into the actual study.

In the next section there will be an in-depth discussion on the theory generative design of the study.

3.5 Phase Two

The purpose of the second phase was to develop an occupational therapy practice model to support people with brain injuries in returning to work. The above was achieved by using theory generation methodology.



3.5.1 Theory generation methodology

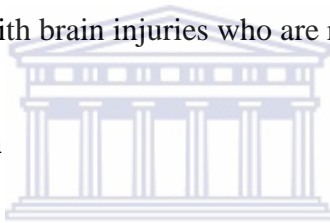
When there is minimal information about a phenomenon in a specific context a theory generative research approach is utilised in order to discover and explore the phenomenon (McKenna, 1997:199). Theory generative research is an inductive approach that is designed to clarify and describe relationships between phenomena without imposing preconceived notions of what the relationships mean (Chinn & Kramer, 2004:130).

According to Fawcett (1991:12), the process of theory generation has the value of generating a logical and meaningful body of knowledge for a discipline. It is for that reason that this specific research design was chosen for this study. The researcher used a combination of theory generative methods as advocated by Chinn and Kramer (1999), Walker and Avant (2005) and Dickoff, James and Wiedenbach (1968) in order to develop a practice model.

In the next section there will be a discussion on the purpose of the theory, four levels of theory generation and the reasoning strategies utilised in this study. Thereafter research design will be discussed in terms of four steps of theory generation, namely, concept analysis, construction of relationship statements, model description and evaluation, and guidelines for the operationalization of the model.

- **Purpose of the theory**

Chinn and Kramer (1999:84) indicate that the general purpose of a theory specifies the context and situations in which the theory applies. The purpose can be approached by asking “Why is this theory formulated?” In this research the purpose of the theory is to provide occupational therapists with a theoretical framework and a practice model to guide intervention for people with brain injuries who are resuming their worker roles.



- **Level of theory generation**

Walker and Avant (2005:6) state that there are four levels of theory generation or development in the literature. The *first level of theory generation* consists of meta-theory which focuses on philosophical and methodological questions related to the development of a theory base. The *second level* consists of grand theories that consist of global conceptual frameworks defining broad perspectives for practice and looking at phenomena based on these perspectives. The *third level* consists of middle range theory which fills the gap between grand theories and practice, for example theories of pain alleviation. The *fourth level* consists of a practice orientated level of theory which outlines modalities for practice. At this stage it has to be mentioned that Walker and Avant specifically related these levels to the profession of nursing, however it could be argued that these levels are applicable to the profession of occupational therapy which also forms part of the helping or caring professions.

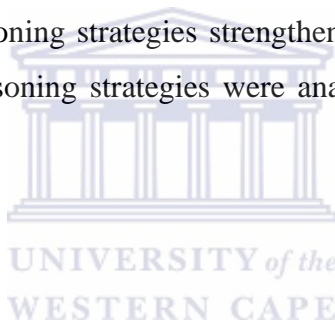
McKenna (1997:114) mentions that practise theories are very specific in their clinical focus, narrower in scope and more concrete in their level of abstraction than middle range

theories. Walker and Avant (2005:15) indicated that useful practice theory emerges when middle range theory is blended with practice or prescriptive theory.

The aim of this study was to develop a practice orientated level of theory in order to improve practice through the development or description of an occupational therapy practice model. This model will serve as a guideline for occupational therapists to reintegrate brain injured individuals to their worker roles.

- **Reasoning strategies**

Different reasoning strategies are integral to the development of a theory. The reasoning strategies enabled the researcher to formulate the generic statements which were integral to theory generation. The reasoning strategies strengthened the credibility of the theory that was generated. These reasoning strategies were analysis, synthesis, derivation and inductive reasoning.



- **Analysis**

Analysis is described as the separation of a complex whole into parts in order to enhance understanding. By means of the process of analysis, constituent variables or factors that are relevant to the understanding of a phenomenon or event are isolated (Mouton & Marais, 1993:102). Walker and Avant (1995:28) suggest that in analysis, concepts and statements are clarified, refined or focussed upon. Concepts contain attributes or characteristics that make them unique from other concepts. Concept analysis is a formal linguistic exercise that determines the attributes of the concept under investigation (Walker & Avant, 2005:65). It is also regarded as being useful in refining ambiguous concepts in the theory. In this study concepts were identified through the analysis of reports of the experiences of brain injured individuals with regard to returning to their worker roles. These concepts were then clarified and defined.

- **Synthesis**

According to Sykes (1976:1173) synthesis is defined as the building up of separate elements into a connected whole. Walker and Avant (2005:39-40) characterise concept synthesis as being based on observation or empirical evidence. It is a way of examining data for new insights that can add to theoretical development. Various approaches to concept synthesis occur namely qualitative, quantitative and literary approaches.

In the current study concepts related to the experiences of brain injured individuals regarding their return to work were identified as emerging from the data. Synthesis enabled the researcher to identify relationship statements based on concepts identified in the data.

- **Derivation**

Walker and Avant (2005:53) indicated that the purpose of concept derivation is to generate new ways of thinking about and looking at some phenomenon. It provides a new vocabulary for an area of inquiry by relying on analogous or metaphorical relationships between two phenomena (i.e. one defined and known and one undefined and underexplored). It could be argued that inductive reasoning is utilised in this process.

- **Inductive reasoning**

Chinn and Kramer (1999:79) describe inductive reasoning as a strategy where particular instances are observed to be consistently part of and merged with a larger whole or set of events or phenomena. Walker and Avant (2005:163) further state that if observations of relationships from data, literature or clinical practice generate a theory then inductive reasoning was used. Chinn and Kramer (1999:81) state that with inductive reasoning, people induce hypotheses and relationships by observing or experiencing an empiric reality and reaching some conclusion. In this study the experiences of brain injured individuals returning to their worker roles were explored and analysed inductively to develop concepts. Inductive reasoning however has limitations in that it is not possible to

observe all instances of a specific event or phenomena (Chinn & Kramer, 1995:66). This means that conclusions reached in a specific study cannot be stated with absolute truth. Mouton and Marais (1993:106) state that an inductive argument may result in probable conclusions based on supportive evidence.

3.5.2 Steps of theory generation

3.5.2.1 Concept analysis

Walker and Avant (2005:63) state that concept analysis consists of the examination of the structure and function of a concept. Furthermore, these authors point out that concept analysis is useful in refining ambiguous concepts in a theory as well as clarifying overused vague concepts to give meaning to a phenomenon (Walker & Avant, 1995:38) which, in this study, is Occupational Self Efficacy. Concept analysis includes concept identification, definitions of concepts and concept evaluation.

- **Concept identification**

Walker and Avant (2005:63) indicate that concepts contain within themselves the attributes or characteristics that distinguish them from other concepts. These concepts which can come from life experiences, clinical practice and basic or applied research will form the basic fabric of the theory (Chinn & Kramer, 1999:74). Walker and Avant (2005:37) indicate that the very basis of any theory depends on the identification and explication of concepts. They further state that careful concept development is the basis for any attempt to describe or explain phenomena. Chinn and Kramer (1999:88) indicate that a concept can be identified by searching words or groups of words that represent objects, properties or events within the theory.

Concepts were identified by reflecting on the overall results of themes, categories and sub categories. Through a process of synthesis, an understanding of the global picture of participants` experiences became evident. From the global picture the researcher could identify the central concepts that informed the model of the study. In this study concepts

emerged from the field work data and related to the brain injured individual's experiences of returning to his or her worker role.

- **Definitions of concepts**

Chinn and Kramer (1999:89) explained that a definition is any explicit or implicit meaning that is conveyed for a concept. Definitions exist to clarify the nature of the abstraction that the theorist constructs in such a manner that it can be comprehended by others. Chinn and Kramer (1999:89) further mentioned that definitions suggest how word representations of an idea (concept) are expressed in empiric reality. In this study the identified concepts were defined in order to clarify their meaning. This demonstrated the representation of the empiric reality as a means to assist occupational therapy practitioners. The researcher defined the identified concepts in this study by using the method as explained by Van Der Steen (1993b) and Wandelt and Stewart (1975:67).

In the current study the attributes of the main concepts were identified, analysed and synthesized using the guidelines above. A list of related and essential attributes defined the main concept. Walker and Avant (2005:40) support the above statement where they indicate that the new concept should be defined and its defining attributes delineated so that the reader or user of the new concept can determine what is and what is not intended by the new concept. The conceptual definition in this study was formulated and refined several times until a detailed and satisfactory definition was achieved. The identified concepts were used as the core ideas to assist in the development of the occupational therapy practice model.

In the next section concept evaluation will be discussed.

- **Concept evaluation**

After the concepts were identified, analysed and defined, they had to be evaluated for signs of maturity. In this study the concept evaluation criteria as described by Morse, Mitchum, Hupcey and Tason (1996:387) were utilised. These criteria were as follows:

- The definitions of the concept should be well defined, consistent and cohesive. In this study general dictionaries such as the Oxford dictionary and literature related to the field of study enhanced the definitions of the concept.
- The characteristics or attributes should be clearly identifiable as this provides information about the application of the concept in the context of the particular study.
- The pre-conditions and outcomes of the concept should be described and demonstrated. The concept was described in detail in relation to the context of the study. Hence the detailed description of the model.
- The conceptual limits should be defined. In the current study the uniqueness of the maturity of the concept indicated this criterion.

The concepts in this study were classified using the survey list of Dickoff, James and Wiedenback (1968:423). The survey list allowed for the classification and differentiation of main concepts from related concepts as well as placed the concepts in a hierarchical order (Dickoff et al., 1968:423). The survey list consisted of agency, recipient, context, procedure, dynamics and terminus.

The next step of the theory generation process is the construction of relationship statements.

3.5.2.2 Construction of relationship statements

Walker and Avant (2005:27) describe a relational statement as a relationship between two or more concepts and it is the essential ingredient in building scientific knowledge. Relationships provide links among and between concepts (Chinn & Kramer, 1999:90). Chinn and Kramer (1995:111) indicate that theories are made up of statements of relationships between concepts written in the form of propositions. The nature of relationships in theory may take several forms and the relationship statements that are uncovered may be peripheral to the core of the theory. In this study the concepts were linked together to form relationships statements for the model to assist occupational therapy practitioners return brain injured individuals to their worker roles. The theoretical relationships were considered in the context of the theory. Context in this study referred to the homes and workplaces of the brain injured individual.

3.5.2.3 Model description and evaluation

Chinn and Kramer (1999:84) indicate that once a theory is described, the description can be used as a basis for critical reflection. Thus far in this study the concepts of the model had been identified, defined and placed in relationship with one another. The description of the model was now possible. Chinn and Kramer (1999:96) indicate the following criteria for describing a model:

- What is the purpose of this theory? This addresses why the theory was formulated and reflects the contexts to which the theory can be applied. The purpose and objectives of this study had been mentioned.
- What are the concepts of this theory? This identifies the ideas that are structured and related within the theory.
- How are the concepts defined within the model? This clarifies the meaning of concepts within the model.

- What is the nature of the relationships? This addresses how concepts are linked together in the model. In the study various relationship statements were explored as well as how these gave structure to the theory.
- What is the structure of the theory? This clarifies whether the model contains partial structures or one complete form.
- On what assumptions does the theory build? This addresses the basic truth that underlies the theoretical reasoning. It clarifies the assumptions that reflect the values of the theory.

The criteria above of Chinn and Kramer (1999) aided the researcher in thoroughly describing the model. In order to strengthen the findings the researcher had discussions with research supervisors and colleagues that were deemed as being experts in theory generation. These discussions were fruitful in that they aided the researcher to determine the functionality of the model and critically reflect on the model.



In this research study the evaluation criteria as advocated by Chinn and Kramer (1999:108) were used to critically reflect on the model. They included the following:

- Is this model clear? This addresses the clarity and consistency of presentation regarding consistency and semantics.
- Is this model simple? This addresses the number of structural components and relationships within the theory. Complexity refers to the numerous relational components whereby simplicity implies fewer relational components.
- Is this model general? This addresses the scope of experiences of brain injured participants returning to work. Generality refers to the wide scope of phenomena whereas specificity narrows the range of events.

- Is this model accessible? This refers to the extent to which the concepts within the theory are grounded in empirical phenomena.
- Is this model important? This refers to the extent to which the model leads to the achievement of goals in practice, research and education.

Causey and Hempel (cited in Walker & Avant, 2005:135) indicate that a theory that is well designed moves beyond existing knowledge to new surprising discoveries. They further indicate that when relationships within and among concepts of a theory are represented in a graphic form then it represents a model of the phenomenon. In the current study the practice model that facilitated the return to work of brain injured individuals was understandable to both individuals researching the phenomenon and to practitioners. It could therefore be argued that the model met the above criteria.

3.5.2.4 Guidelines for the operationalization of the model

Chinn and Kramer (1999:142) explain that theory ideally serves to improve practice. Therefore the application of a theory in the clinical setting enhances theory development. The above authors also emphasize that the application of theory draws on research methods to ensure that theory when applied, achieves practice objectives. Evidence is also generated to show the affect of the application of the theory on the clinical setting (Chinn & Kramer, 1995:101).

In the current study the guideline for the application of the model in practice was developed through inductive reasoning. The guidelines were developed for the application of the model in the practical setting of occupational therapy. The evaluation of the model in practice will not be discussed due to the scope of this study. However suggestions were made regarding the use of the model in practice.

Trustworthiness is essential to ensure scientific rigour in a research study or project. The factors to ensure trustworthiness will be discussed in the following section.

3.6 Trustworthiness of the study

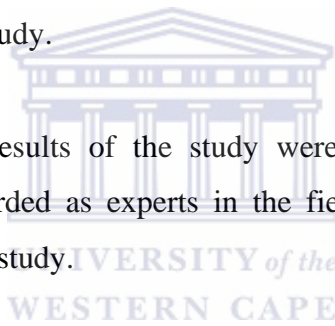
In qualitative research the validity and reliability of the research design determines the effectiveness and the quality of the research. Within the current study the model of Krefting (1991:215) will be used in order to describe the trustworthiness of the data. The model is based on the identification of four aspects of trustworthiness which are truth value, applicability, consistency and neutrality.

3.6.1 Truth value

This is described as how confident the researcher is with the truth of the findings for the research, informants and context (Krefting, 1991:215). The term *Credibility* was the criterion used when assessing truth value of the study (Krefting, 1991:215). In the current study the researcher endeavoured to represent the multiple realities of the research participants as accurately as possible. The descriptions of the lived experience of the participants were audio-recorded as they were talking and the audiotapes were transcribed verbatim to ensure that each participants' story was captured in their own narrative. This strategy was used to ensure that the data was truthful. The following strategies suggested by Krefting (1991:217) were used in this study to enhance the credibility of the data:

- **Reflexivity:** De Vos (2002:369) describes reflexivity as an individual's ability to formulate an understanding of their own cognitive world and their influence on human relations. This process enabled the researcher to be sensitive to his own personal biography. In this study the researcher had to be aware of the influence of his professional background as an occupational therapist and cultural background as a non-white Muslim male on the study participants. All my experiences and perceptions of interactions were captured in a field journal/reflexive journal that enabled me to reflect on my personal biases and professional approach to the study. For example, sometimes I felt uncomfortable with certain questions that I asked especially relating to workplace abuse and divorce. However reflection assisted me in being sensitive to how I approached these issues.

- **Member checking:** This process is described as a manner of continually checking with informants about the data, analytical categories and interpretations. In this study three informants were contacted and presented with the provisional categories and themes. This enabled the participants to assess whether the study reflected their views accurately.
- **Triangulation:** According to Gliner (1994) triangulation can be seen as a means of establishing different patterns of agreement based on more than one method of observation, information gathering, or the use of more than one data source in order to establish credibility. In the current study the researcher used in-depth interviews, observation, reflexive journal and multiple data resources (example: dictionaries, existing theories and literature and knowledge of experts in the field) to generate and refine the concepts of the study.
- **Peer examination:** The results of the study were presented to supervisors and colleagues who were regarded as experts in the field. These individuals critically examined the results of the study.
- **Interview technique:** In-depth interviews were utilised within the study. It allowed the researcher to explore the participant's experience of challenges of returning to work. This data collection method enabled the researcher to get clarity on certain topics by reframing questions and asking questions in different ways.
- **Structural coherency:** Guba (cited in Krefting, 1991:220) describes structural coherency as a method of making sure that there are no unexplained inconsistencies between the data and their interpretations. In the current study this was obtained by accurately describing how concepts were formed and how relationship statements gave rise to the generation of a theory. If there were inconsistencies in the description of phenomena a detailed explanation was provided.



3.6.2 Applicability

This is described as the degree to which the findings can be applied to other contexts or settings. Krefting (1991:216) further mentions that it refers to the ability to describe a particular phenomenon of experience and not to generalize to others. *Transferability* was the criterion used against which applicability of data is assessed. In the current study, the research methods, contexts, study population, detailed description of the participants, the lived experience of participants and theory generation was made explicit. A purposive sample was used in the current study. In depth interviews and field notes were used in order to obtain an in depth analysis of the experiences of brain injured participants.

3.6.3 Consistency

This is described as the criterion that considers whether the findings would be consistent if the study was to be replicated with the same subjects or in similar contexts. In the current study the researcher assessed a range of experiences rather than the average. These experiences were described in depth including the results of the pilot study. The study was documented in such a manner that the readers of the thesis could follow a decision trail. *Dependability* was the criterion used to assess consistency in the study. Dependability was ensured by means of dense descriptions, peer examination and triangulation.

- **Dense description of research methods:** In this study the researcher described the exploratory, descriptive, phenomenological and theory generation methods in depth. A step by step procedure was indicated.
- **Peer examination:** This study proposal was accepted by the University of the Western Cape's Higher Degrees Committee and Ethics Committee. The findings of the study were formally presented to the supervisors, an external consultant (Social Worker) and a study mentor (Clinical Psychologist) who critically evaluated the study throughout its process. In addition to the above the process of triangulation was utilised.

- **Triangulation:** see credibility.

3.6.4 Neutrality

This is described by the degree to which findings are a function only of informants and conditions of the research and not of other biases or motivations (Krefting, 1991:217). *Confirmability* was the criterion used to assess for neutrality. In the current study the research findings were purely from the perspective of the participants. The researcher's own biases or assumptions were made apparent within the study as well as the process of the study was made apparent by means of reflexivity. Reflexivity enabled the researcher to be sensitive to his own personal biography. A confirmability audit enabled the researcher to achieve the criterion of trustworthiness. In the current study raw data such as transcripts, data reduction such as analysed documents, data reconstruction such as the formulation of themes and process notes were made apparent to supervisors. This enabled them to follow procedures followed during the study.

3.7 Ethical considerations

Ethics are defined as a set of widely accepted moral principles that offer rules for and behavioural expectations towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students (Strydom, 2002:75). The study was conducted scientifically, while acting in the participant's best interests and protecting the participant's free will. It was guided by the principles of ethics that would ensure the preservation of human dignity, autonomy of participants, informed consent, confidentiality, lack of harm to participants, maximum benefit and justice (Rumrill & Bellini, 2000:67-74 and Medical Research Council, 2001:1). The study was accepted by the University of the Western Cape Ethics committee. The contents of the study were fully disclosed and explained to participants verbally and in the written form (see Appendix A). The process of obtaining informed consent was as follows: participants were telephoned during which the researcher introduced himself and explained the contents of the research project. Participants were informed of the voluntary nature of their participation and of their right to refuse or to withdraw after commencement without

negative consequences. If participants agreed to participate, an appointment date was arranged. During the first visit, the researcher explained the rationale and aim of the study verbally and explained what would be required of the participant. A letter outlining these aspects was presented to the participant. The researcher agreed to participants having their family present during the interview if they so wished, to facilitate comfort and confidence. Although the presence of a family member was not part of the original plan of the research, in certain instances participation of the participants' spouse enriched the data and such data was included for analysis. It was again emphasised that the participants could withdraw their participation from the project at any time during the research process. An informed consent form was signed by participants before participating in the study (see Appendix B). Creswell (2003:64) indicated that the informed consent form acknowledges that the participant's rights had been protected during data collection.



Chapter Four

Results

4 Presentation of results

The findings from the analysis are discussed in the themes, categories and sub categories that related to the experiences and perceptions of participants returning to their worker roles.

Themes

The themes and categories are presented to convey the experiences and perceptions of brain injured individuals.

Six main themes emerged from the categories. The themes are as follows:



Theme One: A sense of loss of former self

Theme Two: Uncertainty about the future

Theme Three: The road to self acceptance and self belief

Theme Four: Participation in occupation enables recovery

Theme Five: Positive characteristics of an intervention programme

Theme Six: Negative characteristics of an intervention programme

Theme one and categories are presented in Table 1

Table 1: Theme One

Theme One A sense of loss of former self	Categories: <ul style="list-style-type: none">• Loss of physical ability• Loss of cognitive abilities• Loss of former functional abilities• A loss of involvement in family activities• A loss of future aspiration• A loss of hope in occupational roles
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4.1 Theme one: A sense of loss of former self

The above theme is representative of the participants' experience and perception of loss of their former abilities, skills and roles. They interpreted the experience as a sense of loss of their physical, cognitive and functional abilities. This loss was also interpreted in terms of their loss of family involvement, a loss of future aspiration and a loss of hope in occupational roles. As one participant explained:

I can't do and don't do any of that stuff anymore (P4)

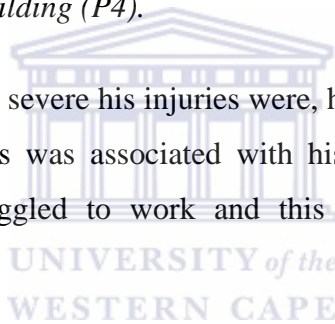
The above quote indicates that the participants could no longer participate in former tasks such as leisure, self maintenance and work tasks. They indicated that due to the brain injury and physical injuries it was difficult for them to resume the roles that they did before. This feeling of loss of self reinforced feelings of inadequacy and poor self confidence.

4.1.1 Loss of physical ability

The category called “one’s physical loss” conveys the descriptions of participants’ sense of loss of the use of their body’s physical function. This physical loss manifested itself as the physical limitations due to bone fractures that the brain injured individual experienced as well as the physical limitations as a result of cognitive limitations due to the brain injury. The category also explains the secondary complications that result because of the brain injury such as his loss of manhood or sexual self and his loss of mobility that eventually affected his vocational skills. These physical limitations reinforced the negative effects of the brain injury. As one participant explained:

I had just about every bone in my body broken, I was blind for nearly a year and half, I nearly lost my building (P4).

The above quote indicated how severe his injuries were, he had broken nearly every bone in his body and that blindness was associated with his condition. As a result of his functional limitations he struggled to work and this resulted in him accumulating financial debt.



Another participant indicated that he struggled to do tasks that required flexion of the upper limb owing to poor muscular endurance. He explained:

And you’ve got to sort of adapt I mean I can’t lift my hand up for too long otherwise it gets tired (P2.)

Another participant indicated that after the accident his right leg became numb for no reason and that he could not sit for long periods of time. In order to relieve the pain in his lower limbs he has adapted by moving around. He indicated:

*.... right leg goes dead if I pull it straight out.....
I can’t sit long, then I get sore and I gotta move (P8).*

Another participant had multiple fractures in addition to the brain injury. This caused him to experience severe pain and functional limitations. He said:

*.... neck fracture, arm fracture, head injuries and swelling of my legs
I can't just turn my neck, my knee is still having a problem (P7).*

The category indicated that the orthopaedic injuries that the participants` experienced mainly affected their ability to do functional tasks. These orthopaedic injuries were seen by the participants as having a great affect on their sense of loss.

- **Loss of sexuality**

One participant explained that the loss of his manhood or sexual drive had a great impact on his self confidence, self esteem and his role as a husband. The loss of muscle tone in his legs also affected his functional ability. The participant indicated that his physical limitations were affecting his mental health or his psychological state of mind. He said:

From all the operations I am dead from my waist down, my sex life is non-existent. You know I don't even get a hard on (P4).

He elaborated further:

I've lost all muscle tone in my legs, all of these things affect you mentally (P4).

Another participant explained that the residual effects after the brain injury caused her to develop feelings of guilt due to her not being able to fulfill her role as wife and mother to her family. As a result of the pain that she experienced she had a low libido, this caused the sexual relation between her husband and herself to decline. She said:

Man this is a bit of a personal issue with me and my husband, where I said this is enough. I don't know how to put it now...he wasn't interested in me anymore because you know, I'm failing him (P9).

One participant felt that because of his sexual limitations, his relationship with his wife deteriorated. He indicated that when he came out of the hospital he discovered that his wife was having a sexual relationship with someone else. As a result of this he divorced his wife. The participant said:

I could see my wife, because of the terrible injuries that I was sustaining in hospital by the time she was visiting, she could understand that the guy would never be normal again (P7).

He further elaborated:

I suspected that she was in love with someone else. So I just stayed alone in my house because I'll never stay with a partner at the very same time sharing love with someone else in the darkness. So that is why I am no longer married (P7).

The above sub category indicate that the TBI sequelae affected the participant`s personal relationships with their wives and husbands. The loss of sexual function affected the participants physically, psychologically and socially.

- **Loss of mobility affects vocational skills**

The participants in this study felt that the physical injuries and cognitive sequelae of the brain injury caused them to have problems with mobility. Most of the participants in this study explained that they were unable to walk immediately after the injury and some even many years after the injury. Their mobility problems had a detrimental effect on their ability to do many tasks but mainly it prevented them from participating in work activities. As one participant said:

It took me a long time before I could go to work because I was not walking very well (P4).

One participant explained that he needed good lower limb functioning in order to operate certain machines in the workplace. He explained:

One thing that was difficult for me, is to control pedals. Now Sir, you would not understand me, the pedal that I had to control was a big one. You had to have good foot control and at that time I could not control my feet very well (P10).

Impaired mobility affected the participants` ability to travel to work as they often walked very slowly and abnormally. They often struggled to get into taxis as they used public

transport. One participant indicated that owing to his concerns about safety he decided to join a lift club that took him to work and dropped him off at home. He said:

No, we arranged our own transport, many of us lives too far from the hospital, so we arranged amongst ourselves, nursing staff included. It is better for me, as to struggle to catch a train and to rush through the people. You can injure yourself, I will rather pay the money as to struggle to come here (work). I mean you can easily get robbed especially if you are someone with a disability (P1).

The problems with mobility experienced by this participant also resulted in loss of self confidence. He said:

I think it is as if you have lost a lot of self confidence and also because I moved with difficulty at that stage. My job is of such a nature that I need to climb a ladder that is on the side of the tank. I need to bend in order to reach for things at the bottom (P5).

Mobility problems also resulted in struggling at work and as he felt that his work could not maintain the necessary levels of productivity. He had requested his employer to dismiss him as he felt that he was being a burden to the company. He said:

Look, um, when I was in the accident, I basically lost my job because I worked for a small company. However, they did pay me for three months after the accident. I told them that they could not carry me and that they should rather let me go. This was when I stopped working, you see, because I could not move at all (P5).

The subcategory highlights that the participants` loss of mobility affected their ability to function especially in the workplace. This loss of mobility caused them to struggle in maintaining their worker role.

4.1.2 Loss of cognitive abilities

This category represents the cognitive abilities that clients felt they had lost. The category captures the participants` experience of loss of cognitive, affective and attitudinal factors and describes the participants` loss of insight into their condition, their loss of self confidence and behavioural problems owing to the brain injury.

Participants described their experiences of becoming aware of loss of former capacity in concentration, problem solving, memory and the impact thereof on their lives and functioning.

One participant explained the concentration difficulties he experienced in the workplace. He indicated that he could not concentrate for long periods of time particularly when doing complicated tasks. He said:

It is a little difficult to think, but what I realised was that my concentration was definitely weaker. It was difficult for me to concentrate on something that was complicated, especially when it comes to the software of a computer. It was really difficult for me to concentrate, yes, I would say concentration. It remains a barrier for me (P5).

Another participant indicated that his reading ability was severely compromised owing to lack of concentration. He indicated that he gets tired especially when he reads for a long period of time. This caused frustration as he realised that he functioned at a lower capacity than before the injury. He indicated:

I use to enjoy reading, I don't have that anymore. I become tired especially if I read for long periods of time. I am not the same person as I was before (P10).

Concentration limitations and its effect on reading were identified by other participants as well. Another participant reported that his poor concentration affected his ability to watch television and reading. He indicated that he became tired and eventually he stopped reading. He said:

Lack of concentration definitely. I can't watch a full movie, but I try to read like a full A4 page, but I won't get three quarters of the way, then I lose interest. I'd just rather look at the pictures now. Not anymore I don't pick up a book (P8).

Another participant indicated that he struggled with problem solving after the brain injury. He said:

I did get annoyed with some of the questions while I was recovering when I just woke up. Like asking Maths questions and my head hurts (P2).

The subcategory indicates that the participants experienced concentration difficulties that affected their cognitive, perceptual and problem solving abilities. As the above mentioned abilities are essential in performing work related tasks, many participants struggled to return to their worker roles.

- **Memory loss affects the participant`s ability to engage in everyday tasks**

The participants in this study indicated that memory loss negatively impacted on their functional ability after the traumatic brain injury. This affected them in doing work tasks, self care tasks and leisure tasks. One participant indicated that after the injury he seemed to be “retarded”. His visitors while he was in hospital were sad to see the physical and mental state that he was in and some people thought that he had lost his mind. He said:

So my memory was much poor, so much that people and even the nurses they believed that I was not a normal man even before that, they thought I was mad already you see. People when they came up to see me there by hospital they would cry, almost all the people just visiting me here in Tygerberg they would cry because when they talk to me I was not normal (P7).

Another participant indicated that he could not remember anything that happened during and after the brain injury. He mentioned that the entire accident was like a gap in his memory and that he had to rely on what people told him. He said:

Shoo, that day is actually completely gone cause that whole day is like memory loss, but what I know is what people have told me (P8).

Memory problems in the workplace also affected the participant`s ability to do tasks. One participant indicated that during the day he would suddenly not remember things. He said

There comes a time when I cannot pronounce the words. Then I stutter, you understand, I forget as well, my wife says something to me, then I can't remember. I would then tell her that she did not say anything to me (P10).

Another participant indicated that his loss of memory affected him while doing everyday tasks. He said:

Definitely there are things that I forget....No, I will not say that it is very bad, but I realised that I tend to forget things (P5).

- **Loss of contact with reality**

The participants indicated that they often struggled with a lack of reality orientation after the brain injury partly owing to the poor memory. One participant indicated that it took quite some time before he could orientate himself to person, time and place. He said:

I took a long time before I can look at my abilities...He (brother) would ask me did anyone come today or yesterday. Then I would say nobody was here (P7).

Participants felt that because of their lack of orientation, they were often not aware of their surroundings. Most of the events during that time had been forgotten. However, they could remember certain events. One participant explained that one incident that he remembered was a situation where he was mistreated by a male nurse. He said:

There was a male nurse who spoke to me very harshly. He tied up my penis. That was the only thing I could remember because it was terrible (P7).

Another participant indicated that he wanted to thank a nurse who had supported and motivated him while he was in hospital. However, he could not recall the exact detail about who helped him. He said:

Yes I did lie there, only people with head injuries lie there. I still want to find out who is this lady. She talked a lot to me, I don't know if she's a nurse...don't know if she is a sister or a nurse, but she I can't remember if she looked like an Indian. I never went there, after that I never went there (P6).

One participant was of the opinion that the doctors felt that he could not understand what was happening to him because of his loss of contact with reality. As a result, the doctor spoke to his wife instead. This resulted in feelings of alienation as he did not get vital information pertaining to his medical condition or prognosis from the doctor. He said:

The Professor told me that if I get another knock against me head then it could cause something to me. This is what he told me and I think he told my wife as well but my wife did not want to tell me. I saw him talking to her in the ward, he did not tell me the entire truth, there are things that my wife is actually hiding from me. The doctor, yes, the doctor does not tell you the entire truth, they only tell you a small portion, so you need to make your own deductions (P3).

Memory loss immediately after the brain injury caused the participants severe frustration and anxiety in that they struggled to recognise family members as well as engage in everyday tasks. They felt that these memory problems also caused the people around them to treat them abnormally.

- **Loss of self confidence**

After the brain injury the participants were faced with many obstacles, particularly when returning to their previous tasks and roles in life. It was particularly noticeable when their performance was measured against what was regarded as normal that they lost confidence in their abilities. One participant indicated that his confidence was negatively affected when his employer mentioned that his productivity as a brick layer was not satisfactory:

You are perfect in the job but your pace is very slow and you can't make production.... They ask what has happened to you. Then they say, sorry man (P7).

Another participant indicated that owing to his reduced speed when doing work tasks his work colleagues mocked at him. These comments about his abilities hurt him and caused him to lose confidence in his abilities. He said:

I am not the same as what I was before, I was fast you understand, if a train was on its way then I could easily run for the train. Now, I am not that fast you understand and this is evident at work. Another guy was saying that I am so slow and this makes me feel sad because I know that was not like this before (P10).

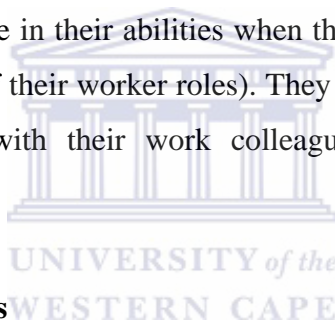
A loss of self confidence resulted from changing to menial, low paid and meaningless types of work participants had to do owing to their functional limitations and loss of previous work abilities. One participant said:

I'll never get a job where I can get decent money. My twin brother, he just spends money left, right and centre. I work on a Saturday it's not even worth my while...(P8).

The loss of the ability to earn the money he had been capable of before the injury affected his quality of life. Another participant reflected on the impact of his injuries on his diminished speed in getting basic tasks done. The fact that basic tasks were time consuming resulted in frustration and ultimately affected his self confidence. He said:

Ja (Yes), it set my life backwards. Everything I do is slow. Normally I would do everything quickly and fast but it takes time, even when I wash myself or bath, Jesus Christ, I get tired very quickly, it's never happened to me before. I can't, if I want to run, I want to run, I can't do that anymore. I'm scared I'm going to fall or something's going to happen to me (P6).

The participants lost confidence in their abilities when they had to resume their previous occupational roles (inclusive of their worker roles). They felt limited by the fact that they could not compete equally with their work colleagues due to their physical and psychological limitations.



- **Behavioural complications**

Participants reported that their behaviour had become problematic after the brain injury and caused difficulties if it affected work tasks. Participants reported that they could not understand their behaviour and could only afterwards realize that they were acting inappropriately. As one participant said:

I was very like jumpy at people...fighting with the people maybe, cheeky with the bosses (P8).

Inappropriate behaviour at work resulted in trouble with employers and compromised job security. As a participant said:

....he doesn't think I'll be able to cope with the thing of being manager...He (boss) said straight away, he can see I am not the same and can't work properly (P8).

Behavioural problems also affected their personal relationships. One participant indicated that his wife had divorced him after the brain injury. He indicated:

Even the nurses they thought I was not normal. So people they couldn't believe that I am where I am today. That's why my wife took a decision that she was...eh I suspected that she was in love with someone else. So I just stayed alone in my house (P7).

Another participant indicated that he had developed a short frustration tolerance after the brain injury and that this affected his relationships and interactions with others. He said:

They don't understand that kind of thing, I'm very, very, very short tempered. I can explode for nothing, I was Mr Cool. I've got zero tolerance for stupidity (P4).

Behavioural abnormalities were often not immediately recognised by the participants after the brain injury. However these behavioural abnormalities had a detrimental effect on the participants` ability to maintain relationships as well as interact with others.

4.1.3 Loss of former functional abilities

Under this category, participants` experiences regarding the loss of their former functional abilities are described by having residual functional impairments, sleep disturbances owing to pain, constant functional changes over the years and a loss of self identity.

One participant indicated that he had residual problems with his hand function. He mentioned that he struggled with everyday tasks. He said:

I struggle allot in turning off bottle caps, in opening taps and so on. It is as if I don't have allot of strength in my hands (P5).

