

**THE DEVELOPMENT OF A MODEL TO ENHANCE
ENTREPRENEURIAL SKILLS OF WOMEN WITH ACQUIRED BRAIN
INJURY**

**A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENT OF
THE DEGREE DOCTOR PHILOSOPHIAE IN THE FACULTY OF
COMMUNITY AND HEALTH SCIENCES**



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DECLARATION

I, ZAREENA DARRIES, declare that the work on which this thesis: *The development of a model to enhance the entrepreneurial skills of women with acquired brain injury*, is my personal original work (except where indicated otherwise), and that it has not previously or in its completeness or in part been submitted for a degree at this or any other university.

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ABSTRACT

Background: Acquired brain injury (ABI) is a major public concern since the consequences thereof are far reaching as the long-term effects can be different for each individual and can impact on their lives in different ways. Individuals with ABI can experience both short-term and long-term cognitive, emotional, physical as well as behavioural changes that can make community reintegration and resumption to work more challenging. The particularly low return to work (RTW) outcomes for individuals sustaining ABI have been well documented, showing that women with ABI are at a greater risk of not returning to work compared to men with ABI. In the last decade South Africa demonstrated a disability prevalence rate of 7.5%, indicating that disability was more prevalent among women compared to men. As a result of the limited opportunities in the formal labour market in South Africa, opportunities for women in general and those with ABI entering the job market remains low. Entrepreneurship and self-employment as a strategy to economic participation and poverty alleviation in South Africa is well recognised as it offers an alternate pathway to enter the labour market and increases economic self-reliance, especially among women with ABI and individuals with disabilities in general.

Method: A mixed methodology was employed in this study. A cross-sectional survey was used to determine the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work, while qualitative interviews were used to explore the barriers and facilitators to entrepreneurial skills development for women with ABI. Statistical analysis was used to analyse the results of the quantitative data whereas the qualitative data were thematically analysed. A scoping review was conducted to explore the literature to determine the methods and strategies used to facilitate RTW and entrepreneurship and skills for women with ABI within a vocational rehabilitation context. An e-Delphi survey with experts in the field of vocational rehabilitation and neuro-rehabilitation was conducted to develop a model to enhance entrepreneurial skills in women with ABI. The Empowerment Theory and the Model of Occupational Self-Efficacy (MOOSE) was used as the overarching theoretical framework for the current study.

Results: The RTW rate showed 61.2%. of the study participants successfully returned to work post-ABI. While 86.4% of the study participants experienced limitations in daily occupations, more than half (57.1%) did not receive any form of vocational rehabilitation. In addition, the

likelihood for not securing formal employment post injury is higher for women with ABI as age increases. The qualitative findings revealed that women living with ABI experience difficulty coping with functional limitations, loss of self-efficacy and well-being, as well as enduring financial hardship post injury. While a strong social support network facilitates motivation to regain functional independence. Findings of the scoping review revealed RTW interventions for individuals with ABI involves 1) intervention components that interact with the person, skills development and occupational competence; 2) work-directed intervention components; and that supports 3) trajectory of disability management and practices towards sustained RTW. The Delphi survey assisted in developing the “Entrepreneurial Skills Empowerment Model (ESEM)”, which presents a process of empowerment that will facilitate occupational participation for women with ABI in a way that is unique to their health, personal and environmental situations. The ESEM consist of four dynamic and integrated stages that are guided by key intervention strategies.

Conclusion: The study concluded that entrepreneurship is a needed strategy to improve occupational participation and economic empowerment for women with ABI living in the Cape Metropolitan in the Western Cape, South Africa. Hence the developed ESEM envisions to facilitate and enhance the competencies of women with ABI to successfully participate in an entrepreneurial worker role.



Keywords: acquired brain injury, women; vocational rehabilitation, entrepreneurial skills, therapeutic use of self; empowerment, self-efficacy, client-centred, facilitation.