Another participant mentioned that he had residual problems with his left hand. Although right dominant he does his best to retain function. He said:

See, at home I mainly use my right hand when I do work but I also don't want this (left) hand to get lazy (P1).

Another participant indicated that he experiences paresthesia in his lower limbs and that it affects his ability to stand, especially in the morning. These functional limitations affected his self concept.

I've got numbness in my feet. I stand up in the morning and there are pins and needles in my feet till my legs come back to life. All of these things affect your head. I mean you're half a man, I mean do me a favour. I probably was hotter than most youngsters (P4).

The orthopaedic problems that the participants experienced caused them to develop endurance problems. The injuries that these participants sustained caused them to develop a weakness in their affected limbs.

- **Pain limited functional performance**

The participants indicated that the pain interfered with their ability to do everyday tasks. One participant indicated that she experienced pain everyday and that it had a negative influence on her mood. She indicated that even though she tried to do all the tasks required of her as a mother, she could not cope anymore. She said:

Okay, pain everyday and I became actually a morbid person because I had pain I am, I was always there for my husband and my children and then came the time that you just can't (P9).

Another participant indicated that he constantly had pain in his neck owing to his injuries that he sustained. However the pain however is chronic and he has to live with it:

My neck goes out, I have to go have my neck put back on Monday morning, then I'm okay for two or three days...Ja it's R200 a time, sometimes if I sleep badly I can hardly get up then I have to go get my wife to drive me to the masseuse (P4).

The frequent headaches that some participants experienced also severely limited their ability to participate in work related activities. One participant said:

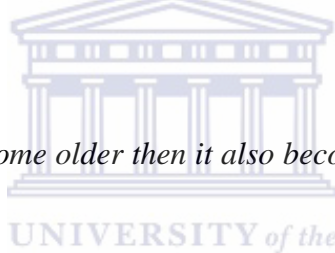
And then I got headaches, so I asked her (wife) if I could get Panados...Panados does not actually help, it only relieves the pain. It helps you if you want to rest and sleep. If you want to sleep through that pain, I can remember such an incident where it took me three days to recover (P3).

Pain was regularly experienced by the participants physically and cognitively. The participants experienced physical pain in the joints of their body and cognitively by means of headaches. The pain affected the participants' ability to resume their worker roles.

- **Functional change over time**

The participants indicated that they felt as if there was a change in their functioning over the years. One participant indicated that his functional limitations were exacerbated by his age. He said

I take it that as you become older then it also becomes more difficult to do certain things (P5).



Another participant indicated that he was a very fit person before the accident, now after the accident his ability to do leisure activities was slowly deteriorating.

That is mentally crippling for me to know, I can't go and jump monster waves like I used to and fly through the air, my back can't take it anymore. It was nice for us to drive, jump in the car and go to the bay and now we can't do that anymore. I miss the adventure (P4).

- **A loss of self identity**

The participants' feelings of loss of their self identity owing to several physical and cognitive limitations that they had are explained. These limitations resulted in one participant losing confidence in his abilities that affected his sense of self. He said:

Especially at my age now, I've got two customers that come in here, they are 50, 60 years old. They look like they are 90. You know, and I'm 65 and I feel I'm still a young 65. A young 65 that is expected to do all of the things I used to be able to

do, till doomsday. My doomsday has been cut short. Ok that's my story you can ask me anything you want (P4).

In the same quote the participant indicated that previously he had a good frustration tolerance but after the injury he felt as if he could explode for anything. Another participant referred to the changes in her capabilities and her sense of loss of her previous abilities by saying:

Even up to today I am not the person that I was that time. And sometimes it makes you very frustrated as a mother not being able to cope and still be able to do the things that you used to do before (P9).

One participant was of the opinion that he had a complete change in self identity in that his wife had to take over the breadwinner role from the time of the brain injury. The participant explained that he was glad that his wife understood his situation. He said:

She was the breadwinner at the time of the accident. I was so glad that my wife understood me (P10).

The same participant further mentioned his taking over the mothering role of their baby:

His (son) milk bottle was always near to him, then it is near him when he cries. His mother had to work in the morning. I would then put on his nappy because everything was there (P10).

Another participant indicated that he had a change in his identity and he felt that something was wrong with him but he could not explain.

I would cry and this other girl would come to me and say don't worry you'll be fine. I just kept telling her I'm not the same, I'm a different person. I feel different (P8).

This sub category revealed that the participants` loss of ability to do activities and their reliance on others caused them to lose confidence in themselves. This loss of confidence ultimately caused them to lose confidence in their own self identities.

4.1.4 A loss of involvement in family activities

In this category, participants` feelings are described in dishonesty with family about true feelings, lack of family involvement during the period of recovery from the injury and being seen as abnormal by the family. Further impressions described are a loss of family relationships and loneliness. Some participants felt that they were not included in family activities owing to the perception that they were not capable of doing certain tasks owing to their physical and cognitive limitations. One participant indicated that he was used to doing everything for his family. However, now his family tended to exclude him as a result of his physical limitations. He said:

I want to do something, like he is moving all his girlfriend`s furniture now, normally I would do it but they`ve taken over that role. Which eventually would have happened if I were a 65 year old, old man, but I am a 65 year old young man. I did everything, I was always me, the main man (P4).

Another participant felt that family members continued to depend on him financially even though he could not provide for them any longer. This resulted in him feeling sad that he was not able to assist them any longer.

She is disappointed because she is expecting something from you...You feel very down because you can`t make an offer to her (P7).

One participant also mentioned that his relationship with his family deteriorated after the brain injury. The communication amongst the family members deteriorated. He said:

No, me and my father, we don`t talk, and my children, my ex mother-in-law don`t want my children to come there anymore so...otherwise it`s just me and my mother that communicate (P6).

The category explains that the participants` experiences difficulties in their relationships with their family. This could be attributed to the traumatic brain injury (TBI) sequelae.

- **Dishonesty with family about true feelings**

Participants indicated that sometimes they had to be dishonest about their true feelings and emotions when it came to their families. They wanted to put on a brave face so that the family member will not lose respect for them. One participant said:

And the type of person that I am I was always there for my husband and my children and then came the time that you just can't... (P9).

Another participant indicated the difficulty of living with a brain injury and its consequent impairments. He had to adjust his habits as he did not want the rest of his family to worry about him. He said:

No it's tough. It's not easy, believe me it's not easy. I also don't sleep well at night, I get up in the middle of the night so I sleep alone now (P4).

One participant mentioned that he forced himself to do tasks in order to prove to his wife that he was functionally capable. He said:

I currently live in a Wendy House, I am waiting for a house. If my wife has bathed the child then she thinks that I can't empty the water as I may struggle to lift the baby's bath. But then I show her that I can do it (P1).

A participant indicated that he wanted to attend a family funeral in order to show that he was still able to participate in family activities. However, it resulted in him participating in tasks that he was not ready for. He said:

Even there by the hospital it was not yet time to be discharged but I asked them to release me because there was a funeral at home. So I wanted just to go to the funeral. So after they released me, but my discharge date was not yet. That was why I was having a problem on the floor the time I was there by my house (P7).

The participants in this study struggled to function in the same capacity as what they did before the brain injury. They felt that they had to act as normal as possible in order to not reveal their residual deficits due to the brain injury.

4.1.5 A loss of future aspiration

In this category, participants' loss of future directedness owing to the consequences of the brain injury are described as a loss of quality of life, a loss of vision for future dreams and a loss of personal savings. The participants felt that the brain injury resulted in severe functional limitations that limited them from reaching their goals and aspirations. As one participant said:

I want to give a house to my wife and children. To achieve this is difficult for me (P10).

He explained that it was difficult for him to purchase a house because he could not earn the same amount of money as what he earned before the injury.

The category indicates that after a brain injury the participants' loss of confidence in themselves caused them to lose hope in their future. This could be related to the fact that they had not fully recovered from the brain injury.

- **Loss of quality of life**

Participants felt that the brain injury had significantly reduced their quality of life in many ways. Some participants felt that it reduced their ability to participate in work and leisure activities, while others felt that it limited their socio economic status.

In the quote below one participant explained how his brain injury had prevented him from doing jobs that would have been financially rewarding. He said:

They asked me if I wanted a supervisor's job. So I said I'll take it, but if you take a supervisor's job you must be there 24/7 on the construction site and they work now only abroad. No, I can't go abroad now. I mean the structures you get abroad, it's heavy, high up in the air, I know what you get... (P6).

Another participant indicated that the brain injury had affected his leisure time sport activities and impaired his quality of life. Before the accident he enjoyed running. He

could no longer participate in these activities and felt it reduced his quality of life. He said:

I could run from here to Cape Town without losing my breath and I don't have to jog everyday that's just the way my body was. Like sitting here, all of the things you know are all incredibly debilitating. A young 65 that expected to do all of the things I used to be able to do, till doomsday (P4).

Another participant mentioned that her ability to do work tasks was compromised and as a result she struggled in her worker role. She said:

Oh I experienced a lot of pain because I was doing physical work. At that time I was working on machines and things like that (P9).

The sub category indicated that the TBI sequelae significantly affected the participants' quality of life in all areas of their lives.

- **A loss of vision for future dreams**

Participants felt that the brain injury resulted in losing confidence in their dreams and aspirations. These dreams were shattered because they struggled to do certain tasks because of their injuries. One participant explained how the accident prevented him from obtaining his diploma. He said

The one problem is that I didn't finish maths because I had the accident right before that. So I didn't get my national diploma in cartography (P2).

Another participant indicated that he struggled to resume his previous work owing to his professional license expiring and it affected his earning potential. He said:

How do you call it like a refreshment course, I have to pay for it. I have to do engineering maths to get my red seal back...because otherwise they're not going to give me any work like that, I've lost a lot of it. I mean it was a lifetime, it took away a lifetime from me, it's a lot (P6).

One participant indicated that he doubts whether he can achieve his dream of purchasing a home for his family. He said:

All that I desire in life is to one day buy a house. To achieve this is difficult for me, I dream of owning a car so that I can start my own business. You see (P3).

The sub category described the change of the participants` choice of work due to their limitations after the brain injury. The participants had to settle for work that was less demanding compared to what they wanted to do initially.

- **Loss of personal savings**

Participants often indicated that the costly medical expense incurred by the brain injury affected their socio economic status. One participant indicated that he had lost all his savings as he had to pay for his medical expenses. As a result thereof he had to sell a property in order to keep up with payments. He said:

I lost everything all my pension, all my savings, it cost millions of rands medically. Basically I was brain dead, I had serious brain damage (P4).

On another occasion the participant indicated that he is trying to sell his business in order to manage financially. He said

No I am trying to sell the business, trying to get rid of everything, I am trying to do too much which once again is even more debilitating. My wife never used to have to work. I used to be here from morning till night. My property in Somerset West which we eventually sold to keep up with the payments here (P4).

One participant also indicated the brain injury caused him to lose a lot of money and that it limited his potential to generate an income. He said:

You see, at the beginning it kept me away from allot of things. You can say that I lost allot of things. I lost my job and I was the only breadwinner. I lost allot of money because of this injury (P3).

Another participant indicated that he had to borrow money from attorneys after the brain injury in order to continue paying his retirement annuity policies. He said:

But, you can apparently make a loan by them (lawyers), I did this in order to pay my insurance and policies. But the thing is that eventually when your claims gets paid, then they (lawyers) take all that money back with interest (P5).

The sub category explains that the participants experienced financial difficulties as a result of the cost of medical treatment after the brain injury as well as due to their loss of ability to work.

4.1.6 A loss of hope in the occupational roles

Under this category the participants' loss of hope in engaging in various occupational roles as they did before is described. The descriptions include a loss of hope in the worker role, loss of promotional opportunities and how stage of life affected the ability to complete courses. Also described, are how participants experienced the loss of productivity in the workplace and role reversal. One participant indicated that the impairments she had after the brain injury caused her not to be able to fulfill her role as a mother. She said:

And sometimes it makes you very frustrated as a mother not being able to cope and still be able to do the things that you used to do before (P9).

The category explains the loss hope that the participants experienced in all the occupational roles related to the performance areas of self care, work and leisure. This loss of hope was as a result of the TBI sequelae that the participants experienced.

- **Loss of hope in worker role**

Some participants felt that the functional limitations owing to the brain injury negatively impacted on their ability to fully engage in occupational roles. One participant indicated

that since the brain injury, he experienced problems with his balance. As a result he could not engage in his occupation as a brick layer. He said:

We need to climb on top of the scaffolding. It would be very hard for me to climb. I was fearful because I was off balance. It was difficult to use the step ladder because the right one (leg) is not much strong (P7).

The inability to do work tasks in the same manner as before the injury resulted in participants feelings inadequate about themselves. As one participant said:

You see, where I feel a bit down is when I can't put in the extra effort whereas someone else can. I would want to lift the heavy patients but I can't, this makes me feel sad (P1).

One participant indicated that he became frustrated in his ability to do welding as what he did before. His job required the assembling of metal structures which required the physical lifting and carrying of weights. He said:

In order to assemble something, it took me much longer to do this whereas I could easily do it before (P3).

The sub category describes the difficulty that the participants experienced in returning to their worker role. The brain injury was viewed as being multifaceted as it affected the participants psychologically, physically and emotionally.

- **Loss of promotional opportunities**

The participants in this study felt that their residual psychological and physical deficits after the injury limited their promotional opportunities at work. One participant explained that his goal was to be a manager at his company. However, changes and difficulties in his behaviour became evident. As a result, his employer suggested that he would not be able to cope in such a position He said:

*He doesn't think I'll be able to cope with the thing of being manager...
He (boss) said straight away, he can see I am not the same and can't work properly (P8).*

Another participant mentioned that he had black outs and that his employer did not allow him to work, thus affecting promotional opportunities. He said:

A month or so, so they said no...two or three times I had blackouts on the site so they told me no, I can't allow you to work (P6).

Another participant indicated that his work colleagues gossiped about his work performance and as a result his employer demoted him. He said:

How can I say, I am not happy with my job. I previously worked as an assistant operator. Thereafter I applied to work on the machines. I worked for a few months on the machines then I heard people gossiping about me, this caused me to stop working as a machine operator (P10).

Promotional opportunities in the workplace were limited due to the fact that brain injury caused employers to develop a negative perception of the participants work abilities and work potential.

- **Stage of his life affected his ability to complete courses**

Some of the participants felt that the brain injury delayed their progress in terms of their qualifications. One participant indicated that he had to repeat some science subjects in order to continue in his field because he had not been working in his field as a boiler maker for quite some time. He said:

I'm, okay but theoretical wise, there's gonna be maths and science. And that I have to patch up a bit. The maths is okay but the science side I have to patch that up (P6).

Another participant indicated that he prefers not to think and plan ahead he prefers to take one step at a time. He said:

I don't look too far in the future, I say to myself that I will do it in a year or so (P3).

Another participant indicated that the brain injury delayed his progress in improving his education, despite his intention to persevere in his education.

No, I am still working, I would be able to do that (study) as well. I will begin next year with my matric (Grade 12), I will maybe attend night classes (P10).

The sub category indicates that the participants sustained the injury when they were well established in their worker roles. Due to their age, TBI sequelae and stage of their lives it was difficult for the participants to undergo training or education in order to resume their worker roles.

- **Loss of productivity in the workplace**

Some of the participants felt that when they returned to work after the brain injury it became evident that they were not being as productive as before. One participant explained that his employer dismissed him owing to his low productivity levels. He said:

The problem would be production of the work. But to make a big number, that is the problem that we are talking about. I'm told that I am no longer according to production. You are running out of time and I am losing as a boss. I'm going to rate the little money...it is going to be stressful for me (P7).

Another participant indicated that the residual pain she experienced limited her ability to do work tasks. Eventually, they accommodated her with lighter work. She said:

Oh I experienced a lot of pain because I was doing physical work, at that time I was working on machines and things like that. I work in a printing works, picking up and logging up papers in the machine, I actually had no problem but because of a person at work started putting me on the table doing lighter work (P9).

Another participant indicated that owing to his residual problems his productivity rate had decreased. He said:

I can't do stuff the way I use to. I can't carry 5 cases of beer like I use to, I carry I can't wriggle around under seats and fix things and my eyes sight is severely impaired depending on how tense I am (P4).

The sub category explains that workplace productivity was negatively affected after the brain injury, this was attributed to the TBI sequelae.

- **Role reversal**

Some participant's explained that marital role reversal took place in the family after the brain injury. As some of them could not resume their previous breadwinning role their wives had to resume these roles. Some participants had to undertake a mothering and home maker role during the time of their recovery. As one participant said:

I was nervous because it was just my wife that was working...I had to raise my child by myself (P10).

Another participant indicated that after the brain injury his son had to take over the breadwinner role by managing the family business. He said:

And a huge amount of strength comes from your family. My sons, I mean my boy was 17, he took over here the next morning (P4).

The loss of independence after the brain injury caused many participants to be dependent on their family. One participant indicated that his wife had to undertake the care giving role. He said:

Yes, she (wife) drove me around and she helped me dress in the morning. She helped me with these things (P5).

The sub category indicates that the participants could not fully engage in their previous roles after the brain injury. They had to take on new roles in life and their significant others had to do some of the tasks that the participants used to do before the injury.

In summary the theme, a sense of loss of former self was discussed. There was also a discussion of the categories: one`s physical loss of ability, loss of mental abilities and one`s functional loss. Finally there was a discussion on the categories a loss of future aspiration and a loss of hope in the worker role.

Table 2: Theme Two

<p>Theme Two</p> <p>Uncertainty about the future</p>	<p>Categories:</p> <ul style="list-style-type: none"> • Fear of the unknown • Fear of being underestimated by society • Perception of being a burden to society
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4.2 Theme Two: Uncertainty about the future

The above theme is indicative of the participants not being prepared for the future. This unpreparedness resulted in feelings of uneasiness about planning ahead owing to their physical and cognitive limitations. The theme uncertainty about the future is categorised by fear of the unknown; fear of being underestimated by society and the perception of being a burden to society. As one participant indicated:

Had I been well on the financial side, it would not have affected me mentally. Ja (Yes), it's been very difficult, I have almost estranged my wife (P4).

The above quote is part of the participant`s explanation that he had been unaware of the financial consequences of the brain injury. He indicated that had he been financially prepared, then he would have experienced less mental stress.

4.2.1 Fear of the unknown

This category represents the participants' experience of fear that they experienced, particularly in relation to their socio economic status and their functional abilities. These experiences were categorized by descriptions of the participant's fear of unemployment, fear of not being accepted by his or her family and the uncertainty of socio- economic conditions. One participant became anxious about the future as one of the doctors indicated that the company should not take him back owing to his injuries. He was worried about the future as he needed to provide for his family. He said:

They (employer) can't take me back as the doctor had said so (P10).

The category described the participants' fear of the future as a result of the functional limitations they experienced after the brain injury.

- **Fear of unemployment**

Participant's feared they would not find work that could support their standard of living. One participant indicated that he would not recover fully until he was again performing in his current capacity as a boiler maker. He indicated that he felt uncomfortable being dependent on a disability grant. He said:

....go work because this grant money, R960, a month, I am not used to that money. I'm used to earning R4500 a week..... The only way that I will recover fully is if I get back into work again (P6).

Another participant explained that he was provided with a disability grant. However, he chose not to be dependent on the grant. He said:

I waited for three months to get it (disability grant) and so I got three months money, it was R400 (four hundred) and something rand. They gave me this money for a period of three months, thereafter they said that I must find a job (P10).

The participants expressed their anxiety when they were unemployed after the accident. One participant indicated that he became worried when it became obvious that he was struggling to find employment.

I started to get anxious because I only got a job after a year and ten months after the accident (P5).

This subcategory described the participants' fear of unemployment as they realised that they may have to be dependent on a disability grant.

- **Fear of not being accepted by his or her family**

Some of the participants were of the perception that their families were going to get fed up with of them owing to their reduced functioning compared to their previous capacity. One participant indicated that he particularly feared his family turning their back on him. He said:

Anyway the big thing is your family, the people that pull together, because they could have just said ja his gonna be a retard, or a cripple or whatever. They definitely would have put me or whoever the accident victim was, into that category and you go with the flow (P4).

Another participant mentioned that she became depressed by the fact that she could no longer do all the tasks required of her as a home maker. She said:

Like I just said to you now even at home, I always did everything for them and now I must understand I can't do it anymore and I actually go into depression (P9).

The fear of not being accepted by their spouse owing to the extent of their physical injuries was in due case reinforced by a doctor. One participant said:

I will say very good, because I remember the doctor, the orthopaedic surgeon that fixed my leg. It is the first thing that he asked me, he asked if I was married. So I said, yes. So he said that most men that was involved in accidents as severe as mine, lose their wives (P5).

The subcategory presents the participants' fear of being marginalised by their family due to the stigma related to the brain injury.

- **Uncertainty about socio economic conditions**

Some participants explained that they feared whether they would be able to provide for their families. One participant indicated that he felt dying would be a better option because of this uncertainty. The work that he is doing, does not provide him with sufficient income to provide for his family. He said:

I tell my wife, I just want to die, I don't feel like living anymore. It just upsets me that I can't give her what I would love to give her. I know money's not everything but still. I've given my wife a nice home, but there's other stuff like eating out, like my brother they can eat out, they ate out last night. I can't even do that, I must work (P8).

Another participant mentioned that his fear of socio economic problems resulted in his decision to rather sell his business and have cash money. He said:

What I find crippling in life is the state of the economy. Whereas I would've just got up and rode away, the state that I am in at the moment, I am debilitated to be able to do anything about it..... No, I am trying to sell the business, trying to get rid of everything (P4).

One participant felt that he could not depend on financial support from family as they were also struggling in the current economic environment. He said:

.....is that I can't depend on my family. Yes, my mother, I can't be dependent on them. This is another reason why I wanted to do something for myself (P3).

The sub category presents the fear that the participant has regarding the possibility of living in poverty.

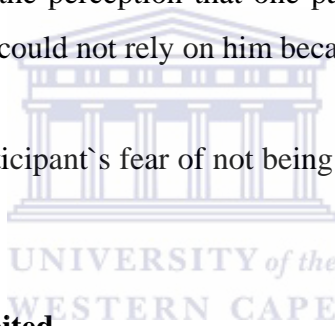
4.2.2 Fear of being underestimated by society

The participants feared being underestimated by society owing to their physical and cognitive limitations. In this category the participants' feelings are described by a sense of being used for one's skill, frustration owing to being handled like a child and not taken seriously and being underestimated. Participants described their feelings of isolation and the impact of cultural expectations of gendered roles on the person. One participant indicated that:

I could see the guys will no longer rely on me...I could see these guys are no longer the same to me. They underestimate me (P7).

This quote is characteristic of the perception that one participant had of his friends. He felt as if they thought that they could not rely on him because he was not normal.

The category described the participant's fear of not being accepted by society due to their functional limitations.



- **Perceptions of being exploited**

One participant was of the opinion that he was being exploited in the workplace. He felt that his employer exploited him in doing certain tasks however other times he would be required to do mundane tasks. He said:

He took me off the machines, so I will only do my work. Yes I did, I did work on the laser cut machine. Yes, now he took me off the machines, I am just doing my work (P10).

Another participant felt that he was being exploited by his employer as he was unhappy about his working conditions. The participant also mentioned that his employer would sometimes verbally abuse him. He said:

And then, there by Capital Alliance, it would cost me a lot of money because I would take the car, petrol to where we were working, so it would cost a lot of petrol to drive, you see and when you're coming from that place there would be no people to be interested in ordering in the product. So at the same time our manager was very, very harsh to us. He would swear at us when we don't get the people outside, call us stupid, you see (P7).

One participant indicated that his employer refused to pay him his leave pay during the time of the accident. Rather, his employer expected him to be happy with the fact that he had a job. He said:

.....so I said to him no, it does not work that way, you had already taken me for a ride. Now I will take you for a ride. Look at where he (employer) sits today, he had to close his business (P3).

The sub category described the participant's perception of being exploited in the workplace.

- **Frustration due to being handled like a child**

Another participant explained that he felt as if he was being undermined. The participant felt that his employer was underestimating his work abilities and it felt as if he was being treated like a child. He said:

The machine does everything for you, I changed the parts of the machines. So it is machines like that, that I worked with, you understand. I can still operate the machines however I feel as if they are treating me like a child. I am not a child (P10).

Another participant indicated that he felt that his wife was underestimating him due to his functional impairments. He said:

After my wife had bathed the child, then she thinks ahh, I can't lift up the bath with water (P1).

One participant mentioned that when he socialized with his friends they would often not take note of him when they were having a conversation. This caused him to feel disrespected. He said:

If I say “Themobile”, they would say, “oh man, wait a bit man, wait a bit.” I could see these guys they are no longer the same to me.. (P7).

The sub category described the participants` perceptions of being treated like a child due to the stigma related to having a brain injury

- **Feelings of isolation**

Some of the participants` felt that they were isolated and alone owing to their medical condition. A participant indicated that she felt isolated and powerless in that nobody understood the pain that she experienced. She felt as if there was no cure for the pain that she experienced. She said:

you feel like you`re an invalid man, you know you become depressed. I was actually on depression tablets for a whole year. There`s many a times even now, that I am so much in pain that I don`t want to talk about it, I just go in a quiet mood. (P9).

Another participant felt that he rather wanted to isolate himself from his home circumstances as these circumstances frustrated him. He said:

Yes, you see everything. Now in the morning, I want to be out of this house and I want to come in here when it is dark because I don`t want to see allot of things (P3).

The recovery process was also viewed as being a very lonely isolated process. One participant mentioned that he could initially only sit in a chair at home due to his functional limitations. He said

And everyday the nurse came and took me out of the bed and transferred me to a wheelchair. She took me to the bathroom, she took my blood pressure and

checked whether everything was alright. Thereafter she would leave and then I just sat in the wheelchair at home. Later I could use my hands to propel myself in the wheelchair. I could then move around at home (P4).

The sub category described the participants` view of isolating themselves from others as a measure of avoiding strain. They also viewed the rehabilitation process as being a lonely process.

- **Effect of cultural expectation on the injured person**

One participant felt that he could not rely on his immediate family due to their poor socio economic circumstances. He felt that the family were losing respect for him because he was not able to contribute financially. He said:

I can't depend on my family, I can't be dependent on them. This is why I want to be at work (P3).

Another participant mentioned that he was not allowed to get married to his girlfriend who was from a different cultural background. He felt that his future father in law did not approve of him because of his work status after the brain injury. He said:

I think it was a matter of finding work 'cause my ex her father was on my back. If you don't have a job you can't marry my daughter. He used to like put things...if you don't do that you can't do this (P8).

Another participant felt that it was important for a man to show responsibility and strength within his culture (Xhosa culture). He felt as if his friends were underestimating him after the brain injury. He said:

They underestimate me because of my accident. So I began to separate myself from them because I could see I am no longer welcome in the group (P7).

The sub category explained that the participants experienced cultural expectations to be strenuous.

4.2.3 Perception of being a burden to society

This category described the participants` perception of being a burden to society. The participants felt that by not being able to resume previous roles, that society was overlooking them. The category is described by a strong need for independence in all aspects of life and stigma related to the brain injury. One participant felt that he was being a burden to society by constantly depending on a disability grant. He felt that he did not want to be dependent on others. He said:

And I will work for my children, you understand, and I did not apply for another disability grant again. It was in me, in me, I feel that you must work for yourself when you are young. Your mother and father teaches you, that you must not be dependent on others, you understand, that is why I don't want to be dependent on others (P10).

One participant felt that he was being treated differently by his friends and that he did not form part of their social groups due to his injury.

I told some to the guys you guys you don't have to be unprofessional simply because the thing that made me to be abnormal. It was because of the accident. The injuries that I sustained, the head injuries, it was terrible (P7).

Another participant felt that her family was becoming frustrated with her constant complaints about pain. She said

How can you go and have something done that will cost you R10 000, you have to have that R10 000 out of your pocket to pay it...me and my son had now, in last week we had this disagreement, because he said, mom you keep on complaining, why don't you go see to it(P9).

This category described the participants` perception of not being able to fulfil their roles and responsibilities as they did before the brain injury. This caused them to feel as if they were a burden to family and society.

- **Strong need for independence in all aspects of participant`s life**

The participants explained that they needed to be independent in all aspects of their life after the brain injury. Some of the participants in the study were of the opinion that their independence was a measure of recovering. As one participant said:

I had to walk with crutches, be in a wheelchair, the idea was just...I can't take it. I mean, I can't live like this for the rest of my life...that's why I sommer (immediately) roled from the bed in hospital because I couldn't, I'm not used to it (P6).

Another participant indicated that he refused to be wheel chair bound. He wanted to regain his independence in order to do tasks that he could do before. He said:

I was supposed to be in a wheelchair for the rest of my life, but I am very aggressive so after 3 weeks I threw the wheelchair off the balcony. I slithered round on my belly till I could pull myself up. But getting my arms to work was very difficult as well. I thought they were never going to work again (P4).

One participant felt that his independence in mobility would be a measure of his recovery after the brain injury. He said:

And I started to walk around, I walked to my family, you see that hill. It is a steep hill, now that was my practice hill (P3).

The sub category described the need for independent participation in everyday tasks as a measure of normalization. The participants seeked this participation through self motivation.

- **Stigma related to the brain injury**

Some of the participants were of the opinion that there was a stigma related to having a brain injury. They were of the opinion that people saw them as abnormal or were scared of them. One participant said:

I am aware that it's head trauma and people are scared of people with head injuries. They go off the rails and things (P2).

Another participant suggested that his family should be educated by health professionals about what behaviour to expect from him and also how to handle him. He indicated that people should be transparent and that this would eliminate the stigma related to brain injuries. He said:

Prepare the family that they have to let the person believe that they are as normal as possible, You don't want to feel like people are whispering behind your back you know (P4.)

One participant was of the perception that the nurses in the hospital were of the opinion that he was mentally affected or a mad person. He said:

I had a friend of mine who was...who had been in the university of Fort Hare he would just come to visit me here, so the nurses asked him, are you related to this patient?. The guy said no this is my friend, his my best friend, and then they ask him, How could that be man, you look very nice, you look very, very normal, your way of thinking is you're 100% correct, how can you be related to such a person as this? Is the person mad? (P7).

This subcategory described the participants' perceptions of society having a negative opinion about their abilities due to the stigma associated with the condition.

In summary the theme, a sense of not being prepared for the future was discussed. There was also a discussion of the categories: fear of the unknown, being underestimated by society and a perception of being a burden to society.

Table 3: Theme Three

Theme Three The road to self acceptance and self belief	Categories: <ul style="list-style-type: none">• Rebuilding of self belief• Strong support enabled recovery after the brain injury• Reflection on one’s life circumstances facilitated acceptance• External financial support
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4.3 Theme Three: The road to self acceptance and self belief

The above theme is indicative of the participant’s sense of acceptance of their condition. They interpreted this experience of acceptance as rebuilding of their self belief, having strong family support that enabled recovery and the reflection on one’s life circumstances that facilitated acceptance. Acceptance was also interpreted as having external support from a political perspective that enabled participation and faith that binds one to believe in hope. As one participant explained:

.....tremendous amount of getting better is in your own head, you can either accept it (being disabled) or ...and I wouldn’t accept it (P4).

The one quote explains the brain injured individual’s resilience and self determination to not be thwarted by the functional limitations that resulted from the brain injury. The participant indicated that as a person living with a brain injury, you can either accept the impairments that are related to the brain injury and its functional limitations or try to be as independent as possible.

4.3.1 Rebuilding of self belief

Participants in this study were of the opinion that in order to recuperate fully, one should rebuild oneself in all aspects. The category is described by the participants' sense of contentment with their condition, that the road to acceptance is unstable and uncertain, acceptance of limitations and rebuilding of one's self concept and self esteem. One participant indicated that he had to work as he had a family that he had to care for. As a result, he had to recover from his condition. He said:

No, for me, my thing was that I had to work, understand, I will just have to work. Although sometimes you feel tired but if you think about your family, you are the breadwinner for your family (P10).

Another participant mentioned that he motivated himself to complete his rehabilitation programmes and to recover from the brain injury. He said:

I mean if you want something you have to work on it then...and if you know you need to work on it harder than anything else then you need to do that (P2).

One participant indicated that to engage in the worker role was one of the main reasons for rebuilding himself. He said:

Yes, for me there was not allot to ponder about, you must work and that is how it is (P5).

The category described the participants' perceptions of adapting to their condition. This adaptation was seen as a process which included accepting the fact that they had sustained a brain injury and believing in their ability to overcome barriers.

- **Contentment with one's circumstances**

The participants in this study were of the opinion that in order to accept what had happened to them they had to find contentment with their current circumstances. One participant indicated that he had accepted his condition in that he was just happy that he was alive. He said:

He (God) gave me a second chance and I will be stupid if I don't use this second chance (P6).

Another participant indicated that he always saw the positive in things rather than look at the negative things in his life. He said:

See the positive in things rather than say, oh I am so damaged and I can't do. Even if people would have told me that I would not believe them you know (P2).

One participant indicated that he had to become content with the fact that he experienced semi-black outs when driving race cars. He mentioned that he will just have to adjust and adapt to his condition. He said:

I mean we were driving cars that were 5L twin turbo's and we were doing 250km and hour down the straight you know and then you braking and throwing the car sideways and you're drifting and all of that, so left-hand corners were fine, the minute I went to a right-hand corner I was semi-blackout....But these are things you just have to live with so I've got to look for racetracks that have left-hand corners... (P4).

The sub category described the participants' perception of acceptance and finding contentment with their brain injury as a step in recovery.

- **Road to acceptance is unstable and uncertain**

Some of the participants in this study felt that the road to recovery was unstable and uncertain. They indicated that they were not sure what to expect during the course of recovery. One participant felt that he was not overwhelmed by the effects of his brain injury. He said:

I was convinced that it wouldn't affect me, well it will but it's not something that's on my mind (P2).

One participant mentioned that the functional impairments that she had, negatively affected her motivation and goals. She found it hard to accept that she will not be able resume former tasks or meet certain expectations. She said:

Yes well it's like you're always a go getter, and now you get to that point where you can't be that go getter any longer (P9).

Another participant mentioned that he chooses to live a day-by-day existence as there is no guarantee about what may occur in his life. He felt uncertain about what to expect from life the next day. He said:

I am not worried about the next day, like today I am now, the day is almost finished. Anything can happen in that time, so if I wake up tomorrow then I say thank you in my mind (P3).

- **Acceptance of limitations and moving forward**

Some of the participants were of the opinion that they had to accept their functional limitations and move on from there. This acceptance aided some participants to adapt their circumstances so that they could continue with their daily routines and roles. One participant indicated that she had to accept that she could not do all the things she used to do before. She said:

I always did everything for them and now I must understand I can't do it anymore (P9).

Another participant indicated that he continued to participate in his sport activity despite his functional limitations. He said:

I have been doing it for so long I'm second dan black belt in it, I mean I sort of do what I can you know. I just keep busy. I have adapted the way I do it so I can get the same effect (P2).

Acceptance of the condition was seen as an essential aspect of resuming one's life. One participant indicated that there are people who are in a worse condition. He said:

No, look I said it before, I must just accept what had happened, there are people that are in worse situations than mine. Then I will say that I did not come off to bad from the accident (P5).

The participants indicated that in order to move on with their lives they had to undergo a transformation from their old selves. After doing this they could move on with their lives. One participant said:

.....you know there's sometimes you just have to put these things behind you and just live your life...(P7).

Another participant felt that she had to make a change in her life and that she had to mentally change her view of herself. She said:

That is why I just made up my mind look this is it, I'm gonna just help myself at the end of the day. I just said, this is it, I am not going to let this hold me back. I'm still going to make the best of it (P9).

Actively taking charge of one's life by regaining independence was a critical point in the recovery process. One participant said:

.....but I am very aggressive, so after 3 weeks, I threw the wheelchair off the balcony, told my wife I'm not in an old age home (P4).

The sub category described acceptance of the condition to be an uncertain process. Participants were of the opinion that the recovery process was not an easy process. It described that acceptance of the brain injury and its limitations facilitated recovery.

- **Rebuilding of one's self concept and self esteem**

Some of the participants were of the opinion that in order to fully accept what has happened to them they had to work hard to rebuild their self concept and self esteem. One participant indicated that the training that he received from a colleague regarding a certain aspect from his job, improved his self concept to the extent that he felt confident enough to apply for another job.

Isaak was taken away and placed somewhere else. I was taught by them you understand. I had no regrets, it was at that moment that I applied for the grader job (P10).

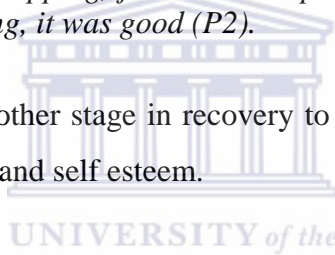
Another participant indicated that he taught himself to weld with his left and right hand. This helped him as his right hand/upper limb was weaker after the brain injury. This in turn improved the participant`s self esteem. He said:

I taught myself to weld with both hands. I was very good with my right hand and not so good with my left hand (P3).

One participant mentioned that his self esteem improved due to the fact that he was allowed to improve his career. He indicated that he took every opportunity that came his way. He said:

So I went there, trained with them as well to see how they do things, came back here and head up a team of a couple of people here to do the mapping for them. So we were doing the mapping, just at a cheaper rate. And then after that went into a bit of web mapping, it was good (P2).

The sub category described another stage in recovery to be the participants` perceptions of rebuilding their self concept and self esteem.



4.3.2 Strong support enabled recovery after the brain injury

Participants indicated that strong support enabled recovery after the brain injury. This category is described by having a supportive employer and family support increasing survival after the brain injury. One participant indicated that his son had to take over the family business at the age of 17 when his father was sick in the hospital. His son`s support enabled the family business to continue. He said:

My kids were fantastic. What boys of 17 and 19 years old, would wipe their father`s ass and wash him and turn him over every 20 mins so he didn`t get any bed sores and change his sheets. Absolutely, my family is my strength (P4).

The category described general support as enabling adaptation after the brain injury.

- **Supportive employer**

Most of the participants in the study indicated that a supportive employer enabled them to return to their work roles with ease. One participant indicated that his employer supported him by adapting the work duties. He said:

When I went back to work, I did not do the same work as I did before. He (employer) actually did the hard work himself (P3).

Another participant mentioned that his employer showed his support to him by not complaining when he was off sick from work. He said:

I stayed out of work for many days, I think he (employer) understood the reason why I could not come to work (P10).

One participant mentioned that he felt accepted in the work environment as his colleagues accepted him for who he was. He said:

With regard to my adjustment at work, I think that because of the people with whom I work, they played a big role. They accept you just for who you are. So yes, and you just carry on (P5).

The sub category described a supportive employer as aiding the participant in adapting to their worker roles.

- **Family support increasing survival after the brain injury**

Most of the participants in this study felt that they could not have survived if it was not for the assistance of their family. One participant explained that if it was not for the financial support from his wife at the time of his accident then he would not have had the emergency care in the private hospital that in turn would improve his life expectancy.

My wife had to put down R10 000, she had to write out a cheque. If she could not do it, the doctor said that they would have to send me to a state hospital (P5).

Assistance from the participant's family was seen as essential after the brain injury. One participant said:

My family. My family, my family, my family, my family..... I had nine eye operations, they swopped all my eyes around, they swopped the muscles in my eyes. Because the message from my brain instead of turning left was turning right and they couldn't go into my brain and change that so they changed the eyes. Ja the family was very strong in my life, my wife was fantastic (P4).

Another participant indicated that he appreciated the support he got from his family at the time of the accident. He indicated that if he was not functionally capable of managing tasks then his grandfather would assist him. He said:

When my grandfather went and he spoke to the lawyers he was convinced that the way the accident happened is not my fault you know and she (lawyer) was also very positive that the outcome would be good (P2).

Some participants indicated that because they were recovering from the brain injury they had regained a new respect for their family roles. One participant indicated that his role as a father and grandfather motivated him to maintain his home maker roles. He said:

I just started getting better, and one of the biggest things that...we are a very close knit family. I said, No, I will not ever accept this! I'm going to get better for my kids and for my grandchildren (P4).

The sub category described a supportive family as aiding the participant in adapting to their worker roles.

4.3.3 Reflection on one's life circumstances facilitated acceptance

The participants in this study felt that reflection on their circumstances facilitated self acceptance regarding their brain injury. The category is described by explanations of redeveloping themselves, the rituals that aided the participants and the separation of their old selves. One participant explained that he reflected on why he was injured and about his near death experience. This aided him in accepting his current circumstances: He said:

I mean, I did sit and wonder. You know, how lucky I am, I can't deny that, and obviously thinking about dying and near death experiences (P2).

The category described the participant's perception of reflection as a measure of adapting to their brain injury.

- **Committing to recovery**

The participants in this study were of the opinion that it was their own responsibility to redevelop themselves and not depend on others. One participant indicated that his responsibility towards his wife was a motivator towards redeveloping himself. He said:

Now this had really helped me with the thought that I had a wife and children at home, I already said no. I must recover, you need to use your will-power in order to recover (P3).

The participant further indicated that he developed himself by teaching himself to walk. He did this by slowly ascending/descending a steep hill. He said:

I know that even strong people they can fail it. But once they keep on they can make it. So you don't have to train the people telling about their weak points. You're not the first person to fall but tomorrow you're going to stand. Go back take your break but come back strong and you're going to win it (P7).

One participant mentioned that he was not worried about the stigma related to living with a disability rather, he was confident about himself and who he had become. He said:

Your disabled this and your disabled that, no, I don't get those words. They know who I was and who I am. Nothing had changed, perhaps my arm and the way I walked but otherwise I am 100% fit (P1).

The sub-category described self motivation and commitment to rehabilitation as a measure of returning to previous roles such as the worker role.

- **Rituals and faith that aided the brain injured individual during the rehabilitation process**

Some of the participants were of the opinion that rituals aided them particularly during the recovery process. One participant indicated that he went to the Eastern Cape to do rituals to reflect and improve his health. He said:

I normally go...for instance by June I was there, by home. I was busy doing some rituals there yes. Even now by December time, I will be on my way to home. I made something like a beer, our traditional beer. You see we normally do that to say to them, I almost passed away but thank you to your forefathers because I am alive. It was as a thanks giving to them, making that beer, organising my family members who are still alive. So to say thank you to my fathers who are in the graves (P7).

One participant indicated that he had to thank God for his existence especially after the brain injury. He said:

That's why every morning, every night I say thank you to Him. Thanks for getting me through the night, thanks for sparing me during the day, guiding me. It's like I have a conversation with God (P6).

Another participant viewed his faith as a form of support that aided him during the recovery process. He said

I know that I am a Christian and I attend church. I know that smoking, drinking and stealing is bad, you understand. Many people prayed for me and I think that their prayers helped (P10).

The sub category described the participants' view of faith and religion in aiding the adaptation process after the brain injury.

4.3.4 External financial support

This category is characterized by external support that the brain injured individual received from the government sector. It is described as a life jacket given by government

disability grant, assistance from the Road Accident Fund (RAF) compensation, government support for the completion of training and financial support from family and friends. As one participant indicated that he needed to reapply for financial assistance from the government as he could not work. He said:

But now it's almost now more than 6 months. I need to reapply because I am still having a problem (P7).

The category described the role government had in aiding the participant in recovery after the brain injury.

- **Life jacket given by government**

Most of the participants in this study felt that they and their families would not be able to survive on a disability grant only. This was seen as a “life jacket” that assisted them while they were recovering at home. One participant indicated that he had been the only bread winner and that the disability grant aided him and his family.

You get only R950, from that money you need to pay your rent, clothes and food. My wife does not work (P3).

Another participant indicated that he needed to return to a permanent job as soon as possible as he had been mainly dependent on a disability grant. He said:

Then I'm gonna work again, go work because this grant money R960 a month I am not used to that money (P6).

The disability grant was seen as a financial cushion that supported some participants immediately after the brain injury. One participant said:

Yes, and we continued with this, they gave me a disability grant for a period of six months. (P10).

The sub category described the participants` perceptions of the use of a disability grant in aiding them after the brain injury.

- **Assistance from the Road Accident Fund (RAF)**

Some of the participants in this study indicated that the RAF was helpful to them. One participant mentioned that the RAF reimbursed all her medical treatment after the accident. She said:

I can go anywhere, I can go to an expensive place, I must just pay it and they will pay my money back (P9).

Another participant expressed gratitude for the compensation that he got from the Road Accident Fund (RAF) after the motor vehicle accident. He said:

Then I would say that I did not come off too badly from it (accident).I mean I got a third party pay out and I could return to work (P5).

The RAF compensation provided financial security during the recovery period. One participant said:

It helped in a way, cause I think if I didn't have that money, I wouldn't have the house that I have...probably I don't know, wifey would still be working hard (P8).

The sub-category described the supportive role that RAF compensation had after the brain injury. This support enabled the participant to adapt to the financial barriers after a brain injury.

- **Government support for the enhancement of one`s worker skills**

Some of the participants in this study were of the perception that the government had programmes that would assist them in returning to work. One participant explained that

he would apply for assistance from the government in order to resume his occupation as a boiler maker.

.....that's why I went to a SETA so they said they're gonna work something out for me so that I get discount.... Even guys that are unemployed they send them to companies so they can do learnerships so they can qualify (P6).

Another participant mentioned that he was advised to use the Disability Grant money to buy tools so that he could start his own business. He said:

So everytime you get a disability grant, then you should try and purchase something that you could use to work with (P3).

The sub-category described the participant's perception of the use of education and training in aiding them to adapt to their worker roles.

- **Financial support from family and friends**

The participants in this study felt that the financial support from friends or family enabled them to participate in their work tasks. The one participant was of the opinion that he feels sad when he thinks about people who do not have financial support from family during times of difficulties.

.....and there is not a wife, a brother or father that could help you, we have medical aid and yes we could pay the bills. What happens to those poor people who can't afford this? It is for me sad, but unfortunately it is always about the money (P5).

Another participant mentioned that his wife could support them financially after the brain injury. He said:

So, I took it step by step, she was the breadwinner at the time and that is how it was (P10).

Similarly, another participant mentioned that he could rely on his wife and brother for financial support. He said:

I have been surviving, like my brother was taking care of me, my wife was working, although my wife is no longer with me now (P7).

This sub category described the use of financial support from families in aiding them after the brain injury.

In summary the theme, the road to acceptance of one`s self was discussed. There was also a discussion of the categories: rebuilding of oneself, strong family support enabled recovery after the brain injury and reflection on one`s life circumstances facilitated acceptance. Finally there was a discussion on the external support from a political perspective that enabled participation in life roles and faith that binds one to believe in hope.

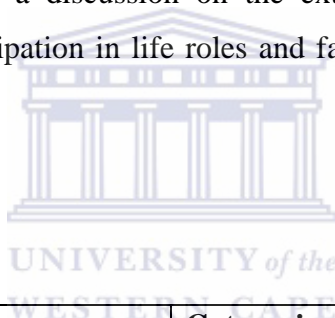


Table 4: Theme Four

<p>Theme Four Participation in occupation enables recovery and growth</p>	<p>Categories:</p> <ul style="list-style-type: none"> • Occupation as a basic need • Having balanced activities • Exclusion from participation in occupation limits growth • Adaptation strategies
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4.4 Theme Four: Participation in occupation enables recovery and growth

The above theme is indicative of the participants` perceptions and experiences of re-engaging in occupation. This theme describes the notion that participation in occupation enables growth and recovery. The growth is interpreted as the participants` ability to

regain independence and engage in previous activities. This theme is characterised by occupation as a basic need, having balanced occupations, exclusion from participation in occupations and adaptation strategies. One participant indicated that he saw participation in occupations as being healthy for him. He felt that passivity and not doing anything would be detrimental to his health. He said:

Motivated yes I wanted to get out there and do the thing...I mean what's the point of sitting around wasting away so (P2).

4.4.1 Occupation as a basic need

Participants were of the opinion that it was essential to participate in occupational activities as it would improve their physical and psychological health. Participants explained that their occupational choice enabled participation, that they saw, work as a means to survive, that involvement in occupation facilitated a healthy mind, that loss of quality of life owing to non- involvement in work occupation and non engagement in leisure occupation was mentally disabling and that occupation was integral to survival. The category also captures the participants' descriptions that occupation maintained a level of functioning, participation in leisure activity increased mental health and that satisfaction increased with success in occupation. Participants described that occupation fulfilled socio-economic needs which improved a healthy lifestyle. One participant indicated that the doctor gave him consent to resume work. Besides the doctor's opinion, he was also motivated to resume work on his own. He said

I sort of, with the doctors and all their advice and if it's good and ready to go. Why not? You know. You can't just, I mean...I am sort of motivated to achieve things (P2).

The category described that participation in occupation is essential to recovery after the brain injury. Occupation in this context included work and leisure pursuits.

- **New occupational choice enabled participation**

Participants in this study indicated that their choice in the type of work tasks enabled them to successfully participate in occupations. Participants described their ability to participate in tasks that were congruent with their functional ability. One participant indicated that owing to his functional limitations, he chose more sedentary work to accommodate his residual problems in his lower limb. He said:

Brick laying is hard labour. I decided I must go for sales work (P7).

Another participant mentioned that he preferred to do manual labour as he did not find meaning in doing clerical work. He said:

And I'm used to working with steel, power hammers, I don't like this soft work. No, I'll never work in an office no way. I'm used to working for my money, then I appreciate it more (P6).

Due to the decrease in strength and endurance after the brain injury one participant was of the opinion that self employment would match his new functional capacity. He said:

So, I started to slowly develop my own business. I always took my child with me, to help me and if I was at home then I was not in a rush (P3).

The category described that the choice of work that participants engaged in contributed to their adaptation after the brain injury.

- **Occupation as a means to survive**

Participants in this study felt that returning to work was one of the biggest motivators for them to resume their occupational roles. One participant indicated that he was the only bread winner and he had to do casual work in order to supplement his income. He said:

I am the only one that is a breadwinner, so I need to look around for part time work in order to survive (P3).

One participant reflected on his feelings that only his wife worked while he was recovering. He mentioned that he felt anxious as his wife was the only breadwinner. This anxiety stemmed from the fact that his brain injury prevented him from working. He said:

I was very anxious at the time because it was only my wife that was working (P10).

Another participant mentioned that his participation in the worker role enhanced his self confidence and improved his work experience.

Yes, I got use to the work and started to gain more experience overt time. This caused me to develop confidence in my work and as you know with time it (work) did not become a problem for me (P5).

Another participant indicated that he attached great meaning to being employed, this enabled him to foster pride in himself and his family.

I come to work, I get my salary and I can support my family. I am happy with myself and my family (P1).

Resuming work was viewed as a measure of improving the participant's health. As one participant said:

The only way that I will recover fully is if I get back into work again (P6).

Another participant expressed his dismay at not being able to work during his recovery. He indicated his impatience about not being able to work. He said:

Sir, it really gave me a fright, it really gave me a fright. I am so happy that my wife understood, she understood me. There was a time where my wife said my husband you can't work yet. So I said, no. One morning she (wife) saw me walking, I walked down the road, the people were looking at me. I walked on my own (P10).

The sub category described that the participant's perception that participation in work enabled them to feel healthy and facilitated a sense of normality.

- **Re-engagement in previous occupational roles facilitates a sense of regaining normality**

One participant explained that he had a sense of regaining normality when he could support and advise his friend. He explained how he engaged in his role as a friend as he could provide counselling that contributed to his friend's relationship. He said:

This lady having a lot arguments with her husband: Ok, I went there to his house. I said to the guy, "My man, I've got your wife, she came to my house and then she said this stories about you. She is telling me you are no longer the same, why are you doing that man. She was smiling, crying and said, "You have helped me a lot". She was just giving me the compliment. So I could see now okay, people now they can recognise me, that means that I am normal (P7).

A participant in this study felt that involvement in occupation facilitated a healthier state of mind and improved his general mood and well being. One participant mentioned that he preferred to go to work as he became frustrated at home. He said:

Yes, the thing is, the reason is that it is impossible for me to sit at home, you become frustrated, you become bored with yourself. You become angry with people around you, so it is always better for me to be away from the house. There is allot of things that go on in your brain (P3).

Participation in occupation (work) enabled the participants to feel confident in their role as a bread winner. Successful participation in the breadwinner role enabled the participants to feel normal again. One participant mentioned that the fact that he did not rely on help of others boosted his self confidence. He said:

It is nice to know that there is money, how can I say, it is better now that I am married. I can see now what things need to be paid and at the end of the day certain things that I purchased belongs to me. I had to pay off appliances, understand (P10).

Another participant who worked as a porter indicated that he developed an appreciation for his worker role when he could aid patients who were in need of him. He said:

They (patients) need me and I need them because it is through them that I am back with them. How can I say, I come to work to see the patients because they need me (P1).

One participant mentioned that he got satisfaction from the act of helping his family members financially. Having employment or engaging in the worker role enabled the participant to earn an income which enabled him to feel valued in his family. This feeling enabled him to feel more normal. He said:

So if I was working, it will be very much good for me, I would be happy to have the money so if someone they come to me and begging a certain amount like my sister or my brother, sorry brother I've got this problem, could you just please solve it for me. I would be proud of that (P7).

The sub-category is described by the participants' perceptions that participation in occupation such as leisure activities, work related activities and self care activities contributed to their adaptation to life after the brain injury.

- **Non engagement in leisure occupation is mentally disabling**

Other participants explained that non-participation in leisure activity was mentally disabling. The fact that they could no longer participate in their leisure pursuits was experienced as debilitating. He said:

Very limiting and that is mentally crippling for me do you know, I can't go and jump monster waves like I used to and fly through the air, my back can't take it anymore (P4).

This participant further indicated that he had adapted his sport but that it was as satisfactory as his previous sport. He said:

I didn't give up on my sport, I mean, I won't go do a full contact sport, and the surfing thing was...I mean I like surfing but the body boarding was fun but not the same (P2).

One participant felt that he became frustrated with the fact that he would not be able to participate in sport due to his condition. He said:

I can't believe it that I can't do sport anymore... running, I can't just sit like this (P6).

The participants in this study explained that a lack of participation in leisure occupations was experienced as a loss. One participant indicated that the brain injury resulted in permanent physical limitations that prevented him from engaging in sport activities such as soccer. He said:

So, because, I know how I was, my pace before is that after the injuries, I had to be a little retarded because, for instance, I'm interested to play soccer but I can feel that I will never play soccer anymore and I will never be involved in any sport (P7).

Another participant said:

You know, I'll skydive, I'll dive, I'll fish, go wrestle with a shark, you know, I love doing all of those crazy things... Ja and of course, that has come to an end now (P4).

Another participant reported that he could not pursue his sport after the injury. He said:

I wanted to play rugby, so the one doctor said, don't even try, that will be your last (P6).

This sub-category described the value of participation in leisure activity for the purpose of maintaining the participants' general well being.

4.4.2 Having balanced occupations

In this category participants explain the importance of having balance in occupational routines. One participant indicated that he works hard during the week and that he continues to participate in leisure time activities such karate.

We work till we done on Tuesday so Wednesdays is bit more relaxed. I got some of, part of the people at work to go and join me in the big walk on Sunday (P2).

Another participant mentioned that despite his brain injury he still tries to engage in family activities. He said:

It was nice for us to drive, jump in the car and go to the bay and now we can't do that anymore. We do a bit of it but not as much as I'd like to (P4).

Another participant mentioned that he participates in leisure activities such as computer games as this tended to relax him when he returned from work.

I don't buy the games like when you go to a LAN, you copy like a image from the guy's pc, and then you mount into a special program which tells the pc you have put a DVD in and tells the computer there is a DVD even though there is none....Ja so he gave me...but it's very expensive, just the box I mean with everything in it is like 10 grand. I just bought myself a nice LCD monitor, cause I had one of those normal CRP those old monitors man, I made a plan to get some money, so I made a plan (P8).

This category described the participants' perception of having a balanced occupational routine as this aided the adaptation to their worker roles.

4.4.3 Exclusion from participation in occupation limits growth

This category is explained by the participants' lack of involvement in occupational tasks that were perceived to be beneficial to their health. It is described by the development of a loss of quality of life due to non-involvement in occupation or physical activity and non-engagement in leisure occupation (mentally disabling). There will also be a

description of the impact of socio-economic conditions on recovery and that desperation causes one to choose any occupation (i.e. work).

One participant mentioned that his employer caused him to do tasks that were not meaningful to him. This caused him to be extremely frustrated. He said:

I will not come back. This is why I say, I am not proud of my work. No, I will not help anymore, understand. I felt that I wanted to tell him (employer), you can fire me I don't care, but I will tell him how I feel (P10).

The category described the participants' perceptions of being excluded from participating in various occupations such as work and leisure activity. This exclusion was related to the stigma related to the brain injury and the Traumatic brain injury (TBI) sequelae.

- **Non engagement in occupations**

Participants in this study were of the opinion that non engagement in pleasurable or leisure activities causes them mental stress. One participant indicated that the job that he participates in was not beneficial to him as he earned too little money which affected his quality of life. He said

Upset, I think about it all the time. I just think I'll never get a job where I can get decent money. So I just live day to day. Not like my brother who...they can do what they want you know, like my twin brother he just spends money left, right and centre. I mean he can work on a Sunday and he earns R5000 (P8).

Another participant indicated that his profession's policy prevented him from accessing employment due to his professional license having expired. He attributes this to the recovery period that he had to undergo after the brain injury. He said:

I must do my trade test over again. How do you call it like a refresher course, I have to pay for it. I have to do engineering maths to get my red seal back, because otherwise, they're not going to give me any work like that, I've lost a lot of it (P6- quote used previously).

Some participants felt that because of their disability they were viewed as being easy targets for criminals. The safety factor related to transport routes could prevent participants from going to work. One participant indicated that he could not easily access transport routes due to his fear of being robbed. He said:

You can injure yourself, I will rather pay the money as to struggle to come here (work). I mean you can easily get robbed especially if you are someone with a disability (P1).

The sub category is described by the participants' exclusion from participating in work activities of choice due to circumstances that are not in their control.

- **Impact of socio economic conditions on recovery**

Many of the participants in this study reported the financial strain that resulted from the brain injury. The socio economic conditions of the participants affected their participation in occupations. One participant mentioned that he became frustrated when his wife was verbally scolded at by his family especially when she needed something. He attributed this to the fact that he could not financially care for his family due to his limited resources. He said:

They (family) are always shouting at her if she asks for something. Now that is one of the reasons why I always want to be in a job. If I had money, then my child can ask me to buy him anything, then he does not have to ask the other family members (P3).

One participant was of the perception that he was lucky he had a medical aid as this assisted him to have access to emergency treatment. The participant further felt that without this necessary treatment he would not be able to participate in occupations of meaning. He said:

The other thing is, now you get someone that is lying over there and there is no family members to help him. I am thankful that the hand of mercy was on my side otherwise I would sit today without a leg (P5).

Another participant had a similar opinion. He stated that private hospital policies prevented him from accessing emergency treatment. He felt that the outcome of this needed treatment would affect his ability to participate in meaningful occupations. He said:

I lay on the pavement outside the hospital because they wanted R28000 before they took me inside. My wife had to call a motorcycling friend of mine from Sea Point to drive through with his platinum card to pay R28 grand (P4)... And there's no ways that a state hospital round here could have handled the damage that I had. I mean the reason that I am here today and speaking to you is that I am a helluva fighter. But things that I would have taken in my stride, I now feel are a royal battle. What motivates me in life is to try and get back to where I was (P4).

The sub category described the negative effect of a lack of finances and poverty on the participants` ability to access medical treatment. If the participants did not get the necessary treatment then this could result in them developing severe functional limitations or losing their lives. This ultimately affected their ability to engage in work tasks.

- **Desperation resulted in choosing any work**

Some of the participants in this study were of the opinion that because they were desperate to find employment they opted for any job, even when they disliked it. One participant who had been a welder indicated that he took on painting work in order to get an income. He said:

We live in the same street... that work that I told you about in Grassy Park, I helped him (friend) paint schools (P3).

Another participant indicated that he took any job despite whether he liked it or not. He said:

I just think it was just a thing of getting back to work to get money (P8).

Another participant was of the opinion that he could not delay returning to work based on the approval of a doctor. As a result he was forced to look for alternative employment regardless of whether it was meaningful or not. He said:

I only opened the gates and maybe at night I patrolled the place. When I returned to work after the accident, they (employer) told me that I can't work there because my doctor had told them so. So, I went to look for another job and I found another job (P10).

The sub category described the participants' perceptions that poverty and a lack of finances limits an individual's occupational or work choices. As many of the participants were desperate to find employment they opted to choose any job, therefore limiting the choice in job or occupation.

4.4.4 Adaptation strategies

This category is explained by the manner in which the participants adapted to their various occupational roles. The category is described by workplace adaptation strategies, change in occupational routines, relearning old functions and entrepreneurship. One participant indicated that he adapted to his daily routines by actively helping himself. He mentioned that when he was in the hospital, he rolled out of the bed in an attempt to walk. He said

I can't live like this for the rest of my life...that's why I sommer (immediately) rolled from the bed in hospital because I couldn't I'm not used to it. I like to be independent and not to depend on other people (P6).

The category described the participants' perceptions of adapting to occupational demands.

- **Adaptation strategies at home and in the workplace**

Participants indicated that they had to adapt the manner in which they did their work after the brain injury. One participant indicated that he previously operated a machine in a

factory. However, he was experiencing cognitive problems after the brain injury. He indicated that he informed his employer about his cognitive limitations. Shortly thereafter the employer adapted his work routine by allowing him to work as a delivery assistant rather than as a machine operator. He said

Yes, I did work on the laser cut machine. Yes, so he took me off it... I told him about my problems and about me getting lame (P10).

Another participant indicated that an arrangement was made whereby she was allowed to do work duties that were not physically exhausting. Her employer allowed her to continue working:

I actually had no difficulty, because of a person at work started putting me on the table doing lighter work (P9).

Due to their changed functional ability, they had to either seek new ways of doing things or accept routines that had been put in place by others. One participant said that it took him some time to accept the way his family managed his business. He said:

I just slowly, slowly take my position back it took a long time to get that back. It's just difficult to explain you know a huge strain, you come down stairs after being away for two years and everybody's doing things their way. And this is my bloody business, I built it and it took me a long time to accept that, I had to accept the way they run it, it's been 4, 5 years now and I've only really been active in the business for a year (P4).

Change in sleeping patterns also causes a change in occupational patterns. Due to the pain that the brain injured individual experienced at night, he opted to rather sleep in his own room so as to not disturb his wife. Furthermore he indicated that because of his working hours and his sleeping problem he adapted his sleeping routines. He said:

Oh yes I try, I sleep a lot in the afternoons. I can go upstairs and sleep at 10am and then I can go and sleep again in the afternoon. But then I finish at 12, I am in the morning...I sleep alone, I have a little room at the back here now because I keep getting up at night (P4).

One participant mentioned that he had to change the manner in which he was doing work related tasks. He said:

I do some private work, oh Ja I build carports for people. Ja I manage it because I just tell my brother and his son or my two sons, do that do that I explain to them how to do it (P6).

Another participant mentioned that his functional limitations caused him to change the manner in which he does daily tasks such as making coffee. He said:

How can I turn my hand, the tin is round and I can't take it like this, then I take it like this (shows the interviewer). I bring it close to my arm then I hold it like this, thereafter I take out my spoon of sugar. I do the same with the coffee tin (P1).

Ergonomic accessibility enabled the brain injured individual to resume his worker role without complications. This speeded up the time that the participant took during the rehabilitation process. One participant explained that he found it easier to operate computerised machines as there is minimal effort involved. He said:

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That job, the computer tells you everything and you can look up the job number, example the job number is 110, then you can access it (P10).

Another participant indicated that she was assisted in the workplace by means of ergonomically adapting her work tasks. She said:

I work in a printing works, picking up and logging up papers in the machine..... a person at work started putting me on the table, doing lighter work (P9).

Assistance from other workers was seen as a measure of adapting work routines. He said:

I must perhaps get someone that will do it (certain work tasks) for me, to lift something or to move it. I would get someone to help me (P5).

The sub-category described the participants' perceptions of adapting to their worker roles and home maker roles

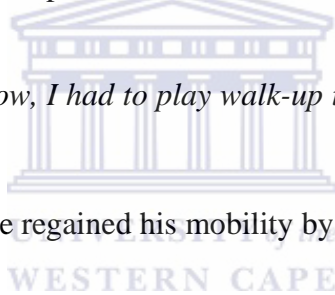
- **Relearning old functions**

Participants explained now that they had to relearn former tasks that they had previously taken for granted. One participant indicated that he struggled to do basic home chores however, he would persevere in doing these tasks as he saw it as a form of training. He said:

I would just pick up the broom, sweep the floor, clean up the yard, those were the things I would do. Because it was very much difficult for me to do all the stuff...I was there by my house, but I could just pick up the broom and sweep the floors, I was sort of training, making it exercise (P7).

Another participant mentioned that in order to regain the functioning of his hand he had to do exercises that the physiotherapist recommended. He said:

Well she started you know, I had to play walk-up the wall with your fingers which is very painful (P4).



One participant indicated that he regained his mobility by training himself. He said:

That was my practice hill, now when my wife was looking for me, then I would shout from the top of the hill... Yes, I motivated myself, if I came down that hill then I came down very fast (P3).

The sub-category described the participants` perceptions of adjusting to the demands of rehabilitation and in motivating themselves to engage in activities.

- **Entrepreneurship**

The participants indicated that their participation in entrepreneurship activities improved their functional skills and improved their socio economic conditions. One participant felt that he would want to buy a taxi and generate an income for himself.

I was thinking of buying a taxi you see... Go to the taxi industry to make money (P7).

Another participant was of the opinion that in order to supplement his income he would like to join his wife and start their own business. He said:

My wife sells chickens and she did very well for herself. There are other things that we can do, for example I can start my own business. There are allot of things that a person can do, things that can help him (P10).

Participation in income generating projects aided some participants. As one participant said:

I do some private work, oh, Ja, I build carports for people (P6).

The sub category described entrepreneurship training as valuable skills for the participant to possess in order to improve his ability to return to their worker roles.

In summary the theme, participation in occupation enables growth was discussed. There was also a discussion on the categories: occupation as a basic need, having balanced activities, exclusion from occupational activities and adaptation strategies.

Table 5: Theme Five

Theme Five Positive characteristics of a successful intervention programme	Categories: <ul style="list-style-type: none">• Reorganized health care system• Perceptions of successful rehabilitation• Behaviours that facilitated the transition to the workplace
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4.5 Theme Five: Positive characteristics of a successful intervention programme

The above theme is indicative of the characteristics of a successful rehabilitation programme identified by the brain injured participants. The theme is described by the experiences and perceptions of the participants regarding factors that facilitated recovery and assisted them in returning to work. Categories identified were the reorganization of health care systems, principles of successful rehabilitation and behaviours that facilitated the transition to the workplace. One participant indicated that the key to a rehabilitation programme entails good planning of intervention programmes by health professionals. He felt that most of the problems encountered with a programme occur when there is poor planning. He said:

Something will always go wrong if you don't plan (P6)

4.5.1 Reorganized health care system

The participants in this study indicated that a reorganized health care system contributed to their recovery. This reorganization in their view would assist more brain injured individuals with the rehabilitation and the return to work process. Aspects identified were thorough assessment strategies, client-centred care and increased accessibility to rehabilitation facilities. It is further described by open communication between concerned parties; good insight regarding the condition; home visits; characteristics of a treating health professional; ergonomic accessibility and entrepreneurship.

The management and co ordination of treatment within one facility was seen as a form of efficiency while the participant was recovering after the brain injury.

The participant mentioned:

I was at (name) hospital. All my treatment I received from that hospital thereafter they referred me to other people, example the physiotherapist and that people (P5).

The category describes the characteristics of rehabilitation programmes that would facilitate recovery.

- **Thorough assessment and treatment strategies**

Many participants in this study felt that thorough assessment strategies were needed in order to determine the medical and functional prognosis of the participants. One participant indicated that the doctors at the hospital were diligent about the tests and intervention that they had conducted. One participant said:

The next day I was much better because my wife could see the difference, she could see the difference when I came from (name) hospital (P3).

Another participant felt that all the health professionals that were needed to treat him were available at the time of the accident. This was seen as essential for thorough assessment and treatment.

I mean you must remember I had 3 or 4 surgeons; I had a neurosurgeon, brain surgeon, 2 orthopaedic guys and a spinal specialist. And my daughter was the senior sister at the hospital so she made sure all the best okes were continually at my side (P4).

One participant felt that he appreciated the fact that the medical practitioners referred him to a rehabilitation centre after the accident as his wife could not physically assist him.

He said:

I think that I returned home in the month of May, no I think it was April. No I did not go home, I firstly had to go to a rehabilitation centre, it was (name) rehabilitation centre in Pinelands. I had to lie there because my wife could not handle me (P5).

One participant indicated that he was provided with the incorrect medication and discharged home. He attributed this to a lack of thorough medical assessment strategies.

He felt upset about this because he nearly died. He said:

They had initially put me on the wrong medication and sent me home (P3).

Participants felt that some medical professionals had good knowledge about their condition. As one participant said:

No, no, I was not there yet, look, if I go to a doctor then I only go to (name) hospital because my file and everything is there (P3).

Another participant indicated that the understanding of the physiotherapist regarding his condition enabled him to adapt to his injuries.

They (physiotherapist) caused me to adapt. I could not balance, they taught me how to balance myself, how to stand on one leg. I did not know what to do because I was crooked (P10).

One participant felt that the doctors at private facilities had the equipment and technology that enhances treatment. He said:

My doctor told me, I don't mean this in a bad way. He said that he could guarantee that if I landed up at a state hospital, they don't have the money to experiment with you and in my situation to see whether they could save my leg (P5).

The sub category indicates that thorough assessment and treatment strategies would result in improved medical and rehabilitation outcomes.

- **Active participation by the participant in the treatment programme**

Most of the participants in this study were of the opinion that their voice and preferences should have been taken into consideration, particularly when advising interventions. One participant indicated that the therapist or doctor should have worked in collaboration with the patients and obtain their opinions.

I would ask the patient going right down the list what kind of programme do you want me to give you for that specific week? What do you think of this? You give

them different options, you know, you don't really know what's going on in that person's mind if you're not going to ask them (P6).

Another participant mentioned that he found it helpful when the health professional tried to be empathetic and understanding during the treatment process. He said:

I mean, you treat a sick person just by talking those words, beautiful words to him, but because of those words they will not even have a pill, or a vaccination, but by talking very straight to him that person can be strong because of your words from your mouth (P6).

Taking the client's experiences into consideration when planning intervention strategies were greatly valued by the participants. One participant mentioned that when he was assessed by an occupational therapist he tried to determine whether he could return to his job as a welder. He said

So I told them that I was a welder, so they took me to another area. Luckily for me, I could weld with both hands, I taught myself to weld with both hands (P3).

The sub category described the participants' perceptions that treatment programmes that incorporated their input were viewed as being more valuable to them.

- **Accessibility of treatment facility**

Participants felt that the accessibility to treatment facilities contributed to completion of intervention programmes. One participant indicated that he refused to walk all the way from his home to TBH in order to get his medication. He demanded that they allow him to get his tablets at the day hospital. He said:

They wanted me to get pills here I said, no, I can't walk here every time to get pills. There's a day hospital in Kasselsvlei road (P6).

Another participant mentioned that he found treatment at the tertiary hospital to be convenient as all the health professionals that he had to see were in the same building. He said:

In the beginning I attended the hospital allot because I was busy with occupational therapy, speech therapy and I saw the neurologist (P10). Rehabilitation facilities such as occupational therapy were located within the tertiary hospital. This meant that it was convenient for him to gain access to treatment.

Mmm, I attended occupational therapy, yes, I was in that programme for a whole week (P3).