DEDICATION

This thesis is dedicated to my late mother Mariam Bazier, who believed in me and taught me through beautiful patience and humility we can achieve our highest hopes and dreams.



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All praise to the Almighty, the bestower of mercy, the guardian, the overseer. I am grateful to Him for granting me well-being and mindfulness of Him in everything I do and aiding me in being content with His decree in good and bad times.

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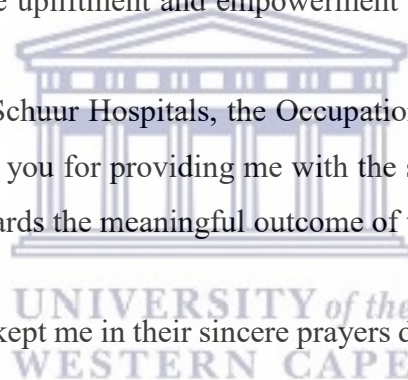


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LIST OF ABBREVIATIONS

ABI	Acquired Brain Injury
BI	Brain Injury
CVA	Cerebrovascular Accident
ESEM	Entrepreneurial Skills Empowerment Model
GSH	Groote Schuur Hospital
HNR	Holistic Neuropsychological Rehabilitation
MOOSE	Model of Occupational Self-Efficacy
RTW	Return to Work
SA	South Africa
SE	Supported Employment
TBH	Tygerberg Hospital
TBI	Traumatic Brain Injury
TIDieR	Template for Intervention Description and Replication
VR	Vocational Rehabilitation
WHO	World Health Organization



CHAPTER 1

INTRODUCTION AND ORIENTATION OF THE STUDY

1.1 INTRODUCTION

The current chapter provides the background of the study and the research problem that discusses the necessity and importance of enhancing entrepreneurial skills of women with acquired brain injury (ABI) in the Cape Metropolitan, Western Cape, South Africa. The chapter provides the aim of the study, the research question and research objectives. The definition of terms is presented followed by an overview of the chapters that follow in this study.

1.2 BACKGROUND

ABI is an important public health problem, with several research findings indicating that individuals with ABI experience greater challenges with community reintegration and successful return to work (RTW), due to residual emotional, physical as well as behavioural changes post injury. Moreover, the problems experienced by individuals with ABI, such as impairments in perception and cognition, are often not noticeable and have been referred to as a “silent epidemic” (Mar et al., 2011). Many research studies have set out to ascertain predictors of RTW, typically focusing on the symptoms and conditions as well as the work contexts of individuals with ABI. However, progressively more the investigation of RTW as an interface between the motivation and needs as well as the supports available in their social, economic and vocational environments have been found to be essential in employment outcomes for those suffering from ABI (Matérne, Lundqvist, & Strandberg, 2017). Yet, minimal research has focused primarily on women with brain injury, in spite of recent findings indicating that they are more vulnerable to poorer functional outcomes than men irrespective of the degree of the injury (Colantonio, 2016; Herrera-Escobar et al., 2021). In line with earlier research, women have demonstrated a greater risk of not resuming work or reducing work hours after a brain injury compared to men (Matérne, Strandberg, & Lundqvist, 2019), with research showing that the person-related factors such as gender and age i.e., women and older people were found to have a greater possibility of not returning to work post injury (Arwert et al., 2017; Wäljas et al., 2014; Hofgren, Esbjörnsson, & Sunnerhagen, 2010; Saeki & Toyonaga,

2009). Furthermore, some studies have identified interactions with marital status which was most apparent for women who were married and were more likely to reduce work hours or stop working compared to men after brain injury. The ages of women with ABI was also identified as a key predictor to RTW, showing women below the age of 40 years performing better than those over the age of 40 years (Corrigan, Lineberr, Langlois, Selassie, & Wood, 2007; O'Brien, 2007; Cancelliere et al., 2014).