The sub category viewed the accessibility of treatment facilities as contributing to the completion of rehabilitation programmes.

- **Open communication between concerned parties**

Open communication between the brain injured participant, employer, family and health professionals facilitated a better adaptation to the workplace. As one participant said:

The nurses encouraged me by talking to me, that's why I always say a lack of communication, then you will never get something right if there's a lack of communication....Like that's why I say always if there's a lack of communication even in your working environment or in your social environment then you will never heal (P6).

One participant recommended that open communication in the form of the doctor educating and preparing his family about his condition would have aided the rehabilitation process. He said:

Thank God my family was "naturally intelligent". But you need that, the preparation for walking and rehabilitation is one thing, but to prepare the family for the wreck (P4).

Another participant felt that open communication between himself and the employer supported the return to work process:

Now, the first boss that was at the company, I told him that I was in an accident. I told him everything and he understood. He was a white man (P10).

On another occasion the latter participant mentioned that he valued the communication between his doctor and employer with regard to work placement. He said:

When he (patient) returns to work then the doctor should inform the employer about light duties, understand, the doctor needs to explain what he (patient) can do (P10).

This sub category described the importance of open communication between the employer, participant, medical professional and family. Open communication contributed to rehabilitation success.

- **Home visits**

The participants in this study indicated that home visits by health professionals were helpful particularly when they struggled with mobility. As one participant said:

Everyday the nurse came to my home, she took me out of bed and transferred me to a wheelchair (P5).

On another occasion the above participant said:

Yes, the physio came to my house, she came there and taught me exercises (P5).

Another participant indicated that he continued to have biokinetic treatment at his home. He said:

He was coming here with the chair, I used to do all the exercises. I would get a massage, and he'd straighten my back. He was a biokineticist (P4).

The sub category describes the value of home visits, which was viewed as contributing to the participant's recovery.

- **Home rehabilitation programmes**

The home programmes prescribed by the therapist were executed diligently by some of the participants as they felt that it aided their rehabilitation. One participant explained how he followed the programme before he could walk independently.

When my hands became stronger, she taught me to walk with a walking frame. Later on I started to walk with crutches and it was difficult, I fell allot. Yes, I would say that she (physiotherapist) concentrated mainly on my hands and my right leg that was broken. She told me to do lots of exercises with my right leg and hands (P5).

One participant said that he initiated his own home exercise programme. He said:

I said no, I just helped myself. I even bought myself a bicycle, picking up the dumbbells as well. It's the only way to do it, you must help yourself (P6).

This sub category described home treatment programmes as a method of encouraging independence amongst the participants during the recovery process.

- **Positive characteristics of treating health professional**

The participants in this study mentioned some characteristics of health professionals that helped them during their rehabilitation. One participant indicated that the health professional should be supportive and caring in their approach. He said:

I mean you treat a sick person just by talking those words, beautiful words to him, but because of those words they will not even have a pill (P7)

Another participant indicated that his doctor was not transparent regarding his condition. He felt that transparency and proper explanations regarding his health would have helped him. He said

The doctor, yes the doctor does not tell you the entire truth. They provide you with a small portion of information .. (P3).

An honest opinion from a doctor in terms of the participant's condition was valued. This participant said:

I wanted to play rugby, so the one doctor said, don't even try, that will be your last (P6).

The sub category described the characteristics of the health professional such as empathy, transparency, trustworthiness and honesty to be valued by the participants.

4.5.2 Perceptions of successful rehabilitation

Participants in this study gave a general description of what they perceived a successful rehabilitation programme would entail. The category is described by concepts of fostering self-determination, adult education principles, family group therapy and holistic rehabilitation (a physical and psychological process). The category is further described by work screening, pain management and being multi-skilled.

The category described the participants' perceptions of components of a comprehensive rehabilitation programme

- **Fostering self determination**

Participants felt that fostering self-determination should be one of the main areas of focus in rehabilitation. As one participant said:

.....a tremendous amount of getting better is in your own head (P4).

Another participant indicated they should develop confidence in their abilities and motivate themselves to do tasks. He said:

How can I say, you must out of your own, you can't feel as if people owe you anything. If you show that you want to do something, then automatically there will be people around you that will support you (P5).

The sub category described the importance of improving the participant's belief in themselves and motivation.

- **Respectful interaction**

Participants in this study constantly referred to the fact that they did not want to be treated like children especially during rehabilitation. They felt that their experiences were valid and that they had to be treated respectfully and with dignity. One participant said:

.....they never asked me what I want, they just told me do this. The other guy was climbing steps, up here, down there. Who said the man wants to do that? You can make a man frustrated. That people are big people, family people, adults. You must ask them what they want (P6).

Another participant mentioned that a health professional should use encouragement and not underestimate them as encouragement could increase their self-esteem.

If you don't praise them, you're always underestimating them, you're killing their spirit because they will be having that conscience of being wrong (P7).

The sub category described the perception of the participants about being treated with respect by health professionals. The participants felt that their experiences and opinions should be valued as well.

- **Individual and family group counselling**

The participants felt that family counselling was essential for the acceptance and preparation of the brain injured individual's family for the care of the participant. This preparation would enable the participant's family to handle them better in the home situation. One participant indicated that his family could assist him because they knew what to expect. He said:

Mental preparation for the family that's gonna handle this wreck that's coming home....most families would have fallen apart.... I think, after what's happened to

me, how important it is for people to be educated about the preparation not the cure, preparation for what has happened (P4).

Another participant indicated that counselling by a psychologist would assist the brain injured individual. He said:

That's what I think...I think like a person that's been in my situation should have at least 6 months of therapy with a person ...I mean what is she ...psychologist. Just 6 months therapy for an hour a day I think (P8).

Depression is sometimes experienced by brain injured individuals. One participant indicated that a psychologist motivated him. He said:

Um, when things did not work out for me, I went to see a psychologist. She (psychologist) provided my with encouragement (P10)

Another participant felt that it was therapeutic to reflect on his life after the brain injury. He said:

I did not attend groups and things like that. You know how good I feel now that I could speak about these issues.

The sub category highlights the importance of having psychological counselling for both the participants and their families. This would greatly reduce the stress related to living with someone with a brain injury and improve the insight of the participants.

- **Multi- professional rehabilitation**

The participants in this study felt that they needed holistic treatment that entails both physical and cognitive rehabilitation. One participant indicated that he benefited from a chiropractor and a masseuse for the physical aspects of his condition.

This has caused a lot of anguish and I go probably 3 times a week for a massage. I go to a Chiropractor because my neck always goes out. You see how I'm leaning today, my neck goes out, I have to go have my neck put back on Monday morning,

then I'm okay for two or three days. Ja it's R200 a time, sometimes if I sleep badly I can hardly get up then I have to go get my wife to drive me to the masseuse. I lie on the bed and my one foot is so much longer than the other. Because my back and my whole spine is out, that all affects you mentally (P4).

Another participant indicated that he benefited from the assistance of a psychologist. This counselling aided him in placing his life in perspective. He said:

Like, just that whole day after I spoke to her (Psychologist) I felt brilliant. I just liked the idea of speaking to her. I just wanted to tell her how I feel. I'm saying like that was the best day, after I spoke to her. I mean just speaking to her once its like helped me you know (P8).

Physiotherapy and home nursing care was also seen as being beneficial. One participant said:

Yes, I received physiotherapy and then I received help from a nurse who came in to my home everyday (P5).

The sub category described the use of multiple health professionals in the treatment of the participants.

- **Work screening**

Work screening gave the participants a realistic indicator of whether they would cope in their work or not after the brain injury. As one participant indicated:

Mmm, I attended occupational therapy... they (occupational therapist) requested that I walk up and down stairs and carry bricks to see how you can do work (P3).

One participant felt that work screening by an occupational therapist assisted him to determine whether he could return to work. He said:

I attended occupational therapy in order to determine whether I could return to work (P10).

Another participant felt that screening assessments from his professional body would assist him in determining his work potential.

He said:

Ja they help you, what they do also if I want to get my assessment my red seal back (P6).

The sub category describes the participants` perceptions of the use of work screening in order to determine their work potential.

4.5.3 Behaviours that facilitated the transition to the workplace

This category described the behaviours of the participants that facilitated their transition to the workplace. The category is explained by transparency with the employer, gradual return to work and being multi-skilled.

- **Transparency with Employer**

Participants felt that transparency with employers was important before continuing in the workplace. One participant indicated that his employer asked him whether he had recovered from the brain injury and tested his abilities. He said:

When I returned to work, my boss asked me if my brain could function. So he gave me an engineering drawing to interpret. The plan consisted of a gate and two panels (P3).

One participant felt that being transparent about his condition enabled him to be accepted in the company. He said:

When I arrived at work I told my employer what happened to me, I told them about my problems. They decided that they will take it into consideration and that it was acceptable to them (P5).

Another participant mentioned that being transparent with the employer sometimes negatively affected them. He said:

I would tell them I was hit by the car so that is why I have this problem, and they would say- sorry man, because now we have to give you money so that you can go home (P7).

This sub category describes that transparency between the participant and the employer with regard to the participant`s functional ability enhanced adaptation to the worker role.

- **Gradual return to work**

Participants felt that they easily made the transition into the workplace by means of gradually returning to work. One participant indicated that a supportive environment was created for him. He said:

I just like took it as it went you know. I mean the people at work, I was working at the studio at the time, they were sort of go into work slowly don't overdo it (P2).

Another participant mentioned that his employer aided him initially by giving him less strenuous tasks to do. He said:

I went back to work and I did work that I had never done before, my boss did the heavy tasks on his own (P3).

One participant recommended that people that suffered from a brain injury should be returned to a less strenuous occupation initially. He said:

After the injury you could perhaps do tasks that is not that heavy or difficult, you could do security work where you can just sit down, understand (P10).

The sub-category described that a gradual return to work process or programme enabled the participants to adapt to the demands of the workplace.

- **Being multi-skilled**

Some participants in this study felt that they had to experiment with different types of jobs after the brain injury in order to determine what job fits their current functional capacity. This was also seen as a mechanism for increasing one's skills in order to secure employment in the open labour market. One participant said:

There is allot of work that I could do because I have the experience of different types of work. I have the experience of mechanical work, I have experience of tile work and I have the experience of this, mmm vibcrete (P3).

Participants that were multi-skilled found it easier to adapt to the changing and competitive job market. When they suffered the brain injury they found it easy to adapt to their worker role. As one participant said:

I was doing cartography, I mean there's not that many cartographers out there... What I'm doing now is basically production management and there's a lot of people that can do that. I would say being a cartographer is probably the better skill (P2).

Similarly another participant indicated that he sought further training in order to make him more marketable. He said:

I had some few courses there. I was trained by one of the consultants, they in Cape Town. So for the training I received a certificate because I wanted to work as a consultant marketing the product of the company (P7).

The sub category described the participants' perceptions of having more than one type of work skill. This enabled them to adapt to the worker role by being more marketable in the labour market.

In summary the theme, positive characteristics of a successful intervention programme was discussed. There was also a discussion of the categories: reorganized health care approach, perceptions of successful rehabilitation and behaviours that facilitated the transition to the workplace.

Table 6: Theme Six

Theme Six Negative characteristics of an intervention programme	Categories: <ul style="list-style-type: none">• Barriers to a successful rehabilitation programme• Disrespect of the brain injured individual's rights
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4.6 Theme Six: Negative characteristics of an intervention programme

The above theme is indicative of the brain injured individuals perceptions and experiences of negative characteristics of rehabilitation interventions. Most of the participants in this study have had different forms of rehabilitation based on the symptoms they presented with after the traumatic brain injury. As a result a combination of their negative experiences relating to the intervention programmes will be discussed. The theme will be discussed in terms of barriers to a successful rehabilitation programme and a disrespect of the brain injured individual's rights. One participant indicated that rehabilitation should commence as soon as possible. He indicated that mental preparation should accompany the physical rehabilitation.

....there is a tremendous amount of mental preparation, not rehabilitation, rehabilitation is too late that's gonna handle this wreck that's coming home (P4).

4.6.1 Barriers to a successful rehabilitation programme

The participants in this study experienced many barriers during the rehabilitation of their condition. This category is described by poor networking amongst health providers, decrease in questioning, time consuming and a lack of explanation of medication use. It is further described by a poor understanding of the medical condition, poor confidence in tertiary care, poor administration services in the hospital that affects the disability grant application process and a distrust of the medical profession. Finally there is a description

of the financial interest of private medical facilities and the frustration caused by the RAF claim process.

The category described the participants` perceptions of obstacles in the rehabilitation process that prevented them from resuming their worker roles.

- **Poor networking amongst health providers**

Participants in this study were of the opinion that there was poor networking amongst health providers. A participant`s husband explained that they experienced frustration when a government hospital refused to allow them to take X- Rays to another private hospital (the participant agreed with her husbands comment). They felt that the X- Rays would just speed up the treatment process at the private hospital. He said:

I`m going to take her to Claremont hospital, then I asked him if I could have the x-rays. Then he was saying they not allowed to etc, so I said, look if you give me the x-rays then we don`t have go there and do x-rays again and you saving time (P9).

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One participant felt that the tertiary hospital had to network with the day hospitals more effectively with regard to the delivery of medication. He indicated that it would be more convenient and safe if he could collect his medication at the day hospital. He said:

I still have to get it from the day hospital. They wanted me to get pills here I said, no I can`t walk here every time to get pills, there`s a day hospital in Kasselsvlei road I can do that, only 8 to 10 minutes walk. Why must I go all the way...no where if something happens to me there in the bush or along the road what are you going to say (P6).

The sub category described that programmes should enable health professionals to better communicate with each other regarding the management of the participant`s condition.

- **A lack of thorough explanation regarding medication use**

Some of the participants in this study were of the opinion that medical practitioners didn't fully explain to them the use of their medication. As one participant explained:

At that time the doctor prescribed tablets for me. I had to fetch the tablets at the day hospital in Reeds Street, Bellville. I initially went to pick up the tablets, but then I stopped taking it because I was not feeling sick. I don't know why they prescribed it (P10).

The side effects of medications were often not adequately explained by doctors, this caused their patients to experience severe side effects. As one participant said:

I was actually on depression tablets for a whole year. And it's tablets upon tablets and I actually took myself off from it (P9).

On another occasion she said:

And in that five minutes I just go to my bag and I take two Myprodols. You know I used to take ten to twelve Myprodols a day.... I messed myself so up that till today I eat I've got a pain on my stomach (P9).

The sub category described the participants' perceptions of having a better explanation by health professionals with regard to the use of medication.

- **Lack of confidence in government hospitals**

Some of the participants in this study felt that their condition would have been worse if they had to undergo treatment at a Government Hospital. One participant said:

.... its like, you go for this op. but I mean today you go to government hospital come back and they've cut your leg off (P8).

Another participant indicated that a state hospital would not be able to manage the medical impairments that he had after the injury. He said:

And there's no ways that a state hospital round here could have handled the damage that I had (P4).

Another participant felt that the service he got from one government hospital was life threatening. He said:

Yes, they (ambulance) were on time. They saw that I was given the wrong medication (P3)

The sub-category described the participants' negative perceptions in relation to service delivery. Health professionals should better advocate or market the services that they offer in these government institutions.

- **Poor administration services in the hospital that affects the DG application process**

Delays in administration that took place in the hospital sometimes affected the participant's application for a disability grant. These delays ultimately delayed the already time-consuming disability application process.

I came here they never made up the report and stuff, so I had to sit here while they making out the report, so I left. The report is supposed to be upstairs on a Monday already, so I said, why must I come fetch it or wait for it (P6).

One participant mentioned that the disability grant process was also delayed by the fact that medical doctors completed the application forms incorrectly. He said:

Then there was a different doctor and that doctor did not know me. He did not know my situation, he completed my forms (disability grant forms) incorrectly. This caused me to go back to the hospital in order to complete it correctly (P3).

Another participant mentioned that disability grants should be approved when the patient is in the hospital as this is the time that he needs it most. The application or assessment process should not be delayed. As one participant said:

No, it was only occupational therapy's management of my problem. Let me tell you that time it was very tough, you understand. My wife was looking for help where she could. We had to wait for the grant (P10).

The sub category described the participants' perceptions of the administration problems in the hospital that delays the disability grant process. This is an important consideration in that participants often required the financial support of a disability grant in order to complete their rehabilitation.

- **Private medical facilities are only interested in money**

Some of the participants in this study indicated that the private hospital facilities refused to provide the brain injured individual with the needed intervention. Rather they expected a large down-payment before any intervention took place. They got the impression that the private medical sector was not interested in helping them rather they were only interested in the money. He said:

When they brought me with the ambulance to the hospital, I lie on the pavement outside the hospital because they wanted R28000 before they took me inside. My wife had to call a motorcycling friend of mine from Sea Point to drive through with his platinum card to pay 28 grand. Then they picked me up and took me inside (P4).

Another participant mentioned that he would only be treated in the private facility once he paid the deposit. He said:

At that stage when I was lying in the emergency department, they told my wife that she had to put down R10 000, okay she got it back. The attorneys got it back for her (P5).

One participant indicated that she had to have cash upfront before she could receive the needed treatment for her condition. She said:

Now you tell me I mean a middle class family, you work just to put food on the table... how can you go have something done that will cost you R10 000, you have

to have that R10 000 out of your pocket to pay it (husband refers to wife`s situation P9).

The sub category described the participants` perception of the cost of rehabilitation or medical services. The participants struggled to access needed rehabilitation because of the cost of the private sector.

- **Frustration caused by the Road Accident Fund (RAF) claim process**

The participants that applied for compensation via the Road Accident fund became extremely frustrated with the prolonged process. One participant reported that she had to see 20 health professionals in order to strengthen her case.

you know the amount of days and things that you go, they send you from this one to that one, to the next one...you know I can most probably tell you I saw 20 doctors for the 4 years (P9).

One participant mentioned that the RAF did not pay the treatment fees as they were supposed to. He said:

He was coming here with the chair, I used to do all the exercises. I would get a massage, and he`d straighten my back he was a biokinetist. But I couldn`t afford it after a while because they (RAF) weren`t paying but it affects you mentally in a lot of different ways, you, it`s very difficult to categorise (P4).

Another participant mentioned that the process of being compensated by the RAF is very long and that this can cause frustration if you have accounts to pay. He said:

Yes, financially you would have to, the problem is with the third party fund. They take very long to pay out but you can arrange for a loan with the attorneys (P5).

The sub category described the participant`s frustration with the RAF. There is a need to empower them with better knowledge regarding the processes of the RAF.

4.6.2 Disrespect of the brain injured individual's rights

This category is explained by the disrespect that society had for the brain injured individuals' rights. This category is described by transparency from the legal profession and the RAF, the right to have a second opinion and lack of respect of one's rights. Thereafter there will be a description of the employer disrespecting employee (code of good practice) and the inaccurate information provided by doctors to the participants.

- **The patient's rights charter not upheld**

Some participants felt that they wanted to have a second opinion in order to verify their diagnosis. As one participant said:

I said to him no, and he said we must ask the doctor if we can have a second opinion. And then we went to Claremont hospital. You see I said to him my wife's on medical aid I'm going to take her to Claremont hospital. To be honest with you I didn't want to stay, like I say they were going to keep me there at Victoria and I said I didn't want to stay, and when we told them we under medical aid and that, then they said they were going to put me in a private ward in Victoria, and then I still said no and I mean I don't think they liked that..... (P9).

One participant explained that his rights were violated when a nurse tied up his penis in order to prevent him from wetting the bed. He said:

when I was sleeping on the bed, I would pee, I would wet the bed...so that that guy was very much sick of me, he was sick of me. He would tie up my penis.. (P7).

The participant's wife mentioned that her husband was not cared for in the hospital when he was initially admitted (her husband agreed with what she said). She said:

Now he was lying in a single room, when I arrived there, he was lying with his back facing the door. Then I touched his shoulder, when he turned around I noticed that his face was not washed and the white things sat here (face) and he smelled. Now what type of hospital is this, they can see that he can't help himself (P3).

One participant indicated that the information provided by the medical practitioners caused his family to lose confidence in his potential to return to his existing occupations and roles. The doctors should provide accurate information to their families. He said:

Well the doctors they ...even telling my wife you must understand his going to be a cripple his going to be blind. I started having the blood clots and going blue, they said to her look you know switch off now his brain dead (P4).

The sub category described the need for participants to be empowered regarding their rights in the hospital setting.

- **Employer disrespects Employee (code of good practice)**

The participants in this study indicated that when they tried to enter the workplace the employers often did not want to reasonably accommodate the employee in a lesser capacity. As one participant said:

I fainted or something and I fell off a chair at work and the boss said to me look you know...because I was going to be promoted and he said like being manager not too well, and then um I don't, it just came to that conclusion that I actually had to leave, or they asked me to leave. They said to me they can't fire me but I won't be able to cope with the stress levels (P8).

One participant indicated that after he disclosed to his employer that he had a brain injury then they started to treat him differently.

After I had told him (employer) about my condition, I noticed that he was not the same. I think he was influenced by others, let me put it to you this way, he has favourites (P10).

Employees were not given an opportunity to be reasonably accommodated in the workplace. He said:

Yes but my bosses they would just tell me, we can see that you are perfect in the job, but your pace is very, very slow so that you can't make production so take your tools and go home (P7).

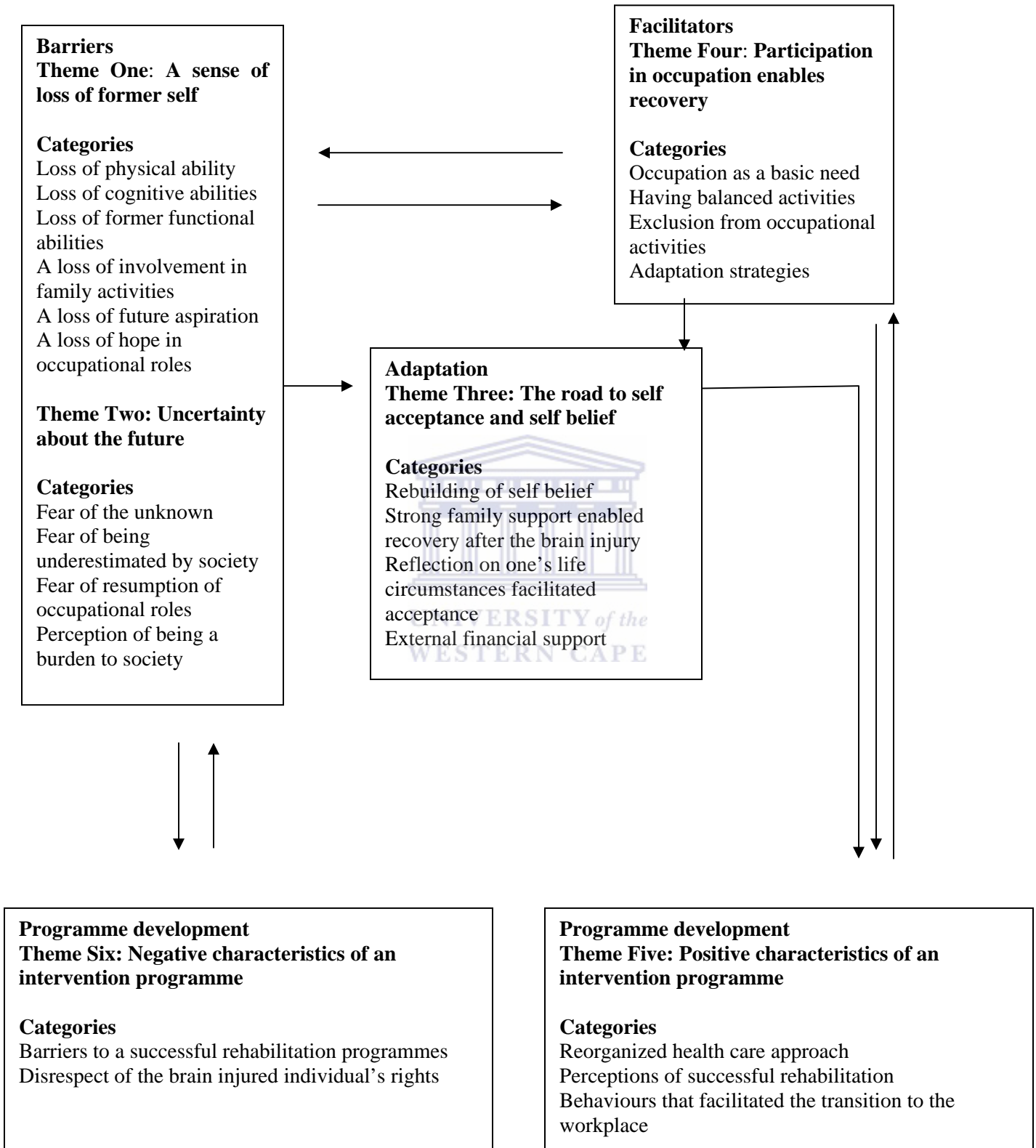
The sub category described the need for participants to be informed about their rights in the workplace. These rights were related to being reasonably accommodated in an alternative job when returning to work with an illness or disability.

In summary the theme, negative characteristics of an intervention programme was discussed. There was also a discussion of the categories: barriers to a successful rehabilitation programme and a disrespect of the brain injured individuals` rights.

4.7 Summary

In conclusion theme one and theme two presented the participants` losses and fears that they experienced which influenced the return to work process. Theme three presented the participants` perceptions and experiences of their adaptation to their worker roles. Theme four indicated that participation in occupation facilitated the participants` return to their worker roles. Theme five was viewed as the positive characteristics of intervention programmes and theme six was seen as negative characteristics of intervention programmes. The flow diagram below (see Figure 1 on page 151) indicates that theme one and two could be seen as barriers and theme four as facilitators that the participants experienced. These barriers and facilitators influence the adaptation process of the individual in a positive or negative manner. Furthermore the type of intervention programme utilized could also be seen as a barrier or a facilitator by the participant. These intervention programmes also either negatively or positively affect an individual`s ability to adapt to their worker roles.

Figure 1: Diagrammatic representation of themes and categories



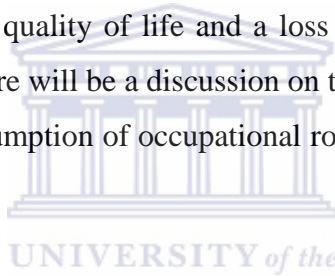
Chapter Five

Discussion of results

5. Discussion of results and literature control

The results of the study will be interpreted within the framework of occupational science and human occupation.

In 5.1 and 5.2 there will be a discussion on the barriers that the participants experienced when returning to work. In 5.1.1; 5.1.2 and 5.1.3 there will be a discussion on the physical losses; cognitive losses and psycho social losses. In 5.1.4; 5.1.5; 5.1.6 and 5.1.7 there will be a discussion on functional losses; a lack of involvement in family activities; a loss of future aspiration and quality of life and a loss of hope in the worker role. In 5.2.1; 5.2.2; 5.2.3 and 5.2.4 there will be a discussion on the fear of unemployment; being underestimated by society; resumption of occupational roles and the stigma related to the brain injury.



In 5.3 there will be a discussion on the adaptation process that the participants experienced. In 5.3.1 and 5.3.2 there will be a discussion on the acceptance of the condition and rebuilding of self efficacy beliefs.

In 5.4 there will be a discussion on the facilitators that the participants experienced when returning to work. In 5.4.1; 5.4.2; 5.4.3 and 5.4.4 there will be a discussion on occupation as a basic need to survive; occupational choice enables participation; occupation facilitates normality and affects quality of life and occupational balance. Furthermore in 5.4.5; 5.4.6 and 5.4.7, there will be a discussion on the loss of meaningful occupation causes occupational alienation; occupational deprivation and occupational adaptation. Finally in 5.5 and 5.6 there will be a discussion on the enablers (facilitators) of return to work programmes and barriers of return to work programmes.

5.1 Barriers

The term refers to those factors that prevent or negatively influence participation in the return to work process. The World Health Organisation defines barriers as factors in an individual's environment that, through their absence or presence, limit functioning and create disability. These include aspects such as a physical environment that is inaccessible, lack of relevant assistive technology, and negative attitudes of people towards disability, as well as services, systems and policies that are either non-existent or that hinder the involvement of all people with a health condition in all areas of life (W.H.O, 2001:192).

In addition to the above definition the functional limitations or traumatic brain injury sequelae were also interpreted as barriers that prevented them from adapting to their occupational roles.

Theme one, "A sense of loss of former self" was interpreted as a barrier. Sykes (1976:645) describes "loss" as meaning to be disadvantaged and to be to an individual's detriment. In the current study these losses were perceived by the participants as consisting of a combination of physical, cognitive, psychosocial and functional losses.

5.1.1 Physical losses

The physical losses experienced by the participants in this study could be attributed to abnormal muscle tone, muscle weakness, abnormal reflexes and spasticity after the injury (Tipton-Burton, McLaughlin & Englander, 2005:847). These physical losses often impacted on the individual's ability to engage in occupations such as self care activities, leisure activities and work activities. Klinger (2005:9) states that traumatic brain injuries rarely causes individuals to fully recover and results in occupational dysfunction.

5.1.2 Cognitive losses

Cognitive disability is viewed as reduced efficiency, pace and persistency of thinking required to perform occupations or failure to adapt to novel or problematic situations (Bootes & Chapparo, 2002:255). Reduced attention and concentration impair an individual's ability to maintain focus on an activity without becoming distracted and to resume the activity when interrupted (Tipton-Burton, McLaughlin & Englander, 2005:849). The participants in this study often referred to their inability to concentrate for long periods of time. One participant mentioned that he could no longer read as he did before the MVA, currently he prefers to look at pictures.

This memory impairment could range from immediate memory loss for example forgetting several words just heard to short term memory loss for example forgetting which family members visited them the previous night and to long term memory loss for example forgetting events that occurred years before the injury (Tipton-Burton, McLaughlin & Englander, 2005:849). The participants often reported that they could not remember the names of family members and friends while they were in the hospital. They continued to experience these problems when they returned to work as they struggled to remember task instructions and to relearn new tasks.

- **Behavioural and emotional changes**

The participants in this study often mentioned that they were aware of the fact that their behaviour was different when compared to their behaviour before the injury. Some participants experienced aggression, some had a short frustration tolerance and others experienced depression and anxiety. Tipton-Burton, McLaughlin and Englander (2005:852-853) indicate that behavioural impairments are a natural part of the recovery process after a brain injury. Bootes and Chapparo (2002:258) in their study on the perceptions of therapists about brain injured individuals' behaviour that impacts on work performance, indicate that temperament control is an important factor in determining whether the individual could return to work. One participant mentioned that he was frequently depressed and that he would sometimes cry for no reason at work and at home.

5.1.3 Psychosocial losses

Researchers have found that the greatest concerns of clients one or more years after the brain injury are psychosocial deficits that prevent them from rebuilding a satisfactory quality of life (Tipton-Burton, McLaughlin & Englander, 2005:852). The above researchers further state that as time after the injury increases, psychosocial factors are viewed as being more detrimental than both physical and cognitive sequelae.

Psychosocial losses were seen as an umbrella term that encompassed many elements. The participants in this study referred to a loss of self confidence, loss of self concept, loss of sexuality, a lack of involvement in family activities and being dishonest with their family about themselves under this umbrella term.

- **Loss of self confidence**

The participants in this study all reported to have a low self confidence after the brain injury particularly when they resumed their previous roles. It is documented in the literature that the loss of the ability to live independently in the community reinforces feelings of dependence and decreased personal control (Tipton-Burton, McLaughlin & Englander, 2005:852). The authors further state that because of these role losses, adults who sustain brain injuries commonly experience role strain, feel inadequate and are unable to attain a post injury adult status. The participants in this study indicated that as they could no longer participate in leisure activities due to their injuries or be of support to others, it reduced their self confidence. These feelings of loss of self confidence in males are further exacerbated by the fact that males generally experience gender role strain when they cannot participate in traditional masculine roles (Gutman, 2000:7).

- **A loss of self concept**

The participants in this study indicated that due to their physical and cognitive limitations after the brain injury they struggled to do the tasks that they had done before the accident.

These tasks included self maintenance tasks, travelling in the community and maintaining a job. They felt that they were not competent in maintaining these roles, hence the loss of their previous identities. One of the most difficult psychosocial sequelae of the traumatic brain injury is the alteration of one's self concept. Self concept is defined as the internal image a person holds regarding personal human identity, sexual and gender identity, body image, personal strengths, personal limitations and their position in the family as well as the community (Tipton-Burton, McLaughlin &Englander, 2005:851). Tipton-Burton, McLaughlin and Englander (2005:851) mention that individuals often have a clear memory of who they were before the injury and must now resolve the emotional conflict of having to replace their pre injury self with a post injury self concept that is both meaningful and satisfying.

- **Loss of sexuality**

The participants in this study often referred to the loss of their sexuality particularly when they could not satisfy their spouses sexually. The loss of their sexual function caused them to become frustrated and depressed. Research has indicated that many individuals with brain injuries report that the feelings of isolation and the inability to form and maintain social relationships are the most troubling post injury concerns (Tipton-Burton, McLaughlin & Englander, 2005:851). The loss of role of dating partner or spouse commonly leaves the individual with a deep sense of loss and failure if they cannot rebuild a post injury life that includes intimacy with other human beings, partnership in committed relationships and parenting of children (Tipton-Burton, McLaughlin & Englander, 2005:851). Gutman (2000:6) reinforces that male's express frustration regarding unsuccessful personal attempts to achieve a self perceived masculine adult role for example, spouse and sexual partner and parent. In the current study the one female participant expressed the same concern as what the males did.

5.1.4 Functional losses

The participants reported to have performance deficits in self care and community living skills. These deficits are frequently caused by dysfunction in the cognitive or emotional

component skills of occupational behaviours (Schwartz, 1995:655). The participants in this study indicated that they continued to experience functional limitations many years after the brain injury. Some participants mentioned that they struggled to do activities of daily life (ADL) such as bathing, cleaning their homes, assisting with the raising of children and using public transport. In a study conducted by McCarthy, Dikmen, Langlois, Selassie, Gu and Horner (2006:955) they used the 36 Item Short Form Health Survey (SF-36) to measure psychosocial health on 7612 participants. Their results indicated that 29% of the sample perceived themselves to have poor psychosocial health and that subjects who had difficulty with ADL were significantly more likely to have poor psychosocial health.

- **Pain limited functional performance**

Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage (Merskey & Bogduk, 1994). Engel (2005:647) indicates that the above definition conveys that pain is a subjective experience and is multidimensional. The participants in this study often indicated that they did not experience pain when they were in the hospital due to the analgesic medication that they received. However when they were discharged they experienced severe pain that was due to the fractures or orthopaedic problems and pain that was neurological in origin for example headaches. Within the context of this study it could be argued that because of the fractures participants sustained in addition to the head injury, that their pain could be arthritic and neuralgic in nature. In research conducted by Watt and Penn (2000:33) they investigated the relationship between physical functioning and return to work amongst a sample of 50 brain injured individuals. Their study indicated that 68% of the participants reported a high incidence of persisting headaches, 60% reported pain and 58% reported fatigue.

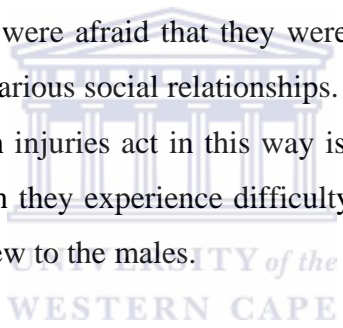
5.1.5 A lack of involvement in family activities

The participants in this study became frustrated when they could no longer participate in family tasks. One participant indicated that he became disheartened with the fact that he could not spend time with his grand children due to the neck injuries that he sustained.

Gutman (2000:28) relates the participant's frustration to role strain and indicates that males with traumatic brain injury become socially isolated after the injury and that they fail to rebuild pre injury relationships that support male gender identity. She further states that males report greater gender role strain than do females probably due to the manner in which they have been socialized.

- **Being dishonest with their family about themselves**

Individuals reported that feelings of isolation, inability to form and maintain social relationships as being the most troubling post injury concerns (Tipton-Burton, McLaughlin & Englander, 2005:851). The participants in this study often indicated that they could not express themselves as they were afraid that family members would view them as being a burden. They were afraid that they were going to be discarded as they were not contributing to their various social relationships. Gutman (2000:7) indicates that the reason why men with brain injuries act in this way is because they are socialized to refrain from seeking help when they experience difficulty. The one female in this study however portrayed a similar view to the males.



5.1.6 A loss of future aspiration and quality of life

The participants in this study indicated that because of their injuries they could not fulfill the dreams that they aspired for themselves and their families. Gutman and Napier-Klemic (1995:540) revealed similar results with a qualitative study that they conducted with four brain injured individuals. They indicated that males expressed a greater sense of not having achieved certain life expectations or referred to rites of passage. It could be argued that if the individual does not meet life demands such as finding a rewarding job or marriage then they do lose a sense of hope in their future.

5.1.7 A loss of hope in the worker role

A loss of hope in the worker role will be discussed in terms of a loss of promotional opportunities, a loss of productivity and role reversal.

Many of the participants in this study made reference to their inability to resume their previous worker role. The fact that they had to do work that they did not find meaningful and had to adjust their financial income caused them to become frustrated. They saw this as directly affecting their quality of life. Padilla (2003:417) in her phenomenological study with one individual, who sustained a brain injury, reported a theme called “nostalgia” which explained the participant’s view of her past which entailed her life and work. In this study the participant reflected on her sense of loss of not doing the work that she did before the injury.

- **The loss of promotional opportunities and a loss of productivity**

In this study it could be argued that the main reason why the participants were not being promoted in the workplace could be due to their functional limitations. One participant indicated that he was not aware of his inappropriate behaviour in the workplace. The other participants indicated that they just could not keep up with the physical demands of their jobs. Tipton-Burton, McLaughlin and Englander (2005:849) indicates that often frontal lobe damage results in an impairment of insight regarding an individual’s limitations, impulsivity or an inability to consider consequences before acting. Malia and Brannagan cited in Bajo and Fleminger (2002:391) indicate that self awareness could predict vocational and other outcomes following treatment. This means that an individual who lacks self awareness of his behaviour and impulsivity may act inappropriately in the workplace thus affecting his or her work abilities and ultimately promotional opportunities.

There is no clear indication pertaining to the loss of productivity rates for workers who suffered a brain injury as this depends on a number of factors such as the type of brain injury, person demographics and the type of occupation. However the literature does indicate that these individuals would have problems with decreased functional endurance and cognitive fatigue (Tipton-Burton, McLaughlin & Englander 2005:849 and Bootes & Chapparo, 2002:260).

- **Role Reversal**

All the participants in this study indicated that after the injury there was some form of role reversal that occurred. In many cases the participant's wife or family members had to take on the breadwinner and patriarchal father roles. This was interpreted positively and negatively by the participants. Positively it was seen as a form of support to the participants during the recovery period and negatively it was seen as a measure of frustration in that the participant's family lost respect for them by not trusting their judgment. It could be argued that the frustration could be seen as a personal reminder that the participant may be inadequate in fulfilling their personal adult male role expectations after the injury (Gutman, 2000:9). Padilla (2003:418) in her study reinforces the notion that individuals with brain injuries are not fully trusted by able bodied individuals particularly when doing ordinary tasks, thus causing them to become frustrated.

5.2 Barriers - Fear of the unknown

The theme "A sense of not being prepared for the future" was also interpreted as a barrier. This manifested in their fear of unemployment, fear of being isolated by society, a fear of resuming occupation roles and stigma related to the brain injury.

5.2.1 Fear of unemployment

The participants in this study had a fear of being unemployed after the brain injury. This fear manifested itself in a form of panic, in that some of the participants were dependent on a disability grant. The disability grant was not enough for them to support themselves and their families. In a study conducted by Gutman (2000:37) she found that her participants also reflected feelings of disappointment and depression due to factors such as the loss of work and not being able to meet personal role expectations.

- **Fear of isolation by the community and family**

The participants in this study verified that they feared being alone especially during the recovery stages after the brain injury. One participant indicated that his family could have easily neglected him and put him in a long term care facility but they did not. Tipton-Burton, McLaughlin and Englander (2005:851) indicate that family members and friends are visible during the acute and sub acute stages of traumatic brain injury rehabilitation. However as the time increases then family and friends become progressively less involved, this causes brain injured individuals to develop feelings of isolation. Gutman (2000:45) in her research reinforced that the participants in her study exclaimed a feeling that their peers and siblings had surpassed them in achievements, thus reinforcing feelings of inferiority.

5.2.2 Being underestimated by society

The participants in this study were of the opinion that society underestimated them particularly when it came to general community activities and work tasks. Gutman (2000:33) presented similar results in her study. She indicated that the brain injured individual felt victimized by society in that they were often used by family members for their wealth. It was as if they viewed the participants as being vulnerable. Padilla (2003:418) revealed similar results in her study, indicating that parents or family members tended to be over protective of their brain injured relatives and as a result they caused these individuals to develop the perception that they were incompetent.

5.2.3 Stigma related to the brain injury

Liebeck and Pollard (1997:514) defines stigma as a mark of shame. Some of the participants in this study felt that society viewed them as being crazy and perhaps dangerous. The stigma related to the participants condition in this study caused them to also lose jobs and negatively affected their possibility of obtaining a new job. Gutman (2000:18) indicated similar results where one participant in her study felt that his friends would stigmatize him as being incompetent to live independently in his apartment due to

him accidentally causing a fire in his apartment. He was moved to a community group home.

5.3 Adaptation to the brain injury

Theme three “The road to acceptance and believing in oneself” was interpreted as the participant’s attempt to adapt to their condition and return to work. Adaptation is described as the internal process by which people respond to a demand for change (Moyers, 2005:230). The person changes by incorporating new skills and habits into daily occupational performance (Moyers, 2005:230). Within the context of this study the participants adapted to their condition by the internal process of accepting and reflecting on their conditions. This process enabled the participants to develop a strong personal belief in their ability to cope.



5.3.1 Acceptance of the condition

The adaptation to the brain injury was viewed by participants as a multidimensional process that was uniquely experienced by each individual. The adaptation process was unique because each individual has his or her own personality, own social context and support systems. However the basic theme that was seen throughout the research project was that acceptance of the brain injury was the first step in adapting to the condition. The participants in this study indicated that it took them years to accept the functional deficits they had because of the brain injury.

Tipton-Burton, McLaughlin and Englander (2005:852) in their explanation of dealing with loss explain that an individual who sustained a traumatic brain injury often experiences a process that resembles the stages of death and dying experienced by the terminally ill. The authors explain that these stages begin with denial in which the individuals deny that they are experiencing physical, cognitive or psychosocial deficits. Their sense of denial can impede therapy because these individuals refuse to participate believing that it is not necessary. The participants in this study indicated that initially they did not think that their conditions were very severe. The above authors further state that

the denial eventually subsides as they gradually confront their limitations. Clients become frustrated and angry with their deficits because of the slow recovery process. This was a perception that was commonly held by the participants as they indicated that it took them months before they could start doing things independently. Bargaining is the next stage that occurs when the individual requests that God helps them to regain their functional abilities and offers to work diligently on their rehabilitation (Tipton-Burton, McLaughlin & Englander, 2005:852). Most of the participants in this study tended to place a great faith in God as they felt that this was the only power that would be able to assist them during the rehabilitation process. The participants placed emphasis on religion during rehabilitation. Once they placed trust in God then their motivation during the rehabilitation phase improved and they also became more peaceful with their life circumstances. The above authors indicate that the bargaining stage is often marked by increased motivation and optimism. The last two stages are depression and acceptance. This was clearly observed by the researcher in that the participants indicated that their moods fluctuated. It was observed that some participants were still in the depression phase of the condition at the time of the interviews and that they did not fully accept their condition. For many of the participants it had been +/- eight years post injury and they had become accustomed to their new functional abilities whether it meant that they had to find alternative work or do tasks in an adapted fashion. They developed meaning in a new way of life and came to terms with the fact that they may not be able to do tasks as fast as they did before or be as spontaneous as they were before the injury. Tipton-Burton, McLaughlin and Englander (2005:852) state that it is necessary for clients to become sufficiently motivated to attempt to build a post injury life that although different to their previous lives is nevertheless personally meaningful.

5.3.2 Rebuilding of self efficacy belief

The manner in which the participants in this study undertook to rebuild themselves was by means of finding contentment with their condition, rebuilding their self concept and self esteem through participation in occupation, strong support from the employer, family and government, redeveloping their lives through reflection and a separation of one's old

self. Finally the beliefs of personal effectiveness and self motivation as a means to redevelop one's self will be discussed.

- **Finding contentment with one's condition**

The process of finding contentment with one's condition was seen as being similar to the stages of acceptance as indicated in the previous discussion. The results of this study indicated that the participants had to firstly accept their condition before they could successfully complete rehabilitation and finally participate in meaningful tasks. Padilla (2003:419) indicated a theme called hope whereby the participant in her study referred to a need to let go of her past in order to develop hope and meaning in life.

- **Rebuilding self concept and self esteem through participation in occupation**

The participants in this study rebuilt their self concept and self esteem by means of participating in occupational tasks such as work tasks. Their ability to resume previous roles such as the worker role enabled them to improve their self concept and self esteem. This also gave them a feeling of normality and recovery. In a study conducted by Johansson and Tham (2006:64) they identified that work provided significant structure to the brain injured individual's day. The participants in the latter study were of the opinion that work gave them structure to function on a daily basis and gave structure to their leisure time. Work was seen as a stimulator of activity and also prevented them from developing feelings of self pity and falling into bad habits. Johansson and Tham (2006:64) indicate that participation in work enabled the brain injured individual to fulfill social needs and improved their self esteem. The above authors indicate that their study participants feared that if they did not return to work then they would lose contact with other adults. Gutman (2000:18) presented similar results in her study when one participant developed a good self esteem due to his participation in a volunteer position in a nursing home.

- **Support from the employer, family & government**

The participants in this study often indicated that the support from the employer enabled them to return to work. Employers that were supportive and empathetic were regarded as helpful during the return to work process. The provision of return to work policies by means of offering alternative work placement and work trials were seen as a facilitator to return to work. Friesen, Yassi and Cooper (2001:19) indicate that return to work programmes are essential in returning injured employees to work. They mentioned that both the return to work programme, good communication and trust between the employer and the injured employee enables return to work and lowered injury costs. Soeker, Wegner and Pretorius (2008:168) presented similar findings with back injured individuals that were returning to work after injury, there was an indication that early work placement strategies that accurately matched the employee's functional abilities to the workplace demands facilitated successful return to work. The above authors also indicated that a positive work culture supported return to work.

Family was seen as a central aspect of support for the participants in this study. The participants mentioned that it was their family that helped them with self care activities when they could not see to themselves. Their family assisted them with their rehabilitation programmes and motivated them during the return to work process. Simmons and Ludwig (2004:55) identified that brain injured individuals' spouses and parental care providers played a significant role in the support of them. Bootes and Chapparo (2002:264) viewed the family as a major support system for the brain injured individual, especially in adjusting to the brain injury at home or in the workplace. They mentioned that a support system (example family) that is positive will keep the individual in the workplace whereas a support system that is negative will stop the individual from working. Ruffolo, Friedland, Dawson, Colantonio and Lindsay (1999:396) had similar sentiments and indicated that social interaction and having a strong family support were positive indicators of return to work.

Holzberg (2001:248) indicates that it is common for brain injured individuals to qualify for government benefits such as social security disability income and insurance or injured

worker settlement funds. Support from a government system within this study was seen in the form of disability grants, training programmes and compensation from the Road Accident Fund. The participants in this study were of the opinion that the disability grant was imperative for survival after the brain injury. They viewed the disability grant as a temporary “life jacket” that enabled them to recuperate or complete rehabilitation.

Training courses within the context of this study were seen as those offered by the SETA`s (Sector Educational Training Authority Courses) which approves courses offered in the insurance sector, construction and mechanical sectors. Based on the researcher`s experience as an occupational therapist in the work assessment unit at Tygerberg Hospital and as a claims assessor in the insurance industry it is often difficult to get clients to utilize the SETA courses offered by the Department of Labour. These difficulties range from administrative difficulties, poor communication between the Department of Labour and the client/health professional, and lack of transparency pertaining to the courses that are offered.

Another form of government support was in the form of compensation from the Road Accident Fund (R.A.F). The participants in this study were ambivalent about the compensation fund in that they felt that the money that they got was helpful in the transition from hospital back to work. Others felt that the money did not really make a difference in their lives due to the financial debt that the participants accumulated after the injury. Some of the participants in this study chose not to stop working as they could not depend on the outcome of the RAF application whereby others stopped working as soon as they got the RAF compensation payout. Ruffolo et al. (1999:396) presented similar results in their study, indicating that litigation may affect the brain injured individuals` perceptions of returning to work due to the possibility of getting financially compensated for damages.

- **Reflection and a separation of one's old self**

The participants in this study indicated that they often reflected on their life circumstances and how the brain injury affected them daily. Some participants reflected on how lucky they were to survive the assault or motor vehicle accident. This reflection assisted the participants in accepting their condition and the consequences thereof. In the a study conducted by Padilla (2003:416) the theme “nostalgia” emerged which represented the individual`s reflection on her past and its comparison with the present. In this study the participant reflected on the reasons why she sustained the brain injury and tried to make sense of her life. The participant indicated a sense of acceptance and hope to move on with life after the period of reflection.

The results of the current study indicated that the process of adapting to the condition involved the mental separation of the individual from their previous circumstances in an attempt to continue with life. After accepting the condition the participants had a mental picture of their abilities and functional limitations. They were aware of their support systems and who they needed to contact in order to meet specific goals in life.

- **Beliefs of personal effectiveness and self motivation as a means to redevelop one's self**

In this study the participants attributed their ability to participate in rehabilitation programmes and resume their worker role to a belief that they would be able to cope and to self-motivation. These beliefs were initially triggered by an event, an experience or a person in their lives. In the context of this study many participants attributed their beliefs and motivation to their families, to God, to personal goals and as a mechanism to resume activities in society. Self efficacy is described as judgments that indicate how well one can perform actions required to deal with a situation (Bandura, 1991). Self efficacy beliefs determine how people feel, think, motivate themselves and behave. These beliefs produce these effects through four major processes (i.e. cognitive, motivational, affective and selection processes). A strong sense of efficacy enhances accomplishment and

personal well being in many ways. This sense also reduces stress and lowers vulnerability to depression (Friedman, 1998:421). An individual's sense of efficacy can be improved by mastery experiences (successful completion of tasks), vicarious experiences (social models), social persuasion (verbal persuasion, "you can do it") and reduction of their reactions to stress (Friedman, 1998:422). Bandura (1991) believes that people exercise personal agency (i.e. they take action that will produce an effect) unless they are constrained by environmental constraints, they may not feel capable of achieving a goal and or their expected outcome may change. Studies have documented that a self efficacy belief that is independent of actual ability predicts perseverance, performance and the selection of appropriate strategies (Bandura, 1991). Therefore the greatest constraint to an individual's occupational choice may be the belief that one is not capable of performing new and challenging tasks. In contrast, an individual's self efficacy beliefs may be strengthened if the individual successfully engages in tasks (occupational engagement). Lorig, Sobel, Stewart, Bandura, Ritter, Gonzalez, et al. (1999:5) utilized self efficacy as a theoretical basis in a study. They evaluated the effectiveness of choices made by individuals with a chronic disease, following an intervention designed to enhance self management based on efficacious beliefs. Individuals demonstrated an increase in weekly minutes of exercise and social role activities. Similarly Kurlowicz (1998) examined the effects of perceived self efficacy and functional ability on depressive symptoms in older adults after elective total hip replacement surgery. She found that interventions to enhance older patients self efficacy while in hospital may improve functional ability which may decrease post operative symptoms of depression.

In the context of work, an individual's beliefs will be influenced by his or her past work satisfaction and anticipation of future work actions. It could be argued that the participants' beliefs in the current study were the key determinant in their ability to complete rehabilitation programmes and return to work. Tasks such as self care, relearning mobility and improving communication stem from the person's belief that they can get better. It could be argued that the participants in this study developed strong efficacy beliefs by means of the positive reinforcement they received from their family and attending health professionals through social persuasion. It could be argued that the participants who placed their trust of recovery in God and faith actually improved their

efficacy beliefs as this was seen as a measure of coping with stress (reducing their reaction to stress). Other participants gained mastery experiences by means of participation in occupation such as independently doing self care activities and thereafter doing work related activities that improved their self efficacy beliefs. Another theoretical explanation for the participant's ability to participate in occupations could be linked to the concepts internal and external locus of control. Rotter (1975) introduced the term locus of control to suggest that individuals may limit their choices to engage in specific activities based on their beliefs about the control they have over the outcome of events. Individuals who have an internal locus of control would relate performance to intrinsic causes such as their personal effort whereas individuals who have an external locus of control would relate their performance to uncontrollable events in the environment. In the current study the participants mainly related their performance to a strong internal and external locus of control depending on the context of their problems. During the phase of acceptance the participants had a strong external locus of control especially when their performance was affected by the environment. Many participants felt that they could not navigate the environment because of environmental barriers (i.e. they could not attend physiotherapy because it was too far to travel and it was expensive). Others felt that their functional ability was limited as they found it difficult to manipulate the environment with crutches and wheel chairs. As their confidence improved they developed an internal locus of control particularly when engaging in self care and work related activities. This occurred when participants decided that they should take responsibility for their own rehabilitation and recovery.

5.4 Facilitators

Theme four, "Participation in occupation enables growth" was interpreted as a facilitatory mechanism. The term facilitators refer to those factors that are seen as facilitating or contributing towards the return to work process. The World Health Organisation (WHO, 2001:192) also defines these as factors in a person's environment that, through their absence or presence, improve functioning and reduce disability. These include aspects such as the physical environment that is accessible, the availability of relevant assistive technology, and positive attitudes of people towards disability, as well as services,

systems and policies that aim to increase the involvement of all people with a health condition in all areas of life. Absence of a barrier can also be facilitatory (e.g. the absence of stigma or negative attitudes). Facilitators can prevent impairment or activity limitation from becoming a participation restriction, since the actual performance of an action is enhanced, despite the person's problem with capacity (WHO, 2001:192).

The facilitators will be discussed in terms of occupation as a basic need to survive, occupational choice enables participation, occupation facilitates normality and improves quality of life, occupational balance and loss of meaningful occupation causes occupational alienation, occupational deprivation and occupational adaptation.

5.4.1 Occupation as a basic need to survive

Christiansen, Baum and Bass-Haugen (2005:548) define occupation as being an individual's engagement in activities, tasks and roles for the purpose of productive pursuit, maintaining one's self in the environment, participation in tasks for relaxation, entertainment, creativity and celebration. It could be argued that the participants in the current study who adapted to their functional limitations and medical impairments fully participated in occupational tasks. The participants in this study remarked that once they could do tasks such as self care and work tasks then only could they see that they had progressed. Wilcock (1993:17) reinforces the above view where she indicates that occupations are innate and humans participate in occupations for the purpose of their health and for survival. In the initial stages of the brain injury participants often could not engage in occupational tasks as they did before the injury and this caused them to become depressed and their social contacts in the environment to be reduced. However as they continued with therapy which could be viewed as an occupation, their health and physical fitness improved. Thereafter once they engaged in leisure and work related occupations so did their confidence and self esteem. Wilcock (1993:18) further states that occupation provides a mechanism for which individuals demonstrate the use of their capacities by achievements of values and worthiness to their society and the world.

5.4.2 Occupational choice enables participation

Kielhofner (1992:192) defines occupational choices as deliberate commitments to enter into an occupational role, acquire a new habit or undertake a personal project. Within the context of the current study participants chose activities that matched their functional abilities and that were meaningful to them.

5.4.3 Occupation facilitates normality and improves quality of life

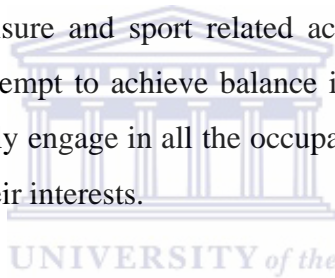
Kielhofner (1995:50) describes occupational behaviours or participation in occupation as a means by which individuals fill their time, create the circumstances of their everyday existence and make their place in the world. In the current study the participants indicated that the fact that they could ambulate independently or engage in work tasks without help of others improved their confidence and reduced their frustration. Gutman (2000:44) in her study that focused on gender role strain experienced by adult males with brain injury mentions that their loss of ability to work and support themselves financially were seen as a significant loss to adult independence. It can be deduced that participation in occupation such as work facilitates a sense of normality.

Dijkers (2004:S21) describes quality of life as being equivalent to subjective well being as well as the cognitive and emotional reactions to the balance of achievements and expectations. Subjective well being includes concepts such as life satisfaction, morale, happiness and negative affect (non pathological). Trombly (1995:103) indicates that the meaning that people get from participation in occupation as an end (meaningful occupation) at least partially defines satisfaction in terms of role performance. From the above statement it could be argued that participation in occupation has an impact on quality of life. The quality of life of participants in the current study deteriorated immensely when not participating in occupation. Dijkers (2004:S21) confirmed the latter point where he indicates that people with brain injuries have lower satisfaction with life than comparison groups. However the qualitative results of the current study revealed that the participants' mood and life satisfaction improved once they engaged in occupation. Trombly (1995:103) refers to a study conducted by Smith, Kielhofner and

Watts where they studied sixty persons, half of which were institutionalized, to determine the relationship between engagement in daily occupations and life satisfaction. They found that individuals who participated in recreation, work and ADL tasks had a higher life satisfaction than those that did not.

5.4.4 Occupational balance

Wilcock (2005:134) defines occupational balance as a regular mix of physical, mental, social, spiritual and rest occupations that provide an overall feeling of well being. From the above definition it could be argued that a healthy balance between self care, work and leisure activities is essential to achieve occupational balance. The participants in the current study described their daily routines as a mixture of occupational activities. They engaged in work, spiritual, leisure and sport related activities. Of the ten participants interviewed all reflected an attempt to achieve balance in their lives. It was recognized that the participants did not fully engage in all the occupational tasks that they did before the injury, they had to adapt their interests.

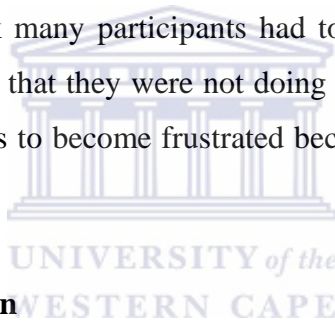


In contrast to the term occupational balance is the term occupational imbalance which is defined as a state that occurs due to the failure of a person to meet their physical, social, mental and rest needs through participation in occupation (Wilcock, 1998:138). Wilcock further explains that when a person experiences occupational imbalance then his or her own occupational interests and growth may be limited due to occupations that they are obliged to undertake in order to meet family, social and community commitments. It could be argued that in the current study the initial stages after the injury caused the participants to be preoccupied with self care tasks more than any other occupations. It was reasonable to expect that their work occupations were not the predominant occupation after the brain injury. Some of the participants were employed on a part time basis after the brain injury due to them being dismissed from their jobs. These participants reported that they spent more time at home and socializing with friends. The participants indicated that because of their functional limitations they spent more time doing self care and work tasks than leisure tasks. From this it can be deduced that they could be prone to occupational imbalance because they may take longer to do activities of

necessity such as self care and work thus causing them to have less time with sport and leisure pursuits.

5.4.5 The loss of meaningful occupation causes occupational alienation

Occupational alienation is described by prolonged experiences of disconnectedness, isolation, emptiness, lack of sense of identity or a sense of meaningfulness. An individual can experience occupational alienation when he is busy or wealthy. It could be a community or population's experience of spiritual emptiness (Townsend & Wilcock, 2004). It could be argued that the participants in the current study experienced a sense of emptiness and disconnectedness particularly with their communities and families. Many of the participants in this study mentioned that they were treated as being abnormal or childlike. With regard to work many participants had to resume their worker role in a different capacity which meant that they were not doing their preferred work. This often caused many of the participants to become frustrated because they were doing work that had little meaning to them.



5.4.6 Occupational deprivation

The fact that some participants did not have access to health care because of financial resources could be seen as a form of occupational deprivation. Occupational deprivation includes circumstances or limitations that prevent a person from acquiring, using or enjoying occupations. Conditions that may lead to occupational deprivation include: poor health, disability, lack of transportation, isolation, poverty and homelessness (Scaffa & Brownson, 2005:485). The socio economic circumstances of the participants often dictated their access to treatment and their ability to adapt to their conditions. Participants who had financial resources after the brain injury were in a better position to access health facilities and to adapt to their medical impairments. These participants could afford physiotherapy intervention at home as well as home nursing care. It could also be argued that participants that had financial resources could afford to recuperate for a longer period of time whereby other participants had to seek employment as soon as they could in order to financially support themselves and their families.

5.4.7 Occupational adaptation

Within the context of the current study all the participants acknowledged a need for change. They felt that they could not continue to struggle in their daily occupational routines and wanted to resume their previous occupational roles such as the worker role. Gutman and Napier-Klemic (1995:539) indicate that males tend to struggle to adapt to their new post injury identities if they are unable to engage in activities they used to define their masculinity when compared to females. Within the context of the current study the males did become frustrated with the fact that they were not the bread winners in the homes and it could be argued that they only truly adapted to their circumstances when they could define themselves in their masculine role. The one female participant however had similar views to the males in that a huge stressor in her life was her inability to fully adapt to her roles as mother and wife.

- **Adaptation requires change in occupational routines**

It has been well documented that return to work for the individuals who suffered a moderate to severe head injury is unsuccessful and that this could be due to emotional, behavioural and neuropsychological changes arising from the brain injury (Tipton-Burton, McLaughlin & Englander, 2005:862). In the current study adaptation of workplace routines was seen as a mechanism in which they maintained their worker roles. Some participants mentioned that their work tasks were adapted after the injury in order to accommodate their functional limitations. Holzberg (2001: 250) refers to natural supports such as opportunities for socialization and company sponsored employee assistant programmes as a form of adaptation that enabled the brain injured individual to maintain employment. A natural support is a type of support that is provided by the employer for the worker. These supports are permanent and ingrained in the workplace. The above author argued that these supports were seen as forms of adaptations that were cognitively orientated, physically designed and client involved. Examples include senior workers or mentors in the workplace that are available to guide and support the workers returning to work after an illness or injury.

- **Relearning of previous skills as a form of adaptation to occupational routines**

The participants in this study referred to their own ability to relearn old functions. This relearning enabled them to improve their muscle strength in their limbs, improve their balance and coordination and to an extent their memory. The participants in this study did this by doing tasks that were familiar to them in everyday life such as sweeping of the floors, cleaning up the yard and general walks in the community. Tipton-Burton, McLaughlin and Englander (2005:852) indicate that a common impairment for brain injured individuals is concrete thinking in which the individual has a problem with abstract concepts. The authors indicate that it is best to engage these individuals in activities that they engage in everyday, however these tasks need to be meaningful to them. It could be argued that such tasks may enable these participants to generalize skills from one context to another because they are familiar with it. Schwartz (1995:656) indicates that people who experience memory loss learn by procedural, episodic and semantic memory. Procedural memory occurs when information is recalled by the actual performance of an activity within the context in which it was performed. Episodic memory occurs when the individual recalls a situational experience for example the person recalls how to operate the alarm on a watch and semantic memory is used when the individual reports the information to someone else.

5.5 Enablers of a successful return to work programme

5.5.1 Thorough assessment strategies

The participants in this study indicated that they felt reassured about their medical condition when health professionals such as doctors were diligent about the tests and intervention strategies.

5.5.2 Client centred approach

Townsend and Banks (1992:8) indicate that client centred practice guides the occupational therapist (health provider) to work with clients who are active participants

in collaborating their ideas of fulfilling meaningful occupational performance within an environmental context. Schultz-Krohn and Pendleton (2005:37) mention that client centred practice is guided by the following: the language used to address the client should reflect the person first and then the condition, the client is offered choices and is supported in directing the occupational therapy process, intervention is provided in a flexible and accessible manner, intervention is contextually appropriate and relevant, and there is a clear respect for difference and diversity in the occupational therapy process. Most of the participants in this study felt that their opinion and their likes or dislikes were not taken into consideration. Participants felt that they would have appreciated it if the health professional took the time to get to know them before planning treatment or rehabilitation strategies.

5.5.3 Accessibility of treatment facilities and open communication between the stakeholders

The participants mentioned that the accessibility of treatment facilities enabled them to access medication or undergo rehabilitation. Sample and Darragh (1998:855) in their study on perceptions of care access identified that financial challenges and travelling for services amongst other challenges are of concern. Luckily for some of the participants in the current study, they could arrange that their medications be collected at their nearest day hospital.

Open communication was interpreted as communication between the health professional, employer, participant's family and the participant. In the context of this study effective communication facilitated transparency and allowed all stakeholders to know about their responsibilities. Research conducted by Soeker et al. (2008:167) indicates that poor communication between the doctor and employer ultimately causes conflict between the medical professional, employer and employee.

5.5.4 Home visits and home rehabilitation programmes

The participants in this study found home visits by health professionals such as physiotherapists and nurses to be helpful. A possible reason for this is that home visits are more convenient and that the treating health professional could have a good idea of the client's home circumstances. Schwartz (1995:665) verified the above in her research where she indicates that home based occupational therapy in addition to traditional clinic approaches can result in meaningful long term improvement in patient performance. Furthermore home based care can lead to cost savings in the long term.

5.5.5 Work assessment, ergonomic accessibility and entrepreneurship

Law, Baum and Dunn (2005:350) indicate that work assessment in occupational therapy addresses specific tasks that contribute to the person's work performance. In the current study the participants indicated that they had to undergo an occupational therapy assessment in order to determine whether they were fit to return to work. These assessments in the occupational therapy department usually assess the cognitive, physical and psychological components of function needed to do a particular job and the clients' work abilities.

Sanders and Wright (2008:336) describe ergonomic designs as a health promoting intervention that improves efficiency for all workers performing a job. Ergonomic interventions focus on modifying the work tasks, the work environment and the organization of work in order to minimize risks that may contribute to musculoskeletal pain. Within the context of the current study the participants felt that workplace adaptations enabled them to adapt to the workplace demands.

Sanders and Wright (2008:332) describe employment interests and pursuits as identifying work interests based on an individual's skills, abilities, interests and opportunities available. After the brain injury some of the participants' work skills became compromised resulting in them being dismissed from their work. As a result they viewed self employment or entrepreneurship activities as a measure of sustaining themselves.

5.5.6 Gradual return to work programmes

Sanders and Wright (2008:353) mention that a return to work fitness programme offers the worker a supervised fitness programme that targets specific needs and weaknesses in order to assist transition back to work. These authors further state that partial engagement of actual duties (modified duties) as well as fitness programmes may be beneficial. Based on the above it could be argued that a gradual return to work process facilitates a better adjustment of the worker when he returns to work after illness or injury. This allows the worker to build up his endurance to the level expected in his job.

5.5.7 Individual and family group therapy

The participants in this study indicated that individual and family therapy would be beneficial after the brain injury. Based on the results of the study individual therapy would aid participants who struggled to adapt to the brain injury as well as those who experienced symptoms of depression and anger. In the context of this study family therapy was seen as a form of support group, whereby, the participant's family would be able to care for them and support them in returning to work. Pierce and Salter (1988:189-190) state that the goals of a support group is to provide a safe accepting environment in which to express feelings, to give the participants the opportunity to hear others express similar feelings and conflicts, to ask help and to provide an environment for problem solving. It could therefore be argued that a support group would be extremely helpful when designing a rehabilitation programme.

5.5.8 Holistic rehabilitation

Some of the participants in this study mentioned that they sought treatment from other health professionals when the conventional or traditional medical intervention did not help. These participants sought treatment from psychologists, biokineticists and masseuse in order to remediate their conditions. In a study conducted by Soeker, Wegner and Pretorius (2009:138) the back injured participants in the study found treatment from

different sources such as chiropractitioners and psychologists in addition to the conventional physiotherapy as being helpful in alleviating their pain symptoms.

5.5.9 Transparency and multiple work skills facilitated return to work

Participants mentioned that being transparent with their employer facilitated return to work. Friesen et al. (2001:16) confirmed that good communication and positive relations between stakeholders (employee, employer and health professional) was important during the return to work process. This good communication was seen as a measure of being transparent. Some of the participants felt that when they were transparent with their employers about their condition then employers were aware of their functional limitations. The participants in this study felt that being multi-skilled enabled them to adapt to their worker role in a different capacity. This means that health professionals such as occupational therapists need to focus on the other skills that clients may have as this could aid their clients in finding alternative employment. Watt and Penn (2000:32) found that brain injured individuals who had an education of matriculation or less and who were unskilled were significantly less likely to return to work than those with tertiary education and who had managerial or professional jobs.

5.6 Barriers to a successful rehabilitation programme

5.6.1 Efficient networking amongst health providers

The participants in this study were of the opinion that better networking between hospital staff and hospitals would enhance intervention strategies. Some of the participants became frustrated when hospitals did not want to release documents to other hospitals about their condition.

5.6.2 Thorough explanation of medication use and side effects

The participants in this study felt that they were not given thorough explanations regarding the medications that were prescribed to them. As a result they developed side

effects such as stomach complications that had a long term effect on their health. Frieg and Hendry (2002:17) identified that health care professionals should educate both the client and caregivers (family) about the use of medication.

5.6.3 Access to private hospitals are determined by financial status

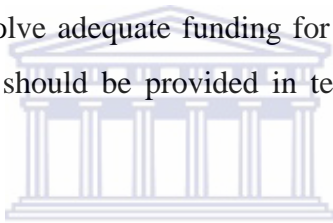
The participants had the perception that if you did not have money then you could not access private medical facilities. They felt disgusted with the view that if a person needs emergency treatment he would be turned away from these hospitals. Batho Pele, a Sotho translation meaning “people first” is an initiative to get public servants to be service orientated (Batho- Pele principles, 2009, online). It states that the patient or client should be at the centre of public service planning and that public servants should be accountable for the quality as well as level of service they deliver. Although these principles were aimed at public servants it could be argued that its philosophy is enshrined in our constitution. The fact that the unemployed or people who are not by the financial means are turned down by private hospitals for emergency care is of concern. The government and private sector should address the issue of the refusal of immediate emergency service by the private sector as this could cause people to lose their lives or become disabled.

5.6.4 Disrespect of the patients rights

The participants in this study were of the opinion that health professionals disrespected their patient rights. This disrespect was in the form of neglecting the participant`s safety, their cleanliness and dignity while being a patient in the acute stages of the condition. Some participants felt that they had a right to have a second opinion about their medical condition. The above concerns raised by the participants in this study closely relate to the Patients’ Rights Charter which states a number of patient rights for example the right to be treated with dignity and respect, the right to be counselled about your condition and the right to have a second opinion (Patients’ Rights Charter, 2009, online). This patient rights charter should be available in public and private hospitals, however whether the participants are aware of these rights are questionable.

5.6.5 Poor confidence in hospital procedures and the disability grant process

The participants in this study related their frustration to ineffective administration systems of hospitals. It could be argued that the poor administration systems could be linked to poor communication between the various departments as well as the work pressure that staff works under. Another concern is that these staff members become emotionally depleted because of the psychological and physical energy that they utilize in treating patients. When this occurs they become frustrated and treat patients without sympathy. McGee (1989:345) attributes this to a concept called depersonalization which is described as a state in which the helping professional no longer has sympathy, respect or positive feelings for clients. In brain injury rehabilitation research conducted, Abreu, Seale, Podlesak and Hartley (1996:419) mention that the best case scenario in developing quality intervention would involve adequate funding for patient stay in the hospital and ideal clinical treatment which should be provided in terms of personnel and adequate therapy for rehabilitation.