A prior study that was conducted by the researcher on the challenges women with traumatic brain injury experience in their work environment after vocational rehabilitation, in the Western Cape, South Africa, provided valuable insight on the barriers and facilitators influencing their work integration (Soeker & Darries, 2019; Darries, 2015). Currently, as a practising occupational therapist in the field of vocational rehabilitation, RTW for women with ABI is still being observed with increasingly lower and unsuccessful case closure. In spite of the active legislative efforts to improve the employment opportunities of women and those with disabilities in South Africa, the prolonged exposure to unemployment of women with ABI holds a substantial negative influence on their overall well-being and quality of life as observed by the researcher in her daily practice. The risks of poverty increasing disability conversely contributes to the increasing burden of disease in various communities, especially within the South African socio-economic context.

1.3 HEALTH RESEARCH AND WOMEN WITH ABI

Researchers had increasingly recognised that both sex, “biological construct” and gender “social construct” have a significant influence on health experiences; however, these differences as well as gendered social norms result in different experiences for women and men with brain injury (Colantonio, Vanderlaan, Parsons, & Zagorski, 2009; Alston, Jones, & Curtin, 2012). In a qualitative study by Haag et al. (2016), findings revealed that women with ABI experienced difficulty in their daily lives due to various cognitive and psychological impairments which influenced their functional ability as well activity participation. In Haag et al. (2016) the study participants also reported experiencing higher anxiety levels, greater discomfort during menstruation, changed emotional responses, chronic pain as well as fatigue several years after their injury. Furthermore, emotional and changed intimacy behaviours also significantly influence relationship stability and family/marital supports for women suffering

from brain injury (Haag et al., 2016; Gill et al., 2011). Research has also found that women showed a higher chance of not resuming their work roles within a year after a brain injury compared to men, which is influenced by some risk factors including facing discrimination and gender norms that exist within particular workplaces making RTW more challenging (Matérne et al., 2017; Stergiou-Kita, Mansfield, Sokoloff, & Colantonio, 2016).

1.4 GENDER, DISABILITY AND POVERTY

In a study by Moodley and Graham (2015) on the importance of intersectionality in disability and gender studies, it was found that disability and gender interacts causing negative outcomes for women and people with disabilities, mainly for black women with disabilities. The United Nations (2015) trends and statistics shows that worldwide the poor tend to be girls and women because they earn 24% less than boys and men. The Inter-Parliamentary Union (IPU) Report of the Ninth Meeting of Women Speakers of Parliament (2014) in Geneva, Switzerland, noted that a multi-faceted approach is required to address the barriers that prevent access to employment and structural inequalities for women in general, and place emphasis on meeting the key objectives that would allow women to have sustainable incomes, decent work as well as actively participate in shaping the terms and conditions of their participation in economic life.

In South Africa, unemployment for women in general increased between December 2015 and December 2016, with 280 000 less women being employed, reflecting that the national labour force participation for women fared below the average rate. In a study by Rogan (2016), on exploring multidimensional gendered poverty in South Africa, it was found that the high poverty rate among women is as a result of the disadvantages they faced in the labour market. In Rogan (2016) it was also found that in South Africa, women were more vulnerable to poverty compared to men, which was at the time a consequence of the biased laws in the labour market causing unequal earnings in terms of gender. In the year 2017, the Cabinet of South Africa approved the National Minimum Wage Act 9 (NMWA) with the main objectives of improving the wages of the lowest paid workers; protecting workers from unreasonably low wages; preserving the value of the national minimum wage; promoting collective bargaining; supporting economic policy; and reducing wage inequality. However, the position of women in the labour market has not changed much over the last decade, in fact it has worsened in some aspects as reported in Statistics South Africa's quarterly labour force survey (2019). It has been

shown that women are mainly involved in unpaid work as reflected in the second quarter of 2018, showing 55.2% of those that are involved in non-market activities were women. Furthermore, the rate of unemployment among women stood at 29.5% compared to 25.3% of men. According to the expanded definition, the rate of unemployment of women in general was 7.5% higher than that of men (Stats SA, Quarterly labour force survey, quarter 2, 2019). Therefore, the government of South Africa is committed to achieving gender equality and as a signatory to the United Nations Framework for Sustainable Development Goals (SDG's), is responsible for the implementation of suitable programmes and interventions to accomplish the development goals towards full gender equality (Benjamin, 2018).