Furthermore the participants in this study were frustrated with the government disability grant system in that it was time consuming and involved many role players (i.e. social service, doctors and occupational therapists). The participants felt that health professionals needed to be trained in order to complete disability grant forms adequately and that the process should be streamlined.

5.6.6 Reasonable accommodations in the workplace

The participants in this study experienced difficulties when they tried to return to work after the injury. Some participants felt that they were not provided with alternative work in their companies before they were dismissed due to their medical conditions. The Labour Relations Act, Number 66 of 1995 advocates the code of good practice which indicates that an investigation should be done in order to reasonably accommodate workers in the work place before resorting to dismissal on the grounds of poor performance or ill health. Occupational therapists and medical doctors are key players in advocating for maintenance of the employee in the workplace. These health professionals

who may not be experienced with issues relating to labour law and vocational rehabilitation may have to become aware of these issues in order to advise and guide their clients. Huang, Shaw and Chen (2004:226) mentions that disability management strategies such as offering modified or temporary alternative work has additional benefits of facilitating workplace reintegration, reducing compensation costs and reflecting the company's concern for the well being of its employees.

5.6.7 Frustration caused by administration procedures of the Road Accident Fund

The participants in this study were frustrated with the administration process they had to follow before they were compensated. This process proved to be complicated and many participants felt disempowered by the process. The above indicates that there may be a need for individuals who are claiming from the Road Accident Fund to be better informed about the processes.



5.7 Summary

In this chapter there has been a discussion about the barriers and facilitators that influenced the return to work process of the participants. Barriers were discussed in terms of the various losses and fears that the participants experienced after the brain injury. Adaptation to the worker role was discussed in terms of acceptance of their condition and developing a strong belief in their ability to participate in occupations despite their limitations. The facilitators in the study were related to occupational engagement with an emphasis on occupation as a basic need. Finally the barriers and enablers to rehabilitation programmes were discussed.

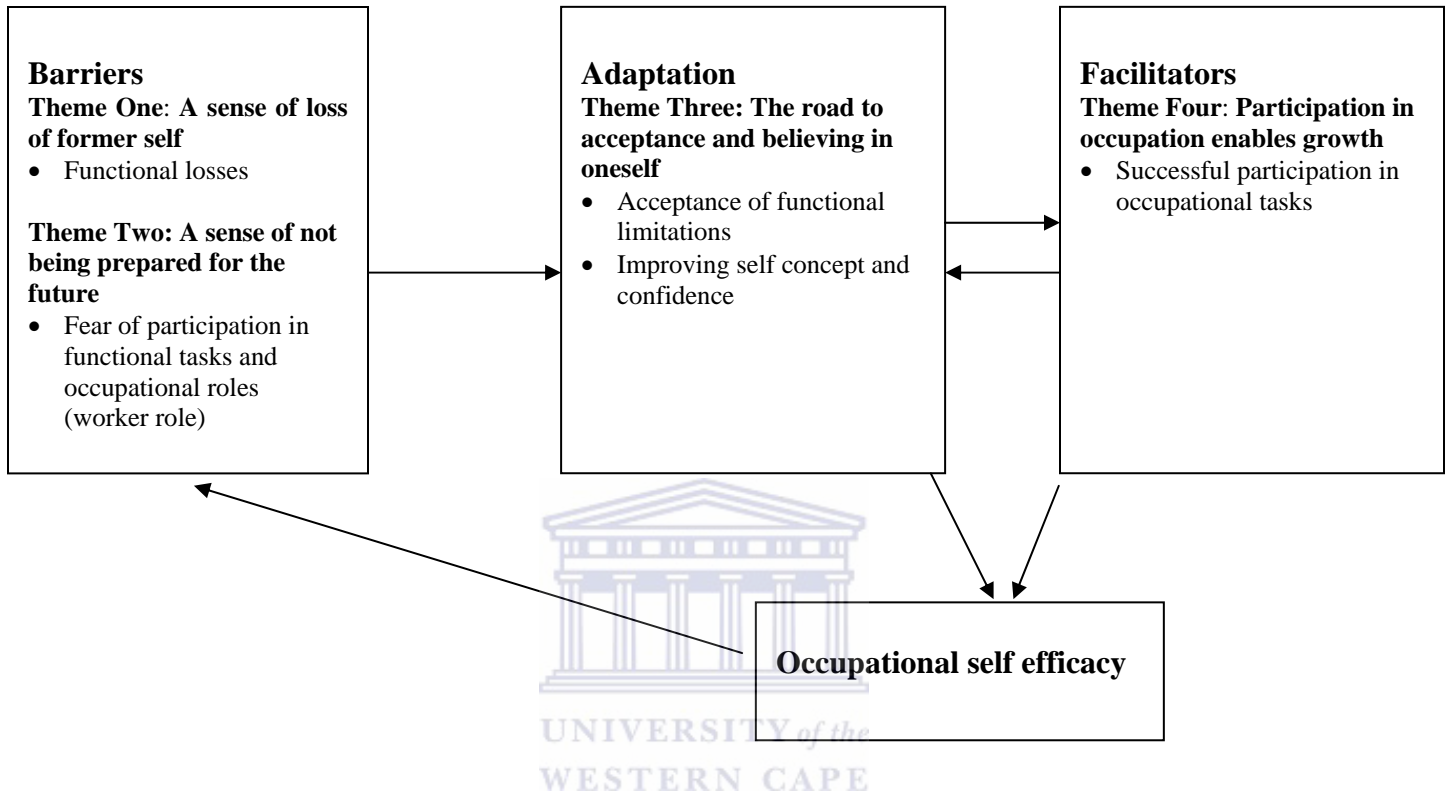
From the discussion in this chapter, there is evidence to suggest that individuals who were involved in a traumatic brain injury are struggling to adapt to their worker roles. They are struggling to adapt due to various barriers in their lives. However all of these participants have indicated that they had to fully accept their condition before they could realize their potential to overcome the various barriers that prevented them from resuming their worker roles. All these participants attributed their ability to adapt to a

strong self belief to participate in occupations such as work. The results of this study indicated that once these participants successfully engaged in occupations such as activities of daily living and work tasks then their sense of efficacy improved. Based on the information presented it could be concluded that before the participant engaged in their worker role they needed to fully accept their condition and then believe in their ability to cope with their functional limitations. The study highlighted the importance of two major concepts namely the participant`s need to engage in *occupation* and their belief in themselves namely *self efficacy* beliefs. It is through accepting, believing and then participating in occupation that the participant can successfully resume his or her worker role.

Figure 2, describes the relation of the themes in the current study to Occupational Self Efficacy. The barriers that the participants experienced affected their ability to adapt to their condition, however, they adapted to their functional limitations by acceptance of their condition and believing in their ability to resume their previous occupations. This process was enhanced by their successful experiences of participation in occupations (facilitator). The facilitators contributed to the adaptation process of the brain injured individuals. In this study *Occupational Self Efficacy* developed as a concept that aided the brain injured individual in overcoming the barriers when resuming their worker roles.

In chapter six there will be a description of *Occupational Self Efficacy* as a concept to empower the brain injured individual to return to their worker roles.

Figure 2: Diagrammatic representation of the relation of themes to Occupational Self Efficacy



5.8 Current contributions of this study

This study contributes to knowledge about rehabilitation and return to work strategies of brain injured individuals in the South African context. Occupational therapists utilise an eclectic approach or a combination of treatments that ranges from neurodevelopmental therapy to remedial (perceptual approaches) and compensatory approaches. However with regard to return to work there is no specific return to work model that is highly effective in returning people with brain injuries to the workplace. The supportive employment model is used with patients suffering from psychiatric conditions however to my knowledge there is limited evidence to suggest the success rates of this approach with brain injured individuals in South Africa. Within the South African context and internationally there is a void in the literature that emphasises the effectiveness of using a client centred approach that focuses on Occupational Self Efficacy in returning the brain injured individual to the workplace.

- The model developed in the current study focused on encouraging self acceptance of the brain injured individual's condition, improving self efficacy beliefs and utilising resources that are available in the community. Through this process the brain injured individual will be able to participate in meaningful occupations and thus be able to actively problem solve difficulties faced in the environment. Occupational Self efficacy as a model rests on the shoulders of existing models and treatment approaches but just adds a new dimension that focus on the work environment through supportive employment.
- This study has contributed to the field of brain injury rehabilitation and the return to work process. There is limited knowledge internationally on the experiences and perceptions of brain injured individuals with regard to returning to work. Within a South African context this is the first study of its kind that sought to understand the challenges that these individuals face when returning to work after a brain injury.
- Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after brain-injury is the first model of its kind that has been developed for the purpose of facilitating the return to work process. This model may enable brain injured individuals to return to work at an earlier rate and maintain employment. The model will enable health therapists to monitor the progress of their clients and quantify the total amount of clients that maintain employment.
- This study has contributed to the field of Occupational Science from a South African perspective by linking the occupational science literature with the return to work perceptions of the brain injured individual. The study provided a deeper understanding about the value of occupation in the lives of persons with brain injury. It also clearly linked the positive relationship between occupation and health. It also contributed to the literature on the adaptation process that brain injured individual's experience when returning to work.

Chapter Six

The development of a practice model for the reintegration of brain injured clients to the work place: An occupational therapy perspective

6. Introduction

There was a discussion of the experiences and perceptions of brain injured individuals regarding their return to work in chapter four. In chapter five there was a comparison of the results of this study to existing literature. Concept analysis will be discussed as the first step in model development.

6.1 Concept Analysis

The main concepts on which the model of this study is based emerged from the data that was collected from the in-depth interviews. In this section the concepts will be analyzed by the identification of the main concepts for the model, classification of concepts of the model and defining the concepts of the model.

6.1.1 Identification of the main concepts for the model

The results of the study revealed that the brain injured participants experienced many losses after the brain injury. These losses were interpreted as a sense of loss of former self. The participants in the study described their experiences as a sense of loss. The participant's physical and cognitive injuries affected their ability to engage in occupations such as self care, leisure activities and work. Some of the participants nearly lost their lives due to intervention that was provided at the time of the injury. The participants experienced severe difficulties in accessing care in the private health facilities due to financial constraints. The participants in this study felt that the brain injury had really set them back in life in that they had to adapt their lifestyles to their new functional abilities. They were either fired from their previous places of employment or they voluntarily gave in their resignation. It was of interest to see that most participants

only had physiotherapy as a form of rehabilitation after the injury. Some of the participants received occupational therapy as a form of screening to determine their ability to return to work or whether they required a disability grant. It was of interest to see that the participants that received care in a private hospital facility received outpatient care. Most of the participants that received public hospital care never received outpatient physiotherapy at their homes or in the hospitals. Individuals often argued that they could not have recovered from the brain injury without the support from their family or work colleagues. They described the recovery process as a lonely process.

The participants indicated that they were not being prepared for the consequences after the brain injury. They had a fear of the unknown, being underestimated by society, resumption of occupational roles and not being a burden to society. The participants feared the unknown, they feared living in poverty and not being able to be the breadwinner in their families, they also feared whether they would be able to pay medical bills and debt should it occur. Because of the participants inability to function in the same capacity as they did before they felt that their families, employers and the general society thought that they would be a burden as they would have to be cared for by society.

The brain injured participants also indicated that in order to recover from the brain injury and to resume their previous roles they had to accept themselves for who they were. They described this self acceptance as a measure of rebuilding themselves, having a strong family support, reflecting on life's circumstances, having support from a political perspective and faith that binds one to believe in hope. The manner in which they rebuilt themselves was to take control of their lives and believe that they could resume their previous occupational roles therefore referring to a high sense of *self efficacy*.

All of the participants in this study had a strong belief in occupation as a measure of restoring their function or participation in life roles. **Occupation** was seen as a basic need that enables growth. Some participants indicated that they felt empty because they could not participate in their previous occupational tasks. The minute they attempted these tasks they could see some of their physical and cognitive symptoms becoming less severe. They forced themselves to use their weaker limbs as a measure of physical exercise.

Many of them felt an innate need to participate in their previous roles in that it caused them to develop a sense of intrinsic motivation, improved self esteem and self concept. Participation in diverse occupations enabled them to develop meaning in their lives.

The results of the study suggest that the participants could adapt to their condition and return to work by having strong efficacy beliefs and by successful participation in occupation. An integral part of the objectives of this study was to develop a frame of reference to support brain injured individuals in returning to work. The analysis of the data indicates that the occupational therapist can facilitate the brain injured individuals return to work by improving their efficacy beliefs through engagement in occupation. The model will therefore focus on Occupational Self Efficacy as a mechanism in returning the brain injured individuals to work.

6.1.2 Classification of concepts of the model

The main concept identified in this study was Occupational Self Efficacy. This will be used as a basis for the development of a model for the reintegration of brain injured individuals to their worker roles. The survey list by Dickoff, James and Wiedenbachs (1968:422) will be used to classify the concepts of the model. The survey list will be discussed in terms of the agent, recipient, the context, dynamics, the procedure and terminus. The application of the above concepts will be discussed below:

- **Agent:** The agents in this model will be the occupational therapist that is treating the brain injured individual in the rehabilitation unit. The occupational therapist will facilitate the reintegration of the brain injured individual to their worker role.
- **Recipient:** the brain injured individual will be the recipient.
- **Context:** the context of the model will include the hospital, the brain injured individual's home and/or workplace.

- **Dynamics:** The brain injured individual is overcome with feelings of anger and frustration due to the fact that they cannot resume their previous occupational roles especially the worker role. They develop a sense of loss of confidence in themselves, the future and society. The occupational therapist would have to create an atmosphere of acceptance whereby the brain injured individual can develop feelings of acceptance of his or her condition. The procedure of the model will allow the brain injured individual to develop self efficacy beliefs in his or her functional ability.
- **Procedure:** The occupational therapist will act as a facilitator during the process of Occupational Self Efficacy. The brain injured individual, his family and his employer will be involved in this process. The procedure will enable the brain injured individual to actively analyze and utilize the options available to them. The model will be described in the context of the rehabilitation departments of the hospital, the brain injured individual's home and workplaces in order to facilitate their self efficacy beliefs.
- **Terminus:** Through the process of improving the brain injured individual's self efficacy beliefs, the frustration and feelings of anger will be alleviated. This will foster feelings of self acceptance and create an atmosphere conducive for making choices about participation in various occupations.

The above concepts of the survey list of Dickhoff et al. (1968:422) will be incorporated into a thinking map. The diagram below describes the process in more detail.

Table 7: Thinking map for the classification of concepts

AGENT	RECIPIENT
Occupational Therapist	Brain injured individual

PROCEDURE

To promote reintegration of the brain injured individual to their worker roles by facilitation of a model of Occupational Self Efficacy. The process of Occupational Self Efficacy will be described in terms of the attributes related to the concepts occupation, self and efficacy.

DYNAMICS

The process of accepting the consequences and occupational limitations resulting from a traumatic brain injury may cause feelings of frustration, demotivation and anger. The occupational therapist (agent) will create an environment whereby the brain injured individual (recipient) can develop feelings of acceptance. Thereafter the brain injured individual will be in a better position to analyse their options in terms of rehabilitation and resources available to him or her. After the brain injured individual has selected and utilized an option or options, he or she would be able to envisage their participation in various occupational roles. The model of Occupational Self Efficacy would serve as a frame of reference for all health care workers not only occupational therapists.

CONTEXT

The rehabilitation departments of hospitals or treatment facilities, places of employment of brain injured individuals and homes of brain injured individuals.

TERMINUS

The brain injured individual will be able to develop acceptance of his or her condition and in doing so they will be able to actively mobilize themselves for participation in the occupational roles such as the worker role.

In the following section there will be a discussion on the identification and classification of concepts used in the model.

6.1.3 Definition of concepts of the model

In this section the interrelated definitions of the main concept of the model, the model case, the descriptions of the essential concepts of the model and the final definition of the main concept of the model will be discussed.

The central concept of Occupational Self Efficacy was defined in accordance with the three step method of Wandelt and Stewart (1975:64-65). The three step method includes:

- A dictionary definition of the concepts within the central concept
 - A contextual subject-specific definition
 - A conceptual definition
-
- **Dictionary definitions of the concept Occupation**

Dictionary definitions of the concepts will be provided, after which occupational therapy and non-occupational therapy literature will be consulted

The Oxford English Student's dictionary, (Hornby & Ruse, 1988:434) describes the word occupation as the **act** of time, of **occupying**, a profession or trade and **activity** that uses up one's time either permanently or as a hobby. Oxford English Mini dictionary (Liebeck & Pollard, 1997:355) describes the word occupation as an **activity** that keeps a person busy, a job, employment and **occupying**.

To gain further clarity pertaining to the concept, the term act, occupying and activity will be considered as a synonym for occupation.

The Oxford English Student's dictionary (Hornby & Ruse, 1988:8) describes the word act as **something done**, a main division of a play, a **short performance** in a longer play, a performer and a law made by government. Oxford English Mini dictionary (Liebeck & Pollard, 1997:5) describes act as a **thing done**, a law, a section of a play, an item in a variety show and **perform a part**. The Oxford English Student's dictionary (Hornby & Ruse, 1988:8) describes the word activity as a **state of being active** and a particular deed or hobby done. Oxford English Mini dictionary (Liebeck & Pollard, 1997:5) describes act as **being an action** or a **particular pursuit**.

- **Contextual subject-specific definitions of Occupation**

In the occupational therapy literature the word occupation or occupations are described as having a **purposeful** and **temporal dimension** within the **context of work, pleasure and self maintenance** (Meriano & Letalla, 2008:10). Christiansen, Baum and Bass-Haugen (2005:548) defines occupation as **engagement in activities, tasks, and roles** for the purpose of **productive pursuit, maintaining one's self in the environment**, and for the purpose of **relaxation, entertainment, creativity, celebration** and activities in which people are engaged to **support their roles**.

- **Dictionary definitions for the concept Self**

The Oxford English Mini dictionary (Liebeck & Pollard, 1997:470-471) describes the word **Self** as a person, as an individual, a person's special nature, person or thing as the object of **reflexive action**, one's own advantage or interests. It is also described as a combination form of or done by **oneself** or itself. The Concise Oxford dictionary (Sykes, 1978:1030) describes **self** as a persons or things own **individuality or essence**, a person or thing as an object of **introspection** or **reflexive action**. It is also described by expressing direct **reflexive action, acting** on **oneself** or itself or acted on by oneself or itself.

To gain more clarity of the concept, **individuality, essences, reflexive action and introspection** will be considered as synonyms of self.

The Oxford English Mini Dictionary (Liebeck & Pollard, 1997:264) defines **individuality** as a single, separate characteristic of one particular person or thing. The Oxford Dictionary (1995:693) defines **individuality** as the quality of being individual, the set of behavioural or personal characteristics by which an individual is recognizable.

The Oxford English Mini Dictionary (Liebeck & Pollard, 1997:174) defines **essence** as the basic nature of something, an indispensable quality or element or a concentrated

extract. The Oxford Dictionary (1995: 461) defines **essence** as the most central part, a basic trait or set of traits that define and establish the character of something fundamental, fundamental nature or inherent characteristics.

The Oxford English Mini Dictionary (Liebeck & Pollard, 1997: 435) defines **reflexive** as showing that the action of the verb is performed on its subject. The Concise Oxford Dictionary (Sykes, 1978:939) defines **reflexion** as a mental faculty dealing with products of sensation and perception or an idea arising in the mind, mental or verbal.

The Oxford Mini Dictionary (Liebeck & Pollard, 1997:5) defines **action** as the process of doing something or functioning; something done; a lawsuit or a battle. The Concise Oxford Dictionary (Sykes, 1978:11) defines **action** as the process of acting, exertion of energy or influence and series of events represented.

The Oxford English Mini Dictionary (Liebeck & Pollard, 1997:274) defines **introspection** as the examination of one's own thoughts and feelings. The Oxford Dictionary (1995:715) defines **introspection** as thinking about, pondering or disposed to thought, weigh mentally, thinking over.

- **Contextual subject-specific definitions of Self**

In the nursing literature, Dawson (cited in Edwards, 1998:163) defines the self as an individual that is **conscious** of the individual that it is, while at the same time being conscious that it is the individual it is conscious of. Dawson further refers to George Herbert Mead (1863-1931) where he describes the self to be a **product of social behaviour** rather than some mysterious entity inhabiting the psyche. He indicates that the self evolves in the processes of **social interaction** (Dawson cited in Edwards, 1998:173). The self in this context is seen as a measure of **mind body awareness** and that the self can be **shaped by social influences**.

In occupational therapy literature **self** is defined from a therapeutic perspective, Meriano and Letalla (2008:6) indicate that therapists have the opportunity to use their **personality**,

insights, perceptions and judgments as part of the therapeutic process. Furthermore the therapeutic use of self emphasizes that the therapist must be **aware of their own attitudes and beliefs**. The therapist must **acknowledge his/her own beliefs and values** but not impose them on clients or caregivers (Meriano & Letalla, 2008:6).

In the psychology literature the **self** refers to the person **one thinks one is** (Lahey, 1998:414). Lahey further indicates that the concept of self is based on our **subjective perception** of who we are and what we are like. This perception emphasizes that the self is **shaped by our interaction** with others. Uys and Middleton (1997:25) differentiate between the **ideal self** and **self concept**. They indicate that an ideal self is described by what the person believes they should be like whereby self concept is described as what the person actually thinks he or she is like. Lou and Lane (2005:268) defines **self concept** as the way in which individuals **perceive themselves**. Self concept is seen as being **descriptive** rather than evaluative, it is **reflected** in the individuals' statements in terms of their **roles** (daughter, student etc) and **attributions** (considerate, intelligent etc) (Lou & Lane, 2005:274). Furthermore the above authors indicate that when an individual's self concept is **inconsistent with the way others sees it**, then **psychological difficulties** may result. From this perspective it could be argued that a person's self concept could be positively or negatively influenced by external or environmental factors.

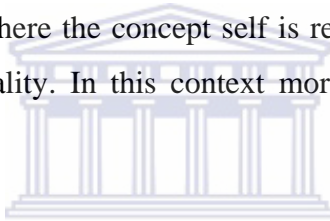
Nelson-Jones (1993:14-15) summarizes the concept of self as containing the following three major components:

- The Natural Self: this is described by the biological inner nature, genetic aptitudes, drives, instincts and human potentialities.
- The Learned Self: this is described by the way people have been taught to perceive themselves, their strengths, weaknesses and life skills. The learned self provides an individual with the necessary skills or life skills to cope with the constraints of the environment or reality

- The Choosing Self: this is described by the individual's ability to **create or shape** their lives through present and future **choices**. The choosing self provides a mechanism that allows the people to discard the weaknesses of the learned self that blocks the fulfillment of the Natural self.

Lou and Lane (2005:274) further indicate that there is a relationship between the self concept and self esteem. Self esteem refers to the **relative value** (positive or negative) that an individual holds about him or herself and this contributes to the person's self concept. This means that an individual with a low self concept may have a low self esteem.

Plaut (cited in Papadopoulos & Saayman, 1984:16) refers to the interpretation of **self** by the psychologist called Jung where the concept self is referred to as an **inner authority** assumed to be free from morality. In this context morality referred to public opinion about one's behaviour.



The philosopher Mathews (1994:108) in her discussion on selfhood refers to the concept of self, as an individual whose **autonomy** and **integrity** are a function of its **interconnectedness** with its **environment**. Easterbrook (1978:177-178) states that when an individual interacts with the environment **his experience** that informs him about himself also informs him about the environment. The author also states that an individual's experience of the **outcome** of his behaviour in **comparison** to others may influence the development of his or her self concept. This self concept could then be positively or negatively internalized by the individual.

Raeburn and Rootman (2001:120) make reference to Claxton who reflects on a **false sense of self**. They indicate that the false sense of self contains **three characteristics** (i.e. of **separateness, of persistence and of autonomy**). These cause an individual to feel in control of his own life and survival. They further state individuals who **learn to trust** their **environment, as well as others** and **the general flow of life** would be able to learn to relax their dependence on the constant need to be in control.

Horowitz (2002:85) defines the self as the **most unique** of all human endowments and is a **concept of individuality** that is distinct from other people and objects. He describes the **therapeutic use of self** as the **application of the individual's cognition, perceptions and behaviours** to **promote health in another person, family, group and community**. Horowitz also indicates that an individual's ability to **control actions** and **evaluate outcomes of interactions** allows him or her to alter their views of themselves. The **self** is seen as **being dynamic**, has the ability to **change through** its **interaction with the outside** world and in **response to crises in life** (Horowitz, 2002:86).

- Dictionary definitions for the concept of **Efficacy**

The Oxford Mini Dictionary (Liebeck & Pollard, 1997:163) defines efficacy as **producing the desired result**. The Concise Oxford Dictionary (Sykes, 1976: 330) defines efficacy as **producing, sure to produce** and the **desired effect**. According to the Concise Oxford dictionary (Sykes, 1976:330) the word efficacy is also described within the context of the word efficient which is defined as **productive of effect, competent** and **capable**. The Oxford Mini Dictionary (Liebeck & Pollard, 1997:163) defines efficient as **producing results with little waste** of effort.

To gain more clarity about the concept the words **produce, desired, sure, competent** and **capable** will be considered as synonyms of the concept efficacy.

The Oxford Mini Dictionary (Liebeck & Pollard, 1997:411) defines produce as to **bring forward** for inspection, bring before the public, **bring into existence**, cause and **manufacture of goods**. The Concise Oxford Dictionary (Sykes, 1976:885) also defines it as **bring about**, cause, **a reaction or a sensation**.

The Oxford Mini Dictionary (Liebeck & Pollard, 1997:137) defines desire as a **feeling of wanting** something strongly, **a thing desired**, feel a desire for. The Concise Oxford Dictionary (Sykes, 1976:279) defines desire as **unsatisfied longing**, feeling that one would **derive pleasure or satisfaction from attaining** or **possessing something**, expression of this, request; want earnestly.

The Oxford Mini Dictionary (Liebeck & Pollard 1997:528) defines sure as **without doubt** or uncertainty, **reliable** or **unfailing**. The Concise Oxford Dictionary (Sykes, 1978:1162) defines sure as **having** or seeming to have, having certain prospects or **confident anticipation** or **satisfactory knowledge** of, **free from doubts** of, **safe**, **reliable**, ascertain absolutely that something is as supposed.

The Oxford Mini Dictionary (Liebeck & Pollard, 1997:100) defines competent as **having the ability** or **authority** to do what is required; **adequate**. The Concise Oxford Dictionary (Sykes, 1978:206) defines competent as **adequately qualified to do a task**, legally qualified, **effective**, adequate, **appropriate** and legitimate.

The Oxford Mini Dictionary (Liebeck & Pollard, 1997:70) defines capable as **having a certain ability** or capacity; **competent**. The Concise Oxford Dictionary (Sykes, 1978:146) defines capable as **susceptible, admitting of, having the ability** or **fitness for, wicked enough for**, gifted, able, **competent**.

- **Contextual subject-specific definitions for the concept of Efficacy**

The psychologist James Easterbrook (1978:25) relates the concept of efficacy to **satisfactory experience, effectiveness, potency** and even **ego strength**. It also emphasizes that the **environment can influence** an individual's experience of satisfaction, therefore indicating that an individual can experience different levels of satisfaction or dissatisfaction depending on the environment's response to his or her actions.

In the field of Health Promotion research, efficacy is defined as the **ability to produce the desired effect** (Crosby, DiClemente & Salazar, 2006:6). Bennett and Murphy (2001:28) further describes efficacy as **beliefs that operate at different levels**. They describe two types of efficacy beliefs (i.e. **generalized efficacy beliefs** and **behaviour specific efficacy beliefs**). Generalized efficacy beliefs could be described as one's **general belief of coping with stressors**, this is usually present when a person is faced

with a unique or specific behavioural decision. Behavioural specific efficacy beliefs are viewed as being more **powerful determinants of behaviour**. Jamison (2001:9) contrasts outcome expectancies with efficacy expectancies. She states that outcome expectancies are the **belief that a given behaviour** will lead to a **particular outcome** whereas efficacy expectancies is the **belief** that an individual can **successfully execute** the **behaviour**.

Within the context of Health Promotion Research, Browning and Thomas (2005:24) relates efficacy to studies that answer the question “Do we know what works and how it works?” The above authors viewed efficacy as being **closely linked to evidence** and uses it in the context of programme development. They indicate that intervention research determines how the design and programme works in other contexts and with different populations.

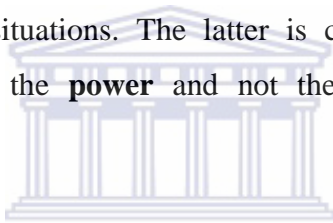
Tones and Tilford (2001:119) relates efficacy to the **effectiveness or performance** under ideal conditions. The authors further state that it is of great importance in developing and assessing the effectiveness of health promotion programmes. Bartholomew, Parcel, Kok and Gottlieb (2000:99) refers to efficacy as a **collective term** that may be applied to the **efficacy beliefs of groups** such as family, community, organization and social institutions. They indicate that it is a **group level attribute** and it emerges from the **social interdependency** of individuals performing tasks and carrying out roles. Examples include perceived **organizational efficacy** and **political efficacy**. Organizational efficacy includes the employees` beliefs that their organization can **accomplish** its goals. Political efficacy relates to the individuals` belief that they can **influence** the political system.

Kazdin (2000:212) indicates that an **individual’s belief** about whether they can **produce results** by their **actions acts** as an incentive for them to act. **Beliefs** of personal efficacy **regulate human functioning** through the processes of **cognition, motivation, emotion and choice**. **Cognition** could be explained by the **enablement of people** to **predict** events and exercise **control** over them. People with high efficacy show greater **cognitive resourcefulness, strategic flexibility** and **effectiveness in managing the environment**. **Motivation** is generated cognitively by **goal aspiration** and **benefits anticipated** for

difficult courses of action. People with a **high efficacy set motivating goals** and view obstacles as manageable. Their **beliefs** in their coping efficacy affect how much stress, anxiety and depression they can experience. These beliefs facilitate the **exercise of control** over perturbing and dejecting events. Individuals through their **choice of environment** can influence what they become. Self development can be enhanced through choice processes. An individual's destiny is shaped by the selection of environments known to cultivate potential and lifestyles. People with a **low sense of efficacy** avoid difficult tasks, they have low aspiration and weak commitment (Kazdin, 2000:212-213)

- **Dictionary definitions of the concept of Self efficacy**

Self efficacy is defined as a **belief** of whether an individual has the **power to execute actions** required to manage situations. The latter is contrasted with the concept of efficacy which is viewed as the **power** and not the belief to **produce an effect** (Encyclopedia, online)



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- **Contextual subject-specific definitions of the concept Self efficacy**

According to occupational therapy literature, self efficacy describes an individual who **views him or herself as competent**. Self efficacy is seen as **vital for success** in occupational performance tasks because of an individual's **feelings of competence** (Meriano & Latella, 2008:9).

Self efficacy is described as **judgments** that indicate **how well** one can **perform actions** required to **deal with a situation** (Bandura, 1991). It is further described as an important **psychological factor** as it allows people to **view themselves as competent** based on **past experiences** (Christiansen, Baum & Bass-Haugen 2005:247). The latter author also indicated that individuals who view themselves as **competent** view their overall **well being** more **favorably** and would **continue working on tasks** despite limitations. Lou and Lane (2005:268) reinforce the above view where they indicate that self efficacy is the **individual's belief** in their **capacities of performance** toward a **specific task**. Self

efficacy can be enhanced when an individual **positively interacts** with the **environment**, particularly if their sense of **well being** and **self esteem** is improved (Lou & Lane, 2005:275).

Baum, Bass- Haugen and Christiansen (2005:372) further define self efficacy as an **estimate** by an individual as to his or her **ability to manage a situation**, the likelihood of something **occurring**. Gage and Polatajko (cited in Baum, Bass-Haugen & Christiansen, 2005:374) further describes self efficacy as a **belief of competency** related to **task performance**. This belief in turn **contributes** to **occupational performance** and **well being**. Self efficacy is further described as being the **core of client centred care**, whereby the treatment plan or intervention is focused on the **client's needs**. This causes the person to gain motivation from his or her own perceptions and emotional efforts (Baum, Bass-Haugen & Christiansen, 2005:374).

From the psychology literature the concept self-efficacy or efficacy expectation was originally coined by Bandura who described it as the **conviction** that an individual can **successfully execute** the **behaviour** required to **produce the outcome** (Bandura, Cioffi, Taylor & Brouillard, 1988:193). The concept was further defined as individuals' **judgments** of their **capabilities to organize** and **execute action** required to attain **performance**. Bandura explained that self efficacy as a **judgment or perception** of what a person can do is more critical than skills or skill level (Bandura, Cioffi, Taylor & Brouillard, 1988:391).

Self efficacy beliefs determine how people **feel, think, motivate themselves and behave**. These beliefs produce these effects through four major processes (i.e. cognitive, motivational, affective and selection processes). A strong sense of efficacy enhances **accomplishment** and **personal well being** in many ways. This sense also **reduces stress** and **lowers vulnerability** to depression (Friedman, 1998:421). An individual's sense of efficacy can be improved by **mastery experiences, vicarious experiences** (social models), **social persuasion** (verbal persuasion that you can do it) and **reduction of their reactions to stress**/alter their negative emotional status (Friedman, 1998:422).

- **Attributes of the concepts**

Walker and Avant (2005:63) indicate that concepts contain within themselves the attributes or characteristics that make them unique when compared to other concepts. The authors indicate that concepts contain defining attributes that allow us to decide which phenomena match the concept and which do not. Furthermore they indicate that the new concept that has been defined is always tentative due to the fact that the understanding of the concept may change over time.

In the next section there will be a discussion on the essential and related attributes for the concept Occupational Self Efficacy. This process will assist in identifying the concept of Occupational Self Efficacy within the context of this study. The following tables will be presented:

Table 8: Attributes of the concept Occupation

Table 9: Essential and related attributes of the concept Occupation

Table 10: Attributes of the concept Self

Table 11: Essential and related attributes of the concept Self

Table 12: Attributes of the concept Efficacy

Table 13: Essential and related attributes of the concept Efficacy

Table 14: Essential attributes of the concept Occupational Self Efficacy

Table 8: Attributes of the concept Occupation

List of attributes of the concept Occupation	
Occupying Activity something done being an action purposeful temporal dimension work	pleasure and self maintenance engagement in activities, tasks, and roles maintaining oneself in the environment productive pursuit relaxation, entertainment, creativity, celebration support their roles

Table 9: Essential and related attributes of the concept Occupation

List of essential and related attributes of the concept of Occupation	
Essential Attributes	Related Attributes
Occupying	environment something done being an action temporal dimension
Purposeful	relaxation, entertainment, creativity productive pursuit maintaining oneself in the support their roles celebration
Engagement	work pleasure and self maintenance activities, tasks and roles

Table 10: Attributes of the concept Self

List of attributes of the concept Self	
reflexive action	self concept
individuality	self esteem
essence	inner authority
introspection	autonomy
conscious	integrity
product of social behaviour	interconnectedness
social interaction	experience
mind body awareness	false sense of self
personality	unique
insights	therapeutic use of self
perceptions	dynamic
judgments	change
Aware	
own attitudes and beliefs	
ideal self	

Table 11: Essential and related attributes of the concept Self

List of essential and related attributes of the concept of Self	
Essential Attributes	Related Attributes
Essence	experience

	mind body awareness False sense of self
Individuality	ideal self dynamic own attitudes and beliefs unique integrity inner authority
Therapeutic use of self	personality perceptions judgements autonomy self concept self esteem
Introspection	reflexive action aware insights
Interconnectedness	social interaction product of social behaviour

Table 12: Attributes of the concept Efficacy

List of attributes of the concept Efficacy		
little waste of effort produce bring forward bring into existence manufacture bring about a reaction or a sensation desire feeling of wanting a thing desired unsatisfied longing derive pleasure possessing something sure without doubt reliable confident	capable susceptible Admitting fitness for wicked enough for gifted satisfactory experience effectiveness potency ego strength ability generalized efficacy beliefs general belief of coping	behaviour specific efficacy beliefs particular outcome successfully execute evidence collective term organizational efficacy political efficacy performance group level attribute social interdependency accomplish individual's belief actions regulate human functioning cognition

satisfactory knowledge competent having the ability authority adequate effective appropriate		motivation emotion choice
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Table 13: Essential and related attributes of the concept Efficacy

List of essential and related attributes of the concept Efficacy	
Essential Attributes	Related Attributes
A strong belief	generalized efficacy beliefs general belief of coping behaviour specific efficacy beliefs organizational efficacy political efficacy individual's belief Desire feeling of wanting a thing desired without doubt reliable
Creation of competency	having the ability authority adequate effective appropriate knowledge confident effectiveness ego strength social interdependency
Performance	Produce actions bring into existence bring about a reaction or a sensation regulate human functioning cognition motivation emotion choice

Capable	fitness particular outcome possessing something accomplish little waste of effort
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In the following section a model case consisting of the essential and related attributes of Occupational Self Efficacy in the context of brain injured individuals returning to their worker roles will be described.

6.1.3.1 Model Case

Walker and Avant (2005:69) describe a model case as one where the use of a concept demonstrates all the defining attributes of the concept. They further mention that the model case is one where the researcher is absolutely sure that it is an instance of the concept under-study. Chinn and Kramer (1991:85) also states that when one constructs a model case, an instance of experience is presented so that the reader can find clarity on the meaning of the concept. Examples of model cases include actual examples of real life cases found in the literature and cases constructed by the researcher (Walker & Avant, 2005:69). Within the context of the current study the researcher will describe the attributes of the concept Occupational Self Efficacy. The constructed model case will describe the brain injured individual who has poor Occupational Self Efficacy to one who has a high sense of Occupational Self Efficacy. This case will be related to the context of the current study.

I was extremely frustrated with everything, I felt like just giving up because I was so useless with everything. I didn't ask to be knocked over by a car or to be in this situation. I can't even provide for my family because of my impairments (Peter model case).

Peter is a 35 year old mechanic who sustained a traumatic brain injury due to his involvement in a motor vehicle accident. He describes his experience as follows:

I was on my way to work, it happened on a Tuesday morning at 8am when the bus hit my car from the side. I woke up in hospital, I think I was unconscious for a few hours, I am not sure how long it was. All I know was that I could not speak, recognize people or move the way I wanted. I think that I was in the hospital for four weeks before they discharged me. The doctor informed me about the brain injury and about my broken arm and collar bone.

I was scared, lonely and uncertain. While I was in bed, I could not accept that this was happening to me, everything was going so well. I had a great family, a great job and I was going places. Reality hit me hard, I tried to get out of the bed and walk, I fell out of the bed, and it took two nurses to get me back into the bed. I just felt like crying, for a grown man, this is humiliating. The physiotherapist arrived, I think it was two weeks after I was admitted to the hospital, she tried to get me to sit in a chair, I felt like smacking her. Could she not see that I was in pain and was incapable of moving even if I tried to? Then there was the occupational therapist who insisted that I play memory games with cards, I felt like I was back in Grade five. I hated myself and I hated this place. What did I get myself into, will I ever be able to support my family because I could not even walk properly. Luckily for me I had a very supportive family without them I don't know what I would have done. My wife even though being the only care giver at home tried to visit me as often as she could. When she arrived she would always motivate me to not give up and try to do the exercises that the physiotherapists and occupational therapists gave me.

I tried to do the exercises but I still felt that it was not helping, everything was taking so slow. After four weeks they discharged me from the hospital and I had to return on an outpatient basis. I was miserable at home, my wife and parents tried to make me comfortable but I continued to feel useless, and I felt as if I was not part of society. I even feared that my wife will leave me for another man because I could not fulfill my role as a father or husband. Sitting at home just doing nothing, not participating in soccer and work related activities killed me silently. I tried to attend my outpatient appointments but I experienced various barriers such as transporting myself to the hospital was difficult

and my appointment dates was spaced far apart. My medical aid was exhausted which meant that I could not attend a private facility. I continued to be depressed at this stage I felt like just ending it. Then one of my cousins came to visit me, he was much older than I was. I had a lot of respect for him, he was completely paralyzed on the one side of his body due to a stroke. It took him nearly one year before he could dress and walk without assistance. He told me about his experiences about having the stroke as well as how depressed he was about his inability to do the things he enjoyed doing before. He also indicated to me the loss of dignity that he experienced but he never gave up he persisted against all odds to regain his ability to walk. He reminded me about the saying of Martin Luther King “You can carve a tunnel of hope through a mountain of despair”. This is when I realized that only I can make the difference in my life.

I started to develop a **strong personal belief** that I could overcome this obstacle (personal efficacy) in my life by means of perseverance. I reflected on my situation and realized that I was young and had my whole life ahead of me. I requested that my wife attend my rehabilitation sessions with me, this would aid me in remembering my exercises when doing it at home. The home exercise programme was really starting to help me, I could see that my lower limb coordination and that my concentration was becoming better.

With my wife’s support I was now **doing most tasks** such as dressing, washing and moving around independently. Through the **use of self**, I opted to do things for myself. I did not need to consult with a physiotherapist or occupational therapist anymore. It was now 3 months after the injury and I was thinking about returning to work. My occupational therapist motivated me and mentioned that all the exercises that we have been doing was aimed at **restoring my ability to return to work**. She indicated that I should contact my employer and arrange to meet with him as soon as I can. Thereafter the occupational therapist and I drafted a plan of action that would aid me in getting back to work. I called my employer, he was surprisingly glad to hear from me as he thought that I would stay at home longer. I indicated to him that I would like to return to work, he was a bit puzzled but nevertheless agreed that I should come see him at his office. After this call I was happier, relieved and felt motivated. I decided to firstly make sure that I

would be able to do the tasks required in my job as a mechanic. The occupational therapist motivated me to firstly practice the tasks of a mechanic before I return to work. I asked my brother- in- law whether I could service his car, he should just get the parts needed to do the job. I double checked my notes to make sure that I was not forgetting anything. This aided me in improving my knowledge about my job. I studied exactly what to do what oil to use, what spark plugs were recommended and how I should do the job. I started to develop a sense of **competence** and when I became stuck then contacted my friends at work to give me advice. I managed to do a major service on my brother- in- law’s car, I noted that I was a bit slow but I was sure (self esteem) that my work speed would improve. I started to feel **capable** again because I was actually **doing my old job again**. The day arrived when I had to meet my employer. He asked me to do an oil change, I could do it without difficulty. This served as a screening to get me back at work, initially I worked half days but as my speed improved I started working full days. If I had problems with certain tasks then I would ask for assistance and practice.

Through this process I learned that I should accept the fact that I sustained a traumatic brain injury and that I had functional problems. However through a **strong personal belief** in my ability to cope with my problems I developed **inner strength** and **personal efficacy**. By actively participating in rehabilitation programmes and participating in work related tasks I felt **capable** of returning to work. My competency in tasks that I could not do before improved and with practice I was capable of resuming my previous role as a worker.

Table 14: A list of essential attributes of the concept Occupational Self Efficacy

Occupational Self Efficacy	
Essential Attributes	Related Attributes
A strong belief in functional ability	Introspection Belief in the ability to cope Inner strength Personal efficacy
Use of self	Realizing autonomy Revision of the self concept Restoring of self esteem

Creation of competency through occupational engagement	Renewed confidence Improving one's knowledge Utilizing social capital
Capable individual	A state of accomplishment Active participation in meaningful occupations

6.1.3.2 Description of the essential concepts of the model

- **A strong personal belief:** Refers to the individual reflecting on his/her life circumstances and also formed the basis of acceptance of the brain injury with its impairments. This process of introspection in turn caused the individual to develop a strong belief in his ability to overcome obstacles related to his or her condition. The individuals' belief in their ability to cope is then internalized as personal efficacy ultimately enhanced his or her inner strength.
- **Use of self:** Refers to the individual's use of himself or herself as the main agent during the process of recovery. The concept describes the individual's manner of healing himself or herself. By means of realizing that he or she can independently execute home treatment programmes, attend rehabilitation appointments and manage previous occupational tasks, the individual realizes his or her autonomy. An individual who had realized his or her autonomy would develop a positive self concept through his or her successful experiences. These successful experiences would enhance a good self esteem.
- **Creation of competency through occupational engagement:** Refers to the individual's ability to develop confidence in his or her functional skills by engagement in occupational tasks. Through the process of utilizing resources in his community and being aware of his or her social capital (people or organizations in the community who could help him or her), the brain injured individual will develop competency by being aware of what organization or individuals to contact when there is a problem or concern. During this process the individual's knowledge about coping with his or her condition would improve.

Example he or she may be advised on coping skills, stress management skills, cognitive rehabilitation strategies, use of assistive devices and general rehabilitation strategies (tools for improvement). This would assist the individual in establishing appropriate knowledge in order to adapt to his or her occupational roles.

- **Capable individual:** Refers to an individual who has engaged in meaningful occupational roles and has obtained positive feedback from the environment. The individual's participation enables him or her to develop satisfaction and a sense of accomplishment particularly when they return to occupational roles such as the worker role. In the context of this study the individual will actively participate in the tasks required of their worker roles.

6.1.3.3 Definition of the main concept of the model

The process of Occupational Self Efficacy is facilitated by the occupational therapist that encourages **introspection** and **building inner strength** in the brain injured individual. This process enables the brain injured individual to develop a **strong personal belief** that he or she can **cope** with various barriers or obstacles in their lives. Through the conscious **use of themselves** they realize their **autonomy** by initiating tasks independently and in turn improve their **self esteem** and **self confidence**.

The individual's **competency** is enhanced by his or her ability to actively **use resources** and or **social relations** for the purpose of **occupational engagement** and **improving his or her knowledge**. This process ultimately enables the brain injured individual to become a **capable** individual through **actively participating in tasks** which enhances his or her sense of **accomplishment** and **competence** in their occupational roles.

Table 15: A description of the process of facilitation of Occupational Self Efficacy

AGENT	RECIPIENT
Occupational Therapist	Brain injured individual
<p style="text-align: center;">PROCEDURE</p> <p>Facilitation of Occupational Self Efficacy as a method to assist the brain injured individual in returning to their occupational roles such as the worker roles. Occupational Self Efficacy will include the following steps</p> <p>Stage 1 A strong personal belief in functional abilities: The brain injured individual will reflect on his or her life circumstances through the process of introspection. The process will be facilitated by an occupational therapist who will encourage the brain injured individual to share their experiences and feelings related to living with the brain injury either in a group or individually. This process will assist the brain injured individuals in becoming more reflective about their lives.</p> <p>Stage 2 Use of self: The brain injured individual through his own initiative participates in rehabilitation procedures of choice. During this part of the process the brain injured individual may be guided by the occupational therapist in choosing what tools of intervention he or she may require.</p> <p>Stage 3 Creation of competency through occupational engagement: During this phase the brain injured individual either independently or with the assistance of the occupational therapist improves his knowledge base. This knowledge could be related to the medical precautions, workplace adaptations, use of assistive devices, supportive employment strategies and improving his or her social network.</p> <p>Stage 4 Capable individual: The brain injured individual becomes a competent individual through his or her participation in occupational roles such as the worker role.</p>	
<p style="text-align: center;">DYNAMICS</p> <p>The occupational therapist will create a climate where the brain injured individual will be allowed to reflect on his or her current circumstance. The occupational therapist may facilitate this process by group or individual psychosocial therapy. This process is seen as the initial step in the acceptance of his or her condition. The brain injured individual through his own choice of intervention, actively engages and directs rehabilitation. The occupational therapist would act as a facilitator and in turn utilize a client centred approach. During this stage the individual will be encouraged to involve his family in the rehabilitation process. As his or her confidence improves they will be encouraged to participate in tasks related to occupational roles. In the context of this study the occupational role will be the worker role. Throughout the process the occupational therapist and the brain injured individual may be interacting or there may be variations in the amount of facilitation or support given by the occupational therapist. As the individual fully accepts his life circumstances and renewed meaning in life, he becomes a</p>	

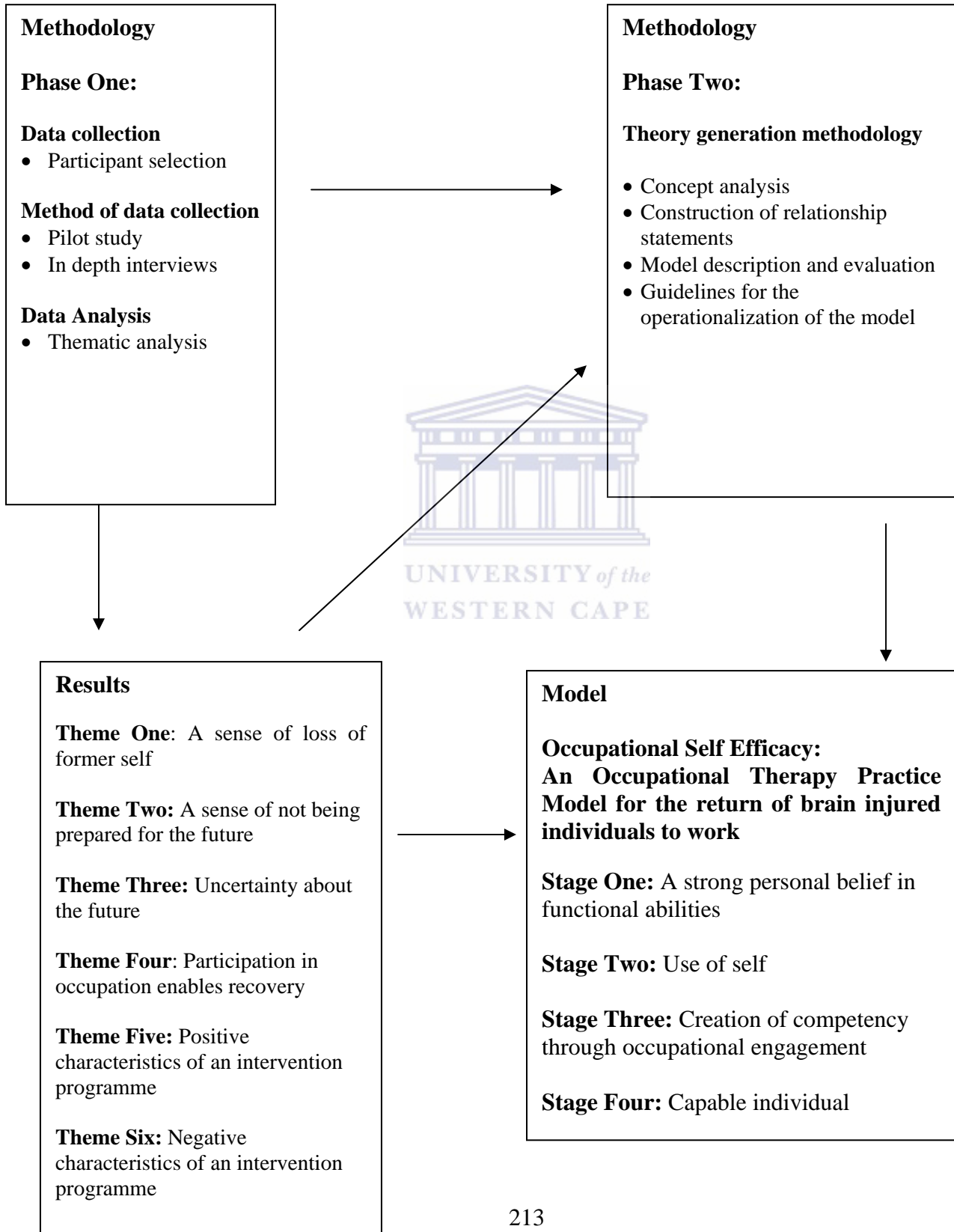
more competent and capable individual.
CONTEXT
The hospital or rehabilitation centre attended by the brain injured individual, the workplace and or their homes.
TERMINUS
The brain injured individual's Occupational Self Efficacy beliefs would have improved to the extent that he fully accepts his life circumstances and is prepared to resume his or her occupational role such as the worker role.

6.2 Summary

This chapter reviewed the concepts of Occupational Self Efficacy a model of support for brain injured individuals returning to their worker roles. The concept of Occupational Self Efficacy was derived from the experiences of brain injured individuals returning to their worker roles after rehabilitation. Through the process of concept analysis and the survey list by Dickoff, James and Wiedenbach (1968), the researcher was able to describe the function of the model. The results of the study revealed that the brain injured individual's frustration and anger with their functional deficits were related to the fact that they struggled to accept what had happened to them. This in turn caused them to doubt in their ability to cope in overcoming obstacles in their life. Occupational Self Efficacy as a model of support relates to the concerns of the brain injured individual and advocates that the occupational therapist should create an atmosphere in the rehabilitation setting whereby the brain injured individual is allowed to reflect on his life circumstances. This introspection will allow him or her to accept and develop efficacy believes and goal directedness (See Figure 3 on page 213). Client centredness will allow the brain injured individual to be autonomous in decision making which will enable him or her to shape their destinies. Ultimately it is envisioned that in the final phase of the model, the brain injured individual would be able to return to their worker role.

In the next chapter there will be a visual representation of the model and an in-depth discussion of its structure. The concepts of the model and its relationship statements will be clarified and defined.

Figure 3: Diagrammatic representation of methodology, results and the model.



Chapter Seven

Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain injury

7 Introduction

In the previous chapter there was a discussion on the development of the model of support for the reintegration of the brain injured individual to their worker roles. The interviews conducted with ten brain injured individual's that had returned to their worker roles provided the data for this study. The analyzed data enabled the construction of concepts for the development of the model. These concepts were defined and analyzed by approaches advocated by Chinn and Kramer (1999) and Walker and Avant (2005). An in-depth discussion and description of the model will be presented under the following subheadings:

- Overview of the model
- Description of the structure of the model by means of the following:
 - The purpose of the model
 - The assumptions of the model
 - The context of the model
 - Theoretical definitions of the concepts of the model
 - Relationship statements of the model
- Process of the model
- Guidelines for the operationalisation of the model
- Evaluation of the model

7.1 Overview of the model

The results of this study, led to the conceptualization of Occupational Self Efficacy as a model for reintegrating brain injured individuals to their worker roles. It was envisaged that once an individual accepted their functional abilities, took ownership of rehabilitation and developed a goal orientated life strategy, then their ability to return to

their worker role was enhanced. Occupational Self Efficacy will require the use of the occupational therapist who would act as a facilitator throughout the process. In the initial phase the occupational therapist will create an environment in which the individual can reflect on his or her life circumstances. This process of introspection will be facilitated by the occupational therapist by the means of group or individual psychosocial intervention. The model proposes that acceptance of the brain injury would form the basis for completion of rehabilitation programmes, knowledge development, use of social capital as well as resources and eventual resumption of occupational roles. Once the individual reaches a level of autonomy and can engage in work related tasks competently, then participation in the worker role is accomplished. Throughout this process the occupational therapist will use a client centred approach in their interaction with the individual. Various treatment tools or techniques may be used or required based on the personal choice of the individual in collaboration with the occupational therapist either within the hospital, home or work setting.

In this study four stages of Occupational Self Efficacy were identified to assist the brain injured individual in resuming his or her work role:

Stage One: A strong belief in functional ability

This phase focuses on the process of introspection and self reflection of life circumstances.

Stage Two: Use of self

During this phase the individual takes control of his or her life circumstances and realizes that he or she can initiate tasks autonomously.

Stage Three: Creation of competency through occupational engagement

This phase is described by the utilization of resources and social capital available for the purpose of task participation.

Stage Four: Capable individual

This describes the outcome of the model as the individual becomes a capable individual who actively participates in his or her renewed worker role. In this model the process of introspection and self acceptance has been described as taking place in Stage One of the model. However, it is envisioned that this process could take place throughout all the phases of the model. The model can be activated at any stage of the individual's period of recovery. The earlier the model is implemented, the better the outcome will be. It is proposed that the client, through facilitation of occupational engagement, would experience a critical incident during which a shift in attitude occurs for example, from a state of hopelessness to an attitude of hope.

A critical incidence is described as an incidence where the brain injured individual realizes that he or she has the ability to overcome residual problems from the injury. Within the hospital setting the occupational therapist may by means of this model facilitate this critical incidence. However a critical incidence can occur at anytime after the brain injury, it can occur in the rehabilitation setting, home setting whereby a relative or family member motivates the individual, it can occur in the workplace or during the process of introspection.

7.2 Description of the structure of the model by means of the following:

7.2.1 Purpose of the model

The model serves the purpose of developing Occupational Self Efficacy beliefs in the clients who view themselves as being incapable of returning to their occupational roles including their worker roles. The outcome of the model is to develop a more competent, self motivated and goal orientated individual who is fully capable of returning to their occupational roles.

7.2.2 Assumptions of the model

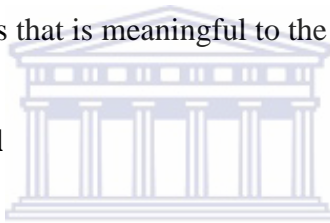
Chinn and Kramer (2004:84) indicate that assumptions are underlying givens that are assumed to be true. These authors further state that assumptions are not intended to be empirically examined for soundness however they can be challenged philosophically and assessed empirically. In the context of this study the assumptions of the paradigm of human occupation (Kielhofner, 1992:29) will be considered as a starting point for the assumptions of this model. Occupational Self Efficacy will be enhanced by means of a strong belief in functional ability, use of self, creation of competency through occupational engagement and creating a capable individual. The assumptions of the model are as follows:

- An individual's health is linked to being occupied (Kielhofner, 1992:29). The brain injured individual's medical condition and impairments should therefore be assessed and treated through their participation in purposeful occupations.
- Occupation consists of an alternation between modes of existing, thinking and acting. A balance between creativity, leisure activity, aesthetic interests, celebration and work is essential (Kielhofner, 1992:29). The characteristics of individuals, the unique environments in which they function and the nature and meaning of their actions, tasks and roles are necessary to understand human occupation. The individual through introspection will develop the confidence and vision to participate in occupational activities such as activities of daily living, rehabilitation, leisure and work related activities. By means of their active participation in daily life activities, they will realize their autonomy and improve their self concept.
- There is a unity between the mind and body. The mind and the body are inextricably linked with the mind governing the body (Kielhofner, 1992:29). This model serves the purpose of improving the brain injured individual's health and ability to participate in everyday activities such as work activities. In order for the individual to achieve independence in his or her worker role they will have to strengthen themselves psychologically and physically. They will re-establish

social relations with others and actively utilize resources in their community. Successful participation in the occupational role such as the worker role will improve his or her self efficacy beliefs and ultimately their health status.

- Enforced idleness could do damage to the mind and body of the ill person (Kielhofner, 1992:29). Participation in occupation regenerates lost function. The management of an individual's condition should be client centred. An individual's daily occupations are limited due to a health condition, a disability, a poorly designed environment or the influence of society.

Central to this study is the concept of the use of self. Through this process the brain injured individual realizes that he has the choice and capacity to manage his own health and well being. The model advocates self reliance and acknowledges participation in activities that is meaningful to the individual.



7.2.3 The context of the model

The context of Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain-injury, will be the hospital, home and work setting. The occupational therapist will initially interact with the brain injured client in the hospital and or rehabilitation setting. It is within this setting that the occupational therapist will facilitate the psycho-social sessions in order to initiate reflection and the process of introspection. This process could also take place within the brain injured individuals home setting as some clients may be discharged from the hospital either prematurely or without the occupational therapist's knowledge. Depending on the availability of support, the family in a treatment context could be used as a form of support within the hospital and home setting.

Depending on the severity of the brain injury, some participants may present with the ability to return to work within an adapted capacity. This may indicate that the occupational therapist may utilize the model within the workplace setting.

From a cultural perspective the model can be implemented with people from diverse cultural or ethnic backgrounds, however it is advised that the occupational therapist that is treating the brain injured individual should be aware and sensitive to different cultural contexts. From a medical perspective, the model specifically focused on individuals who had sustained a mild to moderate brain injury and should therefore be implemented in this context.

7.2.4 Theoretical definitions of concepts of the model

Chinn and Kramer (2004: 82) indicate that theoretical definitions form the basis for empiric indicators and operational definitions of research concepts as well as for conveying conceptual meaning. In the context of this study the definition of Occupational Self Efficacy was as follows:

- **Definition of the central concept Occupational Self Efficacy**

The process of Occupational Self Efficacy is facilitated by the occupational therapist that encourages **introspection** and **building inner strength** in the brain injured individual. This process enables the brain injured individual to develop **a strong personal belief** that he or she can **cope** with various barriers or obstacles in their lives. Through the conscious **use of themselves** they realize their **autonomy** by initiating tasks independently and in turn improve their **self esteem** and **self confidence**.

The individual's **competency** is enhanced by his ability to actively **use resources** and or **social relations** for the purpose of **occupational engagement** and **improving his or her knowledge**. This process ultimately enables the brain injured individual to become a **capable** individual through actively participating in tasks which enhances his or her sense of **accomplishment** and **competence** in their occupational roles.

- **Definitions of the essential and related concepts of the model**

In this section the definitions of essential and related concepts for Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after brain-injury will be presented.

Introspection: Within the context of this study introspection is described as the process whereby the brain injured individual thinks, pictures and reflects on his current life circumstances. Their feelings, thoughts and opinions will be explored. There is no time period associated with this process as it depends on the response of individual and their understanding of what must be done. Their family may be present during this process as they may be integral for reflection to take place. These feelings and emotions may cause catharsis to occur and will enable the individual to accept the fact that he or she had sustained the brain injury and that he or she needs to move on with his or her life. The occupational therapist will facilitate this process either individually or in groups.

Building inner strength: This concept is described as the building process that the individual undergoes after he has reflected on his life circumstances and his goals in life. During this process the individual will take stock of what he or she has (i.e. his or her functional or socio economic problems and his assets that can be described as the objects, emotions, personal attributes as well as socio economic circumstances that may assist him or her). The occupational therapist and the brain injured individual's family may assist during this process. Building of inner strength will allow the individual to develop a new meaning in his or her life. This will allow them to internalize emotionally and cognitively that they have the strength to overcome the obstacles in their life.

A strong personal belief: The individual with a strong inner strength will be able to develop a strong internal locus of control. This will enable the individual to realize that he or she is ultimately in control of his or her destiny and that the

environment or negative external influences will not determine his or her functional ability.

Cope: The individual who needs to cope with this multifaceted condition needs to be able to use coping strategies that are physical, social, emotional and cognitive in origin. By means of using coping strategies such as problem solving skills, assertiveness training, use of assistive devices and workplace accommodation strategies, the individual will be able to more effectively cope in his or her home and work environment.

Use of self: Refers to the individual's use of him or herself as the main therapeutic agent during the process of recovery. The concept describes the individual's manner of healing him or herself. By means of realizing that he or she can independently execute home treatment programmes, attend rehabilitation appointments and manage previous occupational tasks, the individual realizes his or her autonomy. An individual who had realized his or her autonomy would develop a positive self concept through their successful experiences. These successful experiences would enhance a good self esteem.

Autonomy: The individual with the use of his or her new acquired knowledge, increased confidence and use of resources becomes independent in directing his or her own health, self care and occupational roles. He or she has the confidence to choose and direct their own course of action as well as take responsibility for their own rehabilitation.

Self esteem: Successful participation in occupational tasks results in positive feelings or an internalization of control over barriers in the individual's life. Self esteem within the context of this model may fluctuate and could negatively affect occupational role performance. A low self esteem could develop when the individual obtains negative feedback from the environment for example the individual struggles to do the tasks of his or her job and his or her employer disciplines him or her. On the contrary a high self esteem develops if the

individual gets positive feedback from the environment due to successful participation in their occupational roles.

Self confidence: The individual who independently and successfully participates in tasks, may it be in rehabilitation programmes or whether he or she returns to work develops a sense of self confidence. This concept is internalized and reinforces the individual's self efficacy beliefs. Self confidence can be positively or negatively influenced by the environment.

Competency: The individual develops confidence in his or her functional skills through the process of utilizing resources in his or her community and being aware of his or her social capital. The individual will develop competency by being aware of what organization or person to contact should there be a problem or concern. During this process the individual's knowledge about coping with his or her condition would improve. For example he or she may be advised on coping skills, stress management skills, cognitive rehabilitation strategies, use of assistive devices and general rehabilitation strategies (tools for improvement). This would assist the individual in establishing appropriate knowledge in order to adapt to his or her occupational roles.

Use resources and or social relations: Social capital is viewed as the use of one's social resources for the purpose of support and problem solving. The individual will use different approaches such as exploration, development and communication in order to re establish social and environmental contacts. For example, the individual will determine in conjunction with their family and occupational therapist which people he or she should contact should he or she require assistance at home, in the workplace or in the hospital or rehabilitation setting. He or she could use a note book in order to capture contact numbers of essential resources.

Improving his or her knowledge: The individual through the use of resources and participation in treatment programmes improves his or her knowledge base.

As the individual's insight into their condition improves, so does their knowledge base and scope of occupational engagement. Confidence in their ability to overcome their injuries is automatically improved. Within the context of this study knowledge will include: knowledge about the medical condition, adaptation strategies at home/work and the ability to initiate home treatment programmes.

Capable: Refers to an individual who has engaged in meaningful occupational roles and has obtained positive feedback from the environment. The individual's participation enables him or her to develop satisfaction and a sense of accomplishment particularly when they return to occupational roles such as the worker role. In the context of this study the individual will actively participate in the tasks required of their roles and eventually their worker roles.

Occupational engagement: The individual with their renewed confidence will be able to engage in activities of his or her choice independently. This participation will not only involve participation in rehabilitation activities but also home and work tasks. As an individual is a holistic being he or she will take ownership of their circumstances and participate in these tasks physically, cognitively and emotionally.

Accomplishment: The individual who has accepted their circumstances and has developed goal orientated behaviour would be able to engage in occupational tasks. Their successful participation in these tasks which is reinforced by positive feedback from the environment (i.e. employers, family members and health professionals) builds a sense of accomplishment. The individual who consistently and successfully engages in tasks that they previously struggled with due to their brain injury facilitates a feeling of accomplishment. Accomplishment is realized when the individual successfully resumes their previous occupational roles.

7.2.5 Relationship statements of the model

Chinn and Kramer (2004:86) indicates that the purpose of relationship statements are to describe, explain and or predict the interactions between concepts of a theory. The authors further state that the statements range from those that simply relate two concepts to relatively complex statements that relate to three or more concepts. In the following sections there will be a discussion on the relationship statements of concepts as applied to the current study.

- **Statement One**

The individual will become a more reflective individual by means of the process of introspection that will be facilitated by the occupational therapist. Through the process of introspection the individual will develop insight and acceptance of his or her condition. Efficacy beliefs will emerge as the individual develops the confidence to acknowledge that he can overcome life obstacles through participation in rehabilitation programmes and successfully engaging in occupational roles.

- **Statement Two**

The individual's use of self becomes enhanced by means of the individual realizing his or her ability to initiate tasks independently therefore enhancing his or her autonomy. The individual through the therapeutic use of him or herself develops a confidence and internalization of his or her own potential thereby revising his or her self concept. The revision of the individual's self concept is essential to independent participation in tasks as this inevitably improves his or her self esteem.

- **Statement Three**

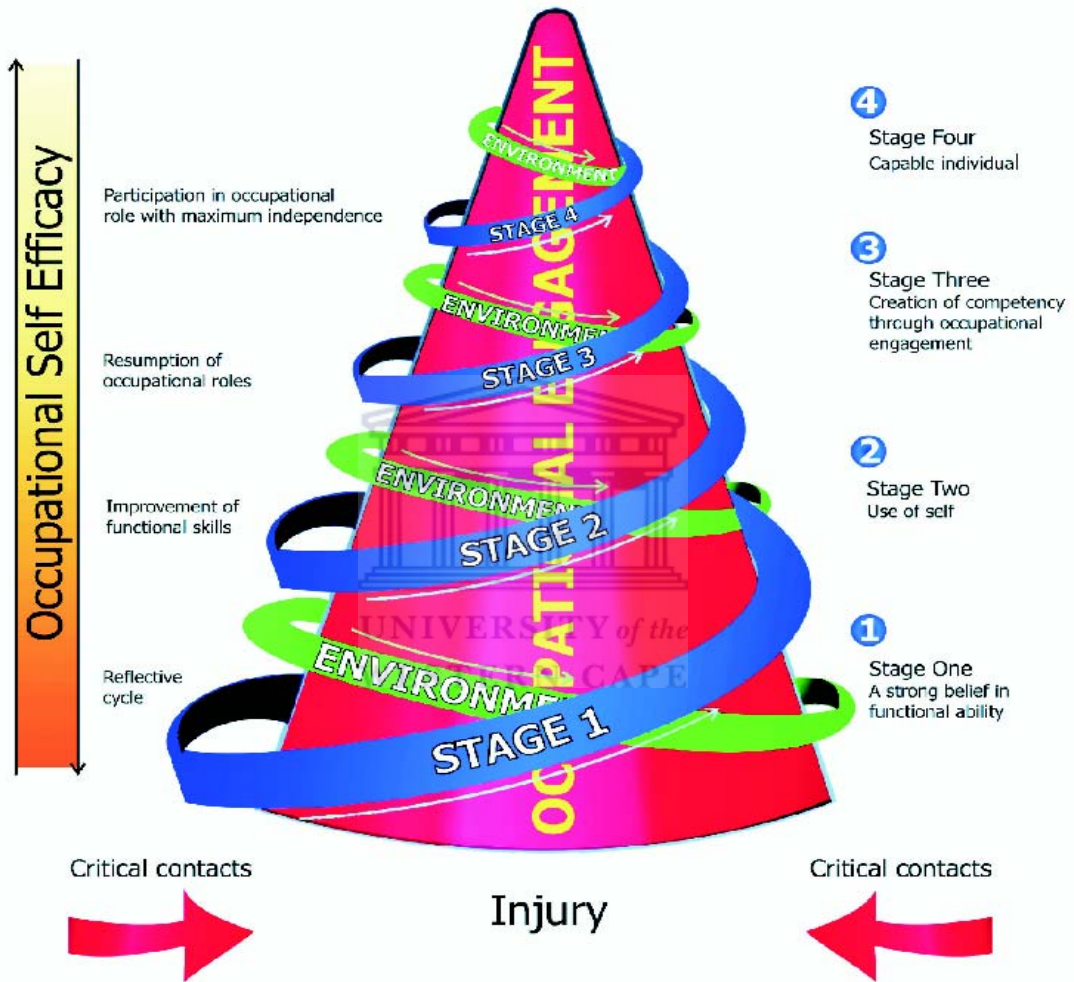
The individual with their revised self concept has the insight to exercise control over their environment by means of actively using external resources and social networks. Independent control over the environment through occupational engagement enables the individual to develop competency in his or her functional ability.

- **Statement Four**

The individual through active participation in his or her occupational roles develop meaning and a sense of accomplishment in their functional abilities. This sense of accomplishment is reinforced by successful experiences and feedback from the external environment. Successful feedback from the environment strengthens the individual's Occupational Self Efficacy beliefs and ultimately enables him or her to become a capable individual.

A graphical description of Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain injury will be presented in Figure 4 on page 226.





7.3 Process of the model

The structure of the model is a spiral which indicates that the stages of the model are not linear (see Figure 4 on Page 226). The individual can fluctuate between the stages due to his or her level of Occupational Self Efficacy. In between each stage is another spiral representing the influence of the environment on the individual's performance. The environment is also presented by a spiral as the environment will affect the person's performance throughout the four stages of the model. Within the context of this study the environment may present family members, structural barriers, workplace, work colleagues, health professionals and external organizations.

Throughout the process of developing Occupational Self Efficacy, there are critical contacts. These contacts serve as points of activation which set the process into action. These contacts include the contact with the occupational therapist that facilitates the first stage of the model. Other forms of contacts may include the person himself, family members, health care team, other brain injured individuals who had completed rehabilitation and work colleagues. It is envisaged that these critical contacts could be present throughout the four stages of the model.