1.5 ENTREPRENEURSHIP AS AN ANTI-POVERTY STRATEGY

According to Maas and Herrington (2006), entrepreneurship is a viable strategy that can contribute to South Africa's development concerns since small- and medium-sized enterprises as well as micro-enterprises can serve an essential role in encouraging employment and economic progress. According to Yamamoto, Unruh, and Bullis (2011), self-employment is intended to employ one individual with the aim of becoming financially self-sufficient. Parker Harris, Caldwell, and Renko (2014) stated that entrepreneurship is both orientated towards profit and growth and is intended for not only job creation for one individual, but also the establishment of other jobs that become available with the growth of the business. Hamburg and David (2017) consider entrepreneurial competences as not only being relevant for those individuals who would like to just start or run a business but for those who also wish to improve their own capabilities and ideas on how to transform their own lives and their communities. According to Caldwell, Parker Harris, and Renko (2016), the difference between social entrepreneurship and commercial entrepreneurship is that apart from being growth and profit-oriented, social entrepreneurship has a social mission that is often dominant to the business. Therefore, social entrepreneurs are often inspired by their personal experiences, social problems and unmet needs. Subsequently, the business undertaking of social entrepreneurs also turns out to be linked with social value (Caldwell et al., 2016).

1.6 RESEARCH PROBLEM

South Africa demonstrated a disability rate of 7.5%, also indicating higher prevalence among women compared to men, at 8.3% and 6.5% respectively (Statistics South Africa, 2014). The

country's National Development Plan reported that some households such as those of women with disabilities, individuals with severe disabilities as well as those with children with disabilities, continue to be vulnerable and economically disadvantaged (White Paper on the Rights of Persons with Disabilities, 2016). In South Africa, the private and public health services exist in parallel, but in spite of insufficient funds and staff shortages, the public health services attend to the bulk of the population. In the public health system vocational rehabilitation services are mainly offered at a tertiary rehabilitation service level. However, due to the shortage of vocational rehabilitation resources in the public sector, these services are often overwhelmed with disability grant assessments for patients who are considered unable to work either temporarily or permanently (Coetzee, Goliath, Van Der Westhuizen, & Van Niekerk, 2011). RTW processes often require therapists to closely monitor patients' symptoms, visit patients' workplaces, facilitate work tasks adjustments, as well as perform regular follow-up and consultations with employers. Given the complexity of ABI symptoms that the vocational rehabilitation programmes need to address to ensure a sustainable RTW, some necessary interventions are often beyond the resource capabilities of the public service health team and pose an even greater RTW risks for women with ABI. Therefore, for women with ABI, their related health problems, their personal and environmental factors as well as the current socio-economic context of the current study's setting could well be precursors for their lowered RTW rates and prolonged unemployment statuses.

1.7 RESEARCH QUESTION

What components are needed in order to design a model to enhance entrepreneurial skills in women with brain injury (ABI)?

1.8 RESEARCH AIM

The study aims to design a model to enhance entrepreneurial skills in women with ABI

1.9 RESEARCH OBJECTIVES

- To determine the impact of socio-demographic, impairment-related restrictions and environmental factors on women with ABI's ability to return to work

- To explore the barriers that women with ABI experience with regard to entrepreneurial skills development
- To explore the facilitators that women with ABI experience with regard to entrepreneurial skills development
- To explore the literature that focuses on the vocational rehabilitation best practices enhancing entrepreneurial skills for women with ABI
- To develop the components of a model that enhance entrepreneurship skills of women with ABI

1.10 DEFINITION OF TERMS

Acquired brain injury

Acquired brain injury can be caused from both traumatic (external traumatic brain injury) and non-traumatic origins (cerebral vascular accidents, tumours, neurodegenerative) that inflicts injury or damage to the brain. Acquired brain injury is not genetic, degenerative, or induced by birth trauma (Aubut et al., 2013).

Disability

Disability refers to the interaction between individuals with a health condition (e.g., cerebral palsy, down syndrome and depression) and personal and environmental factors (e.g., negative attitudes, inaccessible transportation and public buildings, and limited social supports), (WHO, 2001).

Empowerment

Empowerment can be defined as a set of measures designed to increase the degree of autonomy and self-determination in people and in communities in order to enable them to represent their interests in a responsible and self-determined way and to act on their own authority (Zimmerman, 2000).

Entrepreneurship

Entrepreneurship is a process of creating something new with value by devoting the necessary time and effort, assuming the accompanying financial, mental, social risks, and receiving the resulting rewards of monetary, personal satisfaction and independence (Chinomona & Maziriri, 2015).

Entrepreneurial self-efficacy

It is defined as having the capabilities that can modify a person's belief in his or her likelihood of completing the tasks required to successfully initiate and establish a new business (Bandura, 1986; Badura, 1993).

Facilitation

In the widely used Promoting Action on Research Implementation in Health Services framework, facilitation has been defined as the active ingredient that aligns the proposed innovation or improvement to the individuals and teams involved and the context in which they work, thereby enabling successful implementation (Harvey & Kitson, 2015).

Impairment

A physical or mental defect at the level of a body system or organ. The official WHO definition is any loss or abnormality of psychological, physiologic, or anatomic structure or function (WHO, 2001)

Interdisciplinary team

A group of health care professionals from diverse fields who work in a coordinated fashion toward a common goal for the patient (Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing, and Allied Health, Seventh Edition, 2003).

Occupational self-efficacy

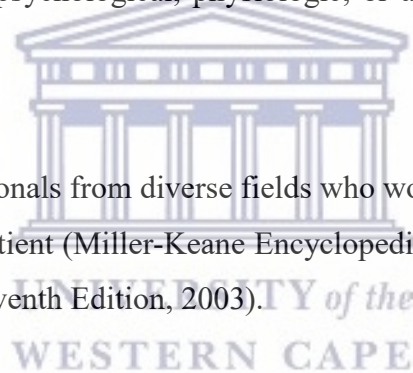
In the work context, self-efficacy is known as occupational self-efficacy (OS) and can be defined as the perceptions of an individual about his/her abilities to effectively perform his/her work tasks (Rigotti, Schyns, & Mohr, 2008).

Participation restrictions

Difficulties an individual may experience in involvement in life situations (WHO, 2001)

Rehabilitation

The process of restoring a person's ability to live and work as normally as possible after a disabling injury or illness. It aims to help the patient achieve maximum possible physical and psychologic fitness and regain the ability to be independent. It offers assistance with the learning or relearning of skills needed in everyday activities, with occupational training and guidance and with psychologic readjustment (Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing, and Allied Health, Seventh Edition, 2003).



Skills

The ability to use one's knowledge effectively and readily in execution or performance (Merriam-Webster.com dictionary, 2021).

Vocational rehabilitation

Vocational rehabilitation is described as a process that allows individuals with cognitive, emotional, physical, psychological as well as developmental difficulties overcome the challenges they experience to RTW, or access and maintain work or other meaningful occupations after an injury, ill-health or disease (Chamberlain et al., 2009).

1.11 OVERVIEW OF CHAPTERS IN THE THESIS

This study is divided into nine chapters:

Chapter 1 includes the introduction and study background, the problem statement as well as the research question, aim and objectives of the current study. The definition of terms is provided in this chapter.

Chapter 2 presents the relevant literature that was consulted for this study. It highlights the epidemiology of acquired brain injury, the subsequent consequences and work disability post injury. The chapter presents the relevant rehabilitation approaches and vocational rehabilitation models used in the management of ABI. It discusses the RTW challenges for women with ABI and presents the literature on the entrepreneurial engagement of women and individuals with disabilities. Furthermore, the chapter discusses the Empowerment Theory and the Model of Occupational Self-Efficacy (MOOSE) which serves as a conceptual foundation in the current study for the development of a model to enhance entrepreneurial skills for women with ABI.

Chapter 3 describes the current study's methodology. It discusses the research approach and design, the research setting and the study population and sampling techniques. The chapter highlights the procedures and methods of data collection and analysis of the designated study phases. It provides a summary on the techniques used to ensure data reliability and trustworthiness as well as the ethical considerations pertaining to the study.

Chapter 4 presents the quantitative results which aimed at achieving the first objective of the current study. It highlights the methodology, the study population and sampling technique, and the procedures followed during the data collection and analysis process. The results present the demographic features of the study participants using tables and charts. The predictors

associated with RTW for women with ABI are discussed with reference to the relevant available literature on the topic of inquiry.

Chapter 5 presents the qualitative findings which aimed at achieving the second and third objectives of the current study. It provides a description of the methodology, the study population and sampling technique, as well as the data collection and qualitative data analysis procedures that were employed. Subsequently, the chapter presents the findings that comprise the themes: “Barriers within the rehabilitation process”; “ABI causes loss of a sense of self and financial strain”, and “Entrepreneurship and education as a strategy to empowerment”. The findings were discussed in relation to the relevant literature.

Chapter 6 provides the findings and outcomes of the scoping review that was conducted to achieve the fourth objective of the current study. This chapter provides a description of the methodological procedure utilised to identify pertinent literature on interventions used in the RTW and entrepreneurial skills development for women with ABI. The outcome of the scoping review is presented using tables and charts describing the demographic features of the reviewed studies, followed by a detailed explanation of the meta-synthesised results. The reviews over all findings are discussed in relation to reputable literature, followed by the limitations and recommendations based on the review.

Chapter 7 presents the findings of the Delphi study that was conducted to achieve the fifth objective of the current study. The Delphi study was used to guide and develop an appropriate model to enhance entrepreneurial skills of women with ABI. A summary is provided on the background on which the Delphi study was grounded, followed by the methodological process, the study population and sampling technique, as well as the data collection and analysis procedure that were followed. Thereafter, the responses from the study participants during the first Delphi round is provided, followed by the drafting and discussion of the proposed entrepreneurial skills model.

Chapter 8 presents the results of the second and third Delphi rounds as well as the amendments to the preliminary draft of the entrepreneurial skills development model. Subsequently, the developed Entrepreneurial Skills Empowerment Model (ESEM) is described followed by the guidelines for the operationalisation of entrepreneurial skills empowerment throughout the respective stages of the ESEM.

Chapter 9 provides a summary of all the phases of the study, followed by conclusions drawn from the overall study. In addition, a graphical description of the ESEM is provided as well as the discussion on the recommendations and limitations pertaining to the study.



CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents the literature on the epidemiology of ABI and discusses the subsequent functional and work implications post injury. The RTW challenges faced by women with ABI and their situations to economic participation is discussed. The relevance of entrepreneurship as a strategy for economic participation for women in general, women with ABI and individuals with disabilities is presented. The chapter further presents the relevant rehabilitation approaches and vocational rehabilitation models used in the management of ABI. The Empowerment Theory and the Model of Occupational Self-Efficacy (MOOSE) that served as the theoretical foundation to the development of this study's entrepreneurial skills model is presented and discussed.

2.2 ACQUIRED BRAIN INJURY EPIDEMIOLOGY

2.2.1 Incidence and prevalence of acquired brain injury

According to Aubut, Teasell, Cullen, Marshall, and Bayley (2013), acquired brain injury (ABI) is used as an “umbrella term” that stems from both traumatic and non-traumatic origins. ABI is not hereditary, congenital, or induced by birth trauma. ABI can be caused by different mechanism that inflict injury or damage to the brain which include cerebrovascular accidents, infections, tumours, neurodegenerative conditions as well as sustaining an injury as a result of external trauma to the head i.e., traumatic brain injury (Strandberg, 2009; Van Velzen et al., 2009). In Dewan et al. (2018) it was shown that the global estimates of occurrence of all causes of ABI is at approximately 939 cases per every 100 000 people. Reportedly the incidence of mild ABI is at approximately 740 per 100.000 cases which translates to an estimated total of 55.9 million people globally. Those individuals with severe ABI stood at approximately 173 per 100.000 cases which translates to an estimated total of 5.48 million people with ABI each year (Dewan et al., 2018). According to Frost, Farrer, Primosch, Dawson, and Hedges (2013), an estimated number of 1.5 to 2 million people sustain ABI every year in the USA alone. However, as revealed in Naidoo (2013), the incidence of ABI in America, Canada, and Europe

is undeniably high but the countries with the highest overall burden of ABI is observed in the South East Asian region and Western Pacific region. Iaccarino, Carretta, Nicolosi, and Morselli (2018) indicated that in developed nations the leading causes for ABI are falls at 28%, motor vehicle accidents at 20%, pedestrian vehicle accidents at 19% and only 11% for assaults and or interpersonal violence. In South Africa, approximately 89 000 new cases of traumatic brain injuries are annually reported. According to these statistics in South Africa, motor vehicle accidents, bicycle and pedestrian vehicle accidents accounted for almost half of the reported cases, whereas falls contributed to 25% and, interpersonal violence 20% of all reported cases (Naidoo, 2013).

2.2.2 Acquired brain injury mortality

In the United Kingdom records showed that 1.4 million patients with ABI are hospitalised annually of which the most common age group observed was between 40 years and younger (Lawrence, Helmy, Bouamra, Woodford, Lecky, & Hutchinson, 2016). Lawrence et al. (2016) also stated that in the USA, ABI remains a fatal injury with a mortality rate as high as 50%. According to Gerber, Chiu, Carney, Härtl, and Ghajar (2013), approximately 85% of the deaths that occur within 2 weeks after sustaining ABI are usually due to hypotension and inter-cranial hypertension. In the middle-income countries 90% of the traumatic brain injury death rate are mainly due to patients who suffered sub-acute haematomas and who needed emergency surgery (Soares de Souza et al., 2015). Furthermore, in a study conducted by Krishnamoorthy, Vavilalal, Mills, and Rowhani-Rahba (2015), it was found that the mortality rates after severe brain injury were very high within the first year post injury as most individuals died due to seizures, septicaemia, pneumonia and digestive conditions. In Naidoo (2013), it was found that there is no formal ABI databank in South Africa, and this is due to reliance on incomplete and unreliable hospital records, limited epidemiological funding as well as overcrowding and limited resources in public hospitals.

2.2.3 Acquired brain injury risk factors

In Frost et al. (2013), the main risk factors for ABI were mainly associated with specific subgroups of the population; namely, the elderly, adolescent males, minorities in lower socio-economic areas and those who abused alcohol, with a higher incidence in men than in women. According to Olson-Madden et al. (2012), men are twice as likely than women to sustain an

ABI because of their higher risk-taking behaviours. Individuals between the ages of 15 and 24 engage in riskier behaviour while alcohol consumption has been associated with risk behaviour, resulting in higher chances of sustaining a head injury. Olson-Madden et al. (2012) further stated that individuals with a history of alcohol and drug abuse are at a greater risk of sustaining a head injury since intoxication normally results in compromised motor control, impaired decision making and vulnerability to victimisation or leading to aggressive behaviours. Haag et al. (2019), on assessing knowledge of traumatic brain injury among intimate partner violence service providers, showed that most injuries from assault and trauma to the face, head, neck and strangling resulted in ABI, specifically for women. Survivors of interpersonal violence are likely to suffer blows to the head, being shoved against a hard surface or strangled to the point of loss of oxygen to the brain. According to Brown, Luckhardt, Cooney Koss, and Cantu (2018), women might be more at risk of ABI due to the aftermath of being assaulted deliberately to the head and face.

2.3 CONSEQUENCES OF ABI

Individuals with ABI have shown limitations in areas of self-care, work and leisure participation, which is often due to residual deficits in motor function, expressive speech, executive skills such as reading, writing, problem solving, and abstract thinking skills (Kanchan et al., 2018). Brain injury also inflicts difficulty in social participation and a loss of interest in previously engaged activities as a result of lowered impulse control, compromised emotional regulation and behavioural difficulties (Douglas, 2019; Larsson, Björkdahl, Esbjörnsson, & Sunnerhagen, 2013). In a study conducted by Lorenz (2010), on discovering a new identity after brain injury, the findings showed that individuals who sustained an injury to the brain often experience a “loss of self” in three areas which include a decrease in self-knowledge, a loss of self compared to their pre-morbid self-image, as well as a loss of self-confidence. Hence, these executive, behavioural and emotional impairments that are commonly linked with ABI are often less apparent to others. In Gioia, Isquith, and Kenealy (2010), executive functioning is the term used to describe a set of mental skills that are controlled by the brain’s frontal lobe which aids to connect past experiences with the present and is further described as the control function that organises and directs all cognitive activity, emotional and behavioural responses. The influence that post-injury executive dysfunction may have on everyday functioning varies and this can cause the individual with ABI finding it

more difficult to generate ideas, plan and stay on tasks. It also results in difficulty with reasoning as well as compromised self-awareness (Poncet et al., 2018; Barkley, 2012).

2.4 WORK DISABILITY POST-ABI

ABI can impose varying degrees of participation restrictions in all spheres of life, especially with regard to resuming work post injury (Theadom et al., 2017). Thus, an important objective is to maximise the individual with ABI's ability for reintegration into the community and productive work activities as early as possible (Matérne et al., 2017; Meriano & Latella, 2008). However, returning to work after brain injury is a concerning problem showing that many individuals with TBI experience RTW challenges as a result of cognitive and behavioural problems regardless of injury severity (Grigorovich et al., 2017; Donker-Cools et al., 2015). In Matérne et al. (2019), the person-related factors such as gender and age i.e., women, and individuals with ABI who are older, as well as individuals having a low education level showed a high probability of not returning to work post injury, while the social network was identified as an important factor that positively influences RTW. It was also noted that those experiencing difficulty accepting their disability, having low motivation and using avoidant coping styles were less likely to resume work post-ABI. The relation between injury-related factors, occupational demands, available supports structures as well as the socio-political context were also noted to significantly influence resumption to work for individuals with ABI (Matérne et al., 2017; Stergiou-Kita et al., 2016).

2.5 REHABILITATION POST-ABI

Rehabilitation post-ABI often commences in the hospital setting. During the early stages of recovery, rehabilitation typically focuses on assisting the ABI patient to regain self-care, physical and general cognitive abilities that might have been impacted on as a result of the injury. However, individuals who had suffered more severe brain injuries often require ongoing rehabilitation to regain the most optimal functioning after they have been discharged from a medical facility. Therefore, community-based rehabilitation is often provided for those experiencing ongoing post-injury functional limitations to enhance the ABI client's functional abilities, daily living activities as well as facilitating optimal social and community integration and participation post injury (Altman, Swick, Parrot, & Malec, 2010; Kim & Colantonio, 