- **Stage One**

During this stage the brain injured individual would be seen as an outpatient in the rehabilitation unit, a client that is receiving home based intervention in the community and or a client that has already resumed employment. Regarding the participant's cognitive status it is envisaged that he or she should be classified on level VIII of the Ranchos Los Amigos cognitive scale. The scale describes an individual that is alert and orientated, is able to recall and integrate past and recent events, and is aware of and responsive to his or her culture (Tipton-Burton, McLaughlin & Englander, 2005:845). Based on introspection and reflection the client would be able to develop new insights into his or her ability to cope within the environment. This process will enable the client to develop inner strength and a sense of efficacy. Ultimately the client would be able to better plan his or her choices and future actions through this process. The occupational

therapist facilitates the process of reflection as advocated by Gibbs (1998). This process of reflection would in turn encourage introspection. Reflection is described by six steps namely:

Step one: Description of the event or what happened:

During this step the occupational therapist would request that the client give a detailed description of the event or concern that he or she may have. This concern may be related to feelings regarding the acceptance of the brain injury, barriers that he or she may be experiencing relating to occupational roles and community re entry or return to work. During this step the client will be encouraged to reflect on the environment, context of the event or action, other people's roles and his or her role as well as the outcome of the event.

Step two: Feelings

During this step the occupational therapist will enable the client to explore his or her thought processes. The client will explore his or her feelings regarding the actual event or stressors. They may want to know how the event or people made them feel and also how they felt about the outcome of the event.

Step three: Evaluation of the circumstances

During this step the client will be requested to evaluate his or her circumstances or make a judgment about his or her experience regarding the event or phenomena of interest. The occupational therapist will enable the client to consider what was good and bad about the experience. For example if the client was reflecting about a problem in performing tasks at work, the occupational therapist would ask him to think about what is required to do the tasks. Is it the process of doing the task that is difficult, is it the tools or equipment that is difficult to manage or is it the instructions that are difficult to understand? Once the problem is thoroughly evaluated then the individual needs to determine which aspects of the processes he or she did successfully.

Step four: Analysis of the situation or problem

During this step the client will be encouraged to break the problem into its component parts. The client may have to thoroughly analyze the problem as a whole. Here he will ask questions such as what went well and what did not go well. During this process the client may have to determine who would be able to assist him in rectifying the problem

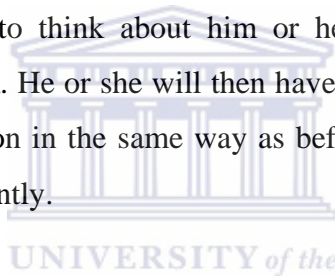
and also what he or she needs to do in order to rectify or minimize problems. For example the client may need to seek further training in order to improve his skills, he or she may need to adapt his tools or her or work routine.

Step five: Conclusion

During this step the client reflected on his or her problem situation by exploring it from different perspectives. The client has now accumulated a lot of information which will enable them to develop insight into their problem. The occupational therapist needs to encourage the client to be as honest as possible in his or her reflection about him or herself and others regarding the issue of concern. This honest exploration of the problem should be reflected in all the stages as inaccurate information may decrease the valuable opportunities for learning.

Step six: Action plan

The client will be requested to think about him or herself in the same situation or experiencing the same problem. He or she will then have to determine whether he would manage the problem or situation in the same way as before or would he or she manage the problem or situation differently.



The above process could take place with the client alone or in the presence of his or her family. His or her family could assist the client in the reflection process and in goal setting if appropriate. Stage one focused on introspection and reflection, successfully working through this phase would enable the client to move to the next phase of the model.

- **Stage Two**

Through the process of introspection and inner strength development, the client would be able to realize his autonomy to participate more in occupational activities of choice (i.e. activities of daily living, leisure and work). During this stage the occupational therapist would continue to act in the role of a facilitator as the self reflection process would have enabled the client to develop a plan of overcoming the barriers that they experienced at that point in time. Specific areas that need remediation according to the needs of the client will be focused upon. During this stage, specific components of function may need

to be enhanced. For example, clients, in collaboration with the therapist, may decide that they need continued rehabilitation in order to improve their range of motion, muscle strength, tone, coordination and balance. They may also require continued cognitive behavioural therapy whereby the client's memory, concentration and frustration tolerance are improved. At this point, the occupational therapist will be acting in a dual role that of a facilitator and of a case manager. In the role of a case manager the occupational therapist would enable the client to contact other role players such as a speech therapist, physiotherapist or physician who may be able to assist the client. Ultimately the goal would be for the client to act as his own case manager however, initially the occupational therapist would be able to facilitate the process. During this step, the client in collaboration with the occupational therapist would utilize a transdisciplinary¹ approach whereby all of the stakeholders may it be health professionals, employer or family should be aware of the client's goals. For example, if the client's goal is to return to work then the physiotherapist, occupational therapist, family and employer should be aware of this goal. This means that even if the physiotherapist focuses on balance and the speech therapist on improving communication skills, the ultimate goal of these health professionals would be to return the client to the work place. The client through participation in meaningful occupation would realise his strengths, weaknesses and potential. Engagement in occupations of choice would also enable the client to revise their self concept and ultimately improve their self esteem. Calhoun and Acocella (1990:60) defines the mental self portrait as comprising three dimensions namely knowledge, expectations and evaluation of self.

Knowledge of self is described by what the person knows about him/herself. It is envisaged that through the participation in occupation the client revises their knowledge themselves. For example, through a simple activity such as dressing, the client would be able to get an idea of their functional limitations.

Expectation of self is described by the person's perceptions of what he or she could be. These expectations in turn propel the client into the future and guide his or her actions. The client, who has an expectation of returning to his or her role as a worker, would be

¹ A transdisciplinary model of functional rehabilitation is described as a model where health team members conduct an integrated evaluation that results in the collaboration of assessment information (Jansen, 1994:21)

able to visualize what actions will be required to return to work. These expectations become realistic expectations when the client is allowed to actually engage in work tasks. Through engagement in these tasks the client would develop the insight to adjust his expectations of self.

Evaluation of self is described by the person's judgment about him or herself, measuring what he or she is against, his or her expectations of self or his or her standards for self. The client's perception of their satisfaction with themselves facilitates their self esteem. It is important to note that there should be balance between the client's actual self or functional ability in occupational tasks and their expectations of themselves to enable them to develop a realistic self esteem and self concept.

- **Stage Three**

This stage is described as the creation of competence through participation in occupation. During this stage the client will focus on a specific occupational performance area (i.e. work). If the client has not resumed his worker role he or she will gradually be reintegrated into this role. In stage two the client had already participated in intervention programmes aimed at improving their functional performance. He or she now has the functional skills to resume his or her occupational roles. The occupational therapist will continue to act as a facilitator and case manager where the client will be encouraged to self reflect and problem solve the manner in which he would like to resume employment. The client will be encouraged to utilize their social relations by initiating contact with stakeholders such as the employer, colleagues, health professionals and family for the purpose of participation in their worker role and in order to improve their support systems. This stage will place emphasis on improving the client's knowledge base. The occupational therapist will encourage clients to improve their problem solving skills. The client will be encouraged to use the reflective process as a method for solving problems. The occupational therapist may want to refer the client to another occupational therapist who specializes in vocational rehabilitation, work assessment or screening or they could initiate this process themselves. The client will be requested to demonstrate a problematic workplace scenario. For example, a client who had worked as a sales person may indicate that he or she has a problem in coping with difficult customers. The occupational

therapist will request that the client verbalizes the actual workplace problem and will then advise him or her on various coping strategies that may assist him or her. The client will be asked to analyze the reasons why he or she struggled to cope with customers. Possible reasons could be a lack of assertiveness or poor communication skills.

The client will be asked to role play a scenario where they did not cope with a difficult customer. He or she will then be requested to identify the reasons why he or she could not cope. Thereafter they will be asked what they could have done to change their interaction with the difficult customers. The client in collaboration with the occupational therapist will then physically and practically role plays a scenario where they expresses the desired behaviour to improve their interaction with the difficult customer. Feedback will then be given to the client regarding his or her behaviour and approach. The family and or other patients who have suffered from a brain injury could give feedback if this stage is done in a group set up. The client and the occupational therapist would then be responsible for setting up a work test placement with his existing employer. The work test placement will entail that the client perform the actual duties of his occupation under supervision of the occupational therapist who will be acting as a job coach. At this stage the employer or a designated person from the workplace could be present to ensure that the work is performed according to the required standard. The client's work performance would then be monitored with a schedule. The schedule would assist the occupational therapist in observing the client's occupational (work) behaviour, components of function (i.e. physical components of function and psychological components of function), his or her work endurance and productivity. After the work test placement which may be 1-3 days in duration, the results will be discussed with the client. The client and occupational therapist would engage in the reflective process where their opinions about their performance will be explored. Any problems or aspects that did not go well and aspects that did go well will be discussed. After the discussion the client and occupational therapist may have to explore the use of assistive devices in order to make the job easier, or consider workplace accommodation strategies and adaptation to workplace routines. Furthermore the client and occupational therapist may explore his or her legal rights within the workplace, possibly in the form of their right to work in a safe environment, their right to be reasonably accommodated in the workplace and their right to access

disability pension benefits, if applicable. Based on the client's perceptions of their performance and realistic expectations they may choose to seek another form of employment to accommodate their current functional capacity.

During this stage the client would develop renewed confidence and knowledge of their ability to resume their occupational role as a worker. This paves the way for stage four which is the development of the client into a capable individual.

- **Stage Four**

During this stage clients would be encouraged to undergo self reflection about the previous stages and about their ability to participate in the occupational role as a worker. The client ultimately would synthesize and internalize the actions that they undertook and skills that they learnt during the previous stages. He or she would be able to conceptualize his or her ability to overcome various barriers to participation in his or her worker role. It is important to take note of the model's dynamic and spiral nature. This means that a client could revert back to a previous level based on his ability to meet the challenges of the various stages. Ultimately this stage emphasizes an individual that has fully accepted their condition and that has developed a strong occupational efficacy to overcome various barriers to the worker role.

This stage is also described by prolonged participation in the satisfactory worker role whereby the client experiences meaning and fulfillment. There may be a positive interaction between the client and the environment, which may consist of the family system, work system and health system. During this stage the client would view themselves as capable and would be able to engage in the worker role with maximum independence. The occupational therapist's role is gradually withdrawn. This process will be a unique experience for each client.

7.4 Guidelines for the operationalization of Occupational Self Efficacy: An occupational therapy practice model to facilitate returning to work after a brain-injury

7.4.1 To facilitate a strong personal belief

The following guidelines should be implemented in order to achieve the above objective:

- An occupational therapist that specializes in vocational rehabilitation and or the treatment of the brain injured individual should facilitate the process of introspection.
- The occupational therapist should have insight into the brain injured individual's social, community and cultural dynamics.
- The occupational therapist should have in depth knowledge about the treatment of the brain injured individual, his workplace and job description.
- Through collaboration with the individual and his family the occupational therapist should facilitate the process of reflection. The steps as advocated by Gibbs (1998) should be used.

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7.4.2 To encourage the client's use of him or her self

The following guidelines should be implemented in order to achieve the above objective:

- The occupational therapist continues to function in the role of a facilitator. He or she continues to facilitate the process of introspection of the client.
- The occupational therapist encourages occupational engagement in tasks such as activities of daily living, using transport and vocational related activities.
- The occupational therapist should have good communication skills, problem solving skills, negotiation skills, empathy and be transparent. He or she should be a role model to the brain injured individual.
- In addition to the role of a facilitator the occupational therapist would act as a case manager in that he or she would have to be able to provide the participant with choices relating to continued rehabilitation or return to work.

- Furthermore the occupational therapist, in their role in the medical team would facilitate a client centred approach to intervention.

7.4.3 To enhance competency through occupational engagement

The following guidelines should be implemented in order to achieve the above objective:

- The occupational therapist will continue to act in his or her role as a facilitator and the participant will be guided into participation in his or her worker role.
- Client centred practice will enable the client and therapist to identify various needs that will enhance competency in occupational roles. For example, if there is a need to improve the client`s life skills such as coping skills or assertiveness skills then this will be a focus of intervention.
- The occupational therapist will continue to act as a case manager in that he or she would enable the client to identify and utilize resources that will enable him or her to resume their worker roles. The occupational therapist will put the client into contact with stakeholders such as the employer, relevant people in the medical sector and family members as this will form a base for long term support.
- Supportive employment workshops will be held with the client and his employer whereby gradual return to work will be emphasized. During this process the client and occupational therapist will identify further needs that the client may require such as the use of compensatory equipment or techniques.
- Work test placement with the client`s previous employer will be initiated and workplace accommodation should be encouraged

7.4.4 To develop a capable individual

The following guidelines should be implemented in order to achieve the above objective:

- Self reflection pertaining to the client`s performance in work related tasks should be emphasized

- Prolonged participation in the occupational role as a worker should be encouraged and positive interaction/communication between the client, environment, worker and family should continue
- Transformation of the client into a capable person, who would be able to participate in the worker role with maximum independence, is the final goal.

7.5 Evaluation of the model

The evaluation of the model will be discussed according to the criteria by Chinn and Kramer (1999) namely: clarity, simplicity, generality, empirical applicability, consequences, meaning and logical adequacy, operational adequacy and pragmatic adequacy.



7.5.1 Clarity

The central concepts of the model were clarified and defined in order to provide the reader with a clear understanding of the model. The relationships between the various concepts in the model were made explicit thereby providing clarity regarding relationship statements. Furthermore the structure and the process of the model were based on the central concept of the model.

7.5.2 Simplicity

The researcher aimed to design a simple practice model that could be easily applied within the workplace or practice environment. The purpose of the model was supported by the central concepts which were defined by their essential and related attributes. The researcher discussed the model with occupational therapists who are working within the field of vocational rehabilitation and they could see the relevance of the model in practice.

7.5.3 Generality

The model was designed to assist occupational therapists and other health professionals to facilitate the return of the brain injured individual to their worker role. According to Chinn and Kramer (1999:106) a model should be made applicable to different practice situations. The current model has designed to be utilized in the hospital, rehabilitation centre, work and home environments. The model is applicable to clients who had suffered a traumatic brain injury that was classified as mild or moderate according to the Glasgow Coma Scale. It is however envisioned that this model would be applicable to clients that suffered other traumatic injuries such as hand and back injuries. The process of reintegrating the latter clients into the workplace would follow a similar pattern and the client centredness of the model would facilitate this process.

7.5.4 Empirical Applicability

Empirical applicability was ensured by clarifying the purpose and description of the model. The definitions of the concepts within this study and the description of relationship statements enhanced empirical applicability of the model.

7.5.5 Consequences of the model

The consequence of this model refers to the contribution that it could make to the management of the brain injured individual in returning to work. The model provides guidelines for reintegrating clients to the workplace through the process of enhancing the client's Occupational Self Efficacy beliefs. It is envisaged that once the model has been applied in practice and evaluated, that implementation of the model could result in more sustained and successful return to work rates. Such results could lead to a reduction in cost to health service providers. In the government system, the model will reduce the amount of disability grants that is paid to individuals who are struggling to return to work.

7.5.6 Meaning and logical adequacy

The meaning and logical adequacy for this model has been based on the theory of Human Occupation (Kielhofner, 1992) and Occupational Science.

7.5.7 Operational adequacy

The theoretical concepts within the model of this study have been operationally defined in order to ensure operational adequacy.

7.5.8 Pragmatic Adequacy

The model is practice orientated and focuses on addressing the difficulties experienced by clients with brain injuries in returning to work. The model is a client-centred model that focuses on Occupational Self Efficacy as a construct to enhance the individual's occupational engagement. It is envisioned that this model will enable the client to participate in meaningful work related occupations and speed up the return to work process.

7.6 Summary

In this chapter Occupational Self Efficacy as a model for reintegrating the brain injured individual to the workplace has been discussed. A visual presentation has been presented and discussed. The different stages of the model and its core concepts were made explicit. In the final chapter of this study the conclusions, limitations and recommendations will be discussed.

Chapter Eight

Study recommendations, limitations and conclusions

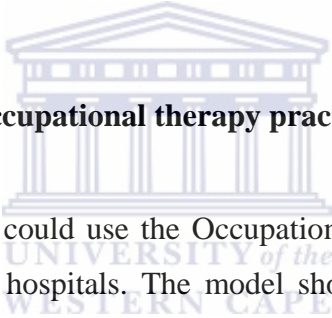
8. Introduction

This chapter describes the recommendations, limitations and conclusions of the study.

8.1 Recommendations

The following recommendations will be made for occupational therapy practice, occupational therapy education, occupational therapy research, occupational science, health professionals, the Department of Health, the Department of Labour and the Road Accident Fund.

8.1.1 Recommendations for occupational therapy practice

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- Occupational therapists could use the Occupational Self Efficacy model in both public and government hospitals. The model should be utilized as soon as the client is ready to start the reflective practice.
 - The model should be used in conjunction with other treatment modalities for example biomedical and cognitive approaches that are used to improve range of motion, muscle strength and cognition. The current model focuses on reflection and improving Occupational Self Efficacy beliefs through occupational engagement in work related tasks. Furthermore the model attempts to bridge the gap from rehabilitation to returning to work.
 - The model should be used in contexts other than hospitals for example an individual may have returned to work and is struggling in the workplace. The model could then be used to determine which barriers the individual is experiencing in the workplace and address those issues.
 - The positive and negative characteristics of rehabilitation programmes as identified in this study should be noted, particularly when developing other rehabilitation programmes.

- Occupational therapists who specialize in traumatic brain injury should utilize a holistic, cognitive approach in the remediation of the brain injury sequelae.
- Occupational therapists who specialize in the area of work assessment should more regularly do work screening and work site visits.
- Home based occupational therapy services that supplement traditional hospital approaches should be implemented by occupational therapists. It is documented in the literature that home based occupational therapy may result in long term improvement with people with brain injury.
- Occupational therapists should focus on the value of social support during the rehabilitation process. Within the context of this study, social support included the participant's family, friends and work colleagues. The results of this study indicated that positive support from society improved the individual's ability to adapt to their worker roles.
- The findings of this study suggested that three out of the ten participants received occupational therapy intervention. Occupational therapists should market their services more aggressively as it could be argued that their failure to provide intervention to the brain injured population could be seen as a form of occupational injustice, particularly in relation to the resumption of the worker role.
- Based on the results of this study it is suggested that work rehabilitation and support should not be a temporary process but a long term process. Occupational therapists and other health care professionals should develop a mind set of providing on-going support in work rehabilitation.

8.1.2 Recommendations for occupational therapy education

- In undergraduate occupational therapy education, more emphasis should be placed on the area of work screening and work site visits. Education should include the most recent methods and techniques for work screening and work site visits. More recent forms of treatment have higher success rates in helping the

- person with to maintain their worker roles, which are essential for their survival and health. In this study it was evident that work site visits were not taking place.
- Education should focus specifically on supportive employment practices and the value thereof. The supportive employment model has traditionally been utilized for people suffering from mental illness and severe disabilities. It was evident from the results of this study that supportive employment is a useful work maintenance model for the brain injured population as well.
 - Occupational therapy curricula should include courses that focus on the patient's rights and health ethics. These courses could be taught in collaboration with law departments of universities. Health professionals should take cognizance of the fact that their actions may lead to serious legal consequences that may result in losing their professional license.

8.1.3 Recommendations for occupational therapy research

- The Occupational Self Efficacy model should be evaluated by implementing it in practice.
- Occupational therapists who utilize the model could develop a data base to record the effectiveness of the model. For example, a record could be kept on how many clients successfully returned to work with the use of the model. Deficits encountered with the use of the model and their recommendations could be useful to improve the model. Recommendations may result in further revisions to the model in order to improve its effectiveness. This would contribute to evidence based practice.
- The model could be researched with an experimental design where results from a treatment group are compared with results from a control group. The data from such a quantitative study may yield insight into the efficacy of the model.
- The perspectives of individuals who sustained a mild or moderate brain injury who received intervention using the model could be researched in a qualitative study.

- A self efficacy questionnaire could be sent to participants in order to determine whether their self efficacy has improved. The Traumatic Brain Injury self efficacy scale as advocated by Cicerone and Azulay (2007) could be used and analyzed statistically.
- Occupational therapists could conduct further return to work studies with mild to moderate brain injured participants in order to determine how long participants actually maintain employment utilizing the model developed in this study.

8.1.4 Advocacy and Health Promotion

- The results should be made public to advocacy groups and organizations such as Disabled People of South Africa for lobbying for the rights of people with disabilities to have access to high quality health care.

8.1.5 Recommendations for other health professionals

- Physicians, psychologists and allied health providers involved in post acute treatment of adults who sustained traumatic brain injuries need to focus more frequently and for longer duration on the patient's psychosocial problems. It could be argued that the earlier the psychosocial problems related to the condition are addressed the better the possibility of optimal recovery.
- The results of the study also identified the need for long term rehabilitation provisions, particularly by occupational therapists. Most of the participants in this study did not have access to or were not aware of the benefits of occupational therapy intervention.

8.1.6 Recommendations for the Department of Health

- Quality assurance mechanisms should be introduced to service provision in hospitals. Hospital management should obtain feedback on the quality of care that they provide to patients or clients. Furthermore hospital management needs to be

proactive in implementing changes that is identified from their clients and themselves.

- Partnerships should be created between health services in the private and public sectors. These partnerships should focus on improved communication, emphasize the patient's quality of care and dissemination of best practice protocols.
- A subsidy scheme should be created by the state whereby brain injured individuals who cannot afford the necessary rehabilitation and medication be subsidized for the period that they are receiving the comprehensive rehabilitation. This subsidy will be different from the government disability grant in that the patient will be subsidized for the entire duration of rehabilitation. This may include ongoing rehabilitation even when the individual resumes their worker role. It is clear from the literature that traumatic brain injury sequelae may be present many years after the brain injury.
- In the current study there was evidence to suggest that the brain injured individual was not receiving comprehensive multi-disciplinary intervention. Some individuals received only physiotherapy, often neglecting the cognitive and psychological aspects relating to the condition. Health managers or rehabilitation managers should stress the importance of multidisciplinary intervention for this population. Furthermore, a transdisciplinary strategy should be utilized as this enables each health professional to focus on a common goal identified by the brain injured individual.
- The Department of Health should network with the Department of Transport with regard to accessible transportation for people with disability, including brain injured individuals. Mobility limitations may restrict these individuals from accessing needed rehabilitation and treatment facilities. Occupational alienation may be perpetuated when those with mobility limitations face inaccessible transportation.
- The Department of Health should reduce the tariffs that people with disability have to pay for health services particularly for people who have low or no income. Occupational marginalization may persist when communities lack

affordable treatment or rehabilitation programmes. The above recommendation would be applicable to health services offered in the private health system as well.

8.1.7 Recommendations for the Department of Labour

- Employment policies and frameworks that inform employment should utilize occupational therapy frameworks. For example, the current SETA system would be significantly improved if occupational therapists are involved in designing programmes, especially if people with disability are recipients of these services.

8.1.8 Recommendations for the Road Accident Fund (RAF)

- The RAF should partner with private and public hospitals in order to administer the necessary medico-legal assessments. This could speed up the administrative aspects and the speed in which compensation claims are paid. The RAF should appoint case managers (nurses and occupational therapists) who could be instructed to manage the RAF claims as well as ensure that all the rehabilitation avenues are explored by the brain injured individual. Such case managers should focus on the best practice for returning the brain injured individual to work instead of focusing on how much financial compensation the individual should receive.

8.2 Limitations of the study

8.2.1 The nature of the traumatic condition

Although most participants sustained a traumatic brain injury they also suffered from additional physical conditions such as fractures to their spines, upper limbs and lower limbs. These additional medical impairments impacted on their ability to return to work negatively. As a result it was difficult to determine whether their poor ability to return to

work was mainly because of their brain injury or a combination of their medical impairments.

8.2.2 Contextual factors

Two of the participants chose to be interviewed in the presence of family members. It was observed that the one female participant was hesitant to speak about the effects of the brain injury on her family life. Another male participant became frustrated during the interview process when his wife corrected him about certain events related to the brain injury. The researcher is therefore of the opinion that these participants would have provided deeper information if their family was not present.

8.2.3 Gender factors

Although every effort was made to include both male and females in the interviews, it was difficult to obtain females who met the inclusion criteria of the study. In this study, only one female was interviewed in depth. The one female participant in the study provided extremely rich data that brought a new dimension to the study. One concern that was raised was the fact that the researcher's gender may have impacted on the level of personal information that was revealed by the female participant. For example, the participant was initially resistant to speak about the effect of her brain injury on her sexuality. Future research should specifically focus on interviewing more females in order to explore the phenomenon from purely a female's perspective.

8.2.4 Professional identity

Owing to the researcher coming from an allied health professional background, it was sometimes difficult for the research participants to develop trust. By the time the researcher interviewed the participants, some of them were already frustrated with the health system and were not too keen to divulge information.

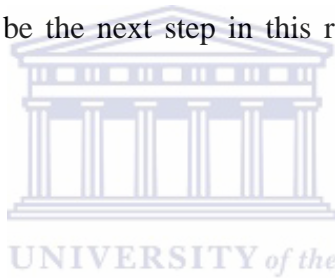
8.2.5 Lack of generalizability from a small sample, qualitative study

One of the limitations of a study of this nature is that the findings cannot be generalized to the larger population of brain injured individuals owing to the small sample size. However, cognisance needs to be taken of the fact that the aim of qualitative research is not to generalize but to develop a deep understanding of a phenomenon.

8.2.6 Lack of practical implementation of the model in order to obtain empirical data regarding efficacy

Another limitation of this study was that the model was developed theoretically only in this study. Practical implementation of the model together with obtaining empirical data to evaluate its efficacy would be the next step in this research project, however it fell outside the scope of this study.

8.2.7 Participant selection



Initially the researcher wanted to select participants from the attendance records of Rehabsa Rehabilitation Centre, however owing to technical difficulties it was not possible to obtain access to records of patients. As a result the researcher utilised a data base of potential participants from the Road Accident Fund.

8.3 Conclusion

The study highlighted the brain injured individual's experiences and perceptions of returning to work after the brain injury. These experiences indicated that the functional deficits related to the condition was multifaceted and required a client centred holistic work integrative approach. Occupational therapists have the skills and expertise in order to successfully rehabilitate as well as facilitate the return to work process with people who have suffered a traumatic brain injury. The aim of this study was to gain an understanding of the lived experience of people with brain injuries regarding their worker

roles. The experiences of the brain injured individuals were used to develop the central constructs from which a model was developed.

A theory generative design was used in order to develop the model. This methodological design was qualitative, explorative, descriptive, contextual and phenomenological in nature. An inductive approach was used in order to develop the model. This model was designed to provide guidelines for occupational therapists that focus intervention on returning brain injured individuals to their worker roles.



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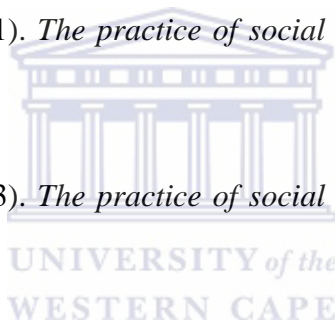
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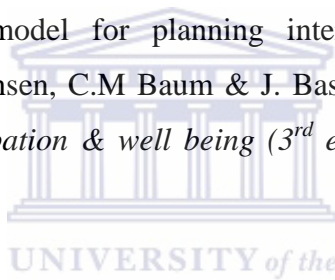
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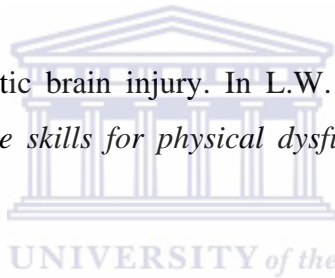
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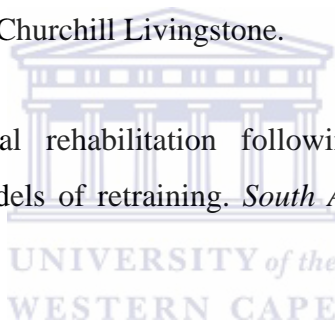
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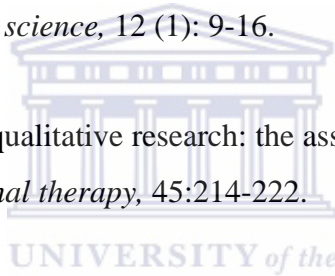
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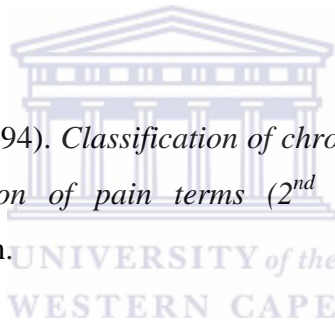
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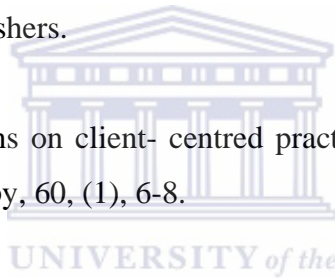
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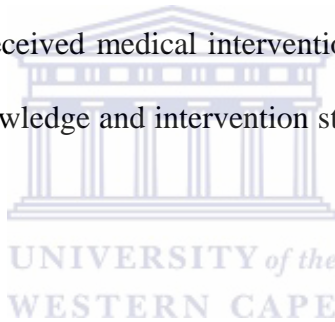
Appendices

Appendix A (English version)

Letter of information to the participants:

Study on the experiences and perceptions of brain injured individuals

A research study is being conducted by a graduate student in the Doctoral programme at the University of the Western Cape, Faculty of Community and Health Sciences, examining the ways in which individuals who had sustained brain injuries, adapt to their worker roles after they have received medical intervention. Information gathered in this study may help to advance knowledge and intervention strategies regarding the treatment of people with brain injuries.



If you decide to participate in the study, the investigator will consult with you to arrange a suitable time for data collection. The researcher will conduct an interview with you in order to obtain information about your experience of returning to work after the brain injury that you sustained. Pending your consent, the interview will be audio-taped.

Since the information will be used in a research study, you will be asked to give your written consent by signing a form. All research data will be kept in confidence by the investigator. Notes and tapes will be kept in a locked storage area. Tapes will be transcribed by a professional typist who is aware of the importance of maintaining confidentiality and who has signed an oath to confirm her knowledge of procedures to maintain this. All names and any other identifying details will be kept confidential, and

anonymity is assured. Following the completion of the study, data, including audiotapes, will be maintained in a locked area and may be used for future research. You will not be identified in any publication or presentations of results of the study.

Your participation in the study is voluntary. If you agree to participate, you may withdraw your consent and discontinue your participation at any time.

If you have any questions before or after the study you may contact the investigator SHAHEED SOEKER at 082 7175432 or 021 509 8394.



Appendix B (English Version)

Letter of consent- Study on the experiences and perceptions of brain injured individuals.

I, agree to participate in this research study investigating the experiences and perceptions of people who sustained brain injuries regarding their adaptation in the workplace. I have received a letter of information about the study, the nature of it has been explained to me, and my questions have been answered to my satisfaction. I understand what will be expected from me.

PARTICIPANT'S SIGNATURE:



DATE:

Appendix C

Letter of information to service providers:

Name of service provider:

Study on the experiences and perceptions of brain injured individuals

A research study is being conducted by a graduate student in a Doctoral programme at the University of the Western Cape, examining the ways in which brain injured individuals` adapt to their worker roles after they have received medical intervention. Information gathered in this study may help to advance knowledge and intervention strategies regarding the treatment of brain injured individuals.



The investigator will consult with the appropriate authority within your institution and with participants to arrange a suitable time for data collection. The researcher will interview the participants, the interview will focus on their experiences of returning to work after a brain injury. Pending participant's consent, the interviews will be audio-taped. Since the information will be used in a research study the participants will be asked to give written consent by signing a form. All research data will be kept in confidence by the investigator. Notes and tapes will be kept in a locked storage area. Tapes will be transcribed by a professional typist who is aware of the importance of maintaining confidentiality and who has signed an oath to confirm her knowledge of procedures to maintain this. All names and any other identifying details will be kept

confidential, and anonymity is assured. Following the completion of the study, data, including audiotapes, will be maintained in a locked area and may be used for future research. The participants will not be identified in any publication or presentations of results of the study. Their participation in the study is voluntary and participants may withdraw their consent and discontinue participation at any time. However acknowledgement of the service providers will be made in the written thesis and in journal articles if applicable.

If you have any questions before or after the study you may contact the investigator SHAHEED SOEKER at 082 7175432 or 021 509 8394



Appendix D

Provisional interview guide

- Could you tell me about yourself and your family?
- Tell me about the injury that you sustained?
- Tell me about what it is like to live with a brain injury?
- Could you tell me about the work that you do?
- Tell me about you experience of returning to work after the brain injury?
- Tell me about your experience of returning to work after rehabilitation?



Appendix E: Description of the participants

Codes to interpret the table: C- coloured, B- black, W- white, M- male, F- female and GCS- Glasgow coma scale

Name	Age as at 2009	Race	Severity of injury	Gender	Education	Job- description	Employment status	Marital Status	Type of rehabilitation received after the TBI
Participant 1	07/08/1969 (40)	C	Assaulted- 1989 GCS- 15/15 Left hemiplegia	M	High School	Current job: Porter in a hospital Previous job: Bouncer at a nightclub	Employed	Married	In/Out patient- Physiotherapy Service provider- State
Participant 2	03/08/1976 (33)	W	Motor bike accident- 1999 GCS- 11/15	M	Grade 12, Diploma- Incomplete	Current job: Production manager Previous job: Cartographer	Employed	Single	In/Outpatient- Physiotherapy Service Provider- Private
Participant 3	14/05/1974 (35)	C	Assaulted- 2003 GCS- 15/15 R hemiplegia	M	Grade 10	Current job: General assistant Previous job: Welder	Part time labourer	Married	In/Outpatient- Physiotherapy Work Assessment- Occupational Therapy Service Provider- State
Participant 4	26/10/1945 (64)	W	Motor bike accident- 2003 GCS- 12/15 Multiple rib fractures	M	High School	Current job: Restaurant Owner Previous job: Bar owner	Self Employed	Married	In/Outpatient- Physiotherapy Alternative treatment- Chiropractor Service Provider- Private
Participant 5	25/01/1954 (55)	W	Motor car accident- 1999 GCS- 11/15 Multiple fractures	M	Higher Diploma in Electronics	Current job: Technician Previous job: Technician	Employed	Married	In/Outpatient- Physiotherapy and Occupational therapy Nursing care Service Provider- Private
Participant 6	08/01/1968 (41)	C	Assaulted-2006 GCS- 13/15 Left leg monoparesis	M	Grade 12	Current job- Boiler maker Previous job- Boiler maker	Part time labourer	Divorced	In/Outpatient- Physiotherapy Work Assessment- Occupational Therapy

									Service Provider- State
Participant 7	21/03/1971 (38)	B	Motor car accident- 2000 Multiple fractures GCS- 14/15	M	Grade 12	Current job- Insurance broker Previous job- Brick layer	Part time labourer	Divorced	In/Outpatient- Physiotherapy Work Assessment- Occupational Therapy Service provider- State
Participant 8	09/03/1977 (32)	W	Motor car accident- 1998 GCS- 11/15 Left hemiparesis	M	Grade 10	Current job- Driver Previous job-machine operator	Employed	Married	Inpatient- Physiotherapy Service Provider- State
Participant 9	29/05/1964 (45)	C	Motor car accident- 2000 GCS- not recorded, however clinical notes indicates that she suffered a mild brain injury as she had no loss of consciousness	F	Grade 10	Current job- Machine operator Previous job- Machine Operator	Employed	Married	Inpatient- physiotherapy Service provider: State
Participant 10	18/08/1978 (31)	C	Motor car accident- 2004 GCS- 12/15	M	Grade 11	Current job- Driver assistant Previous job- Machine operator	Employed	Married	In/Outpatient physiotherapy Speech therapy Work Assessment- Occupational therapy Psychology Service provider: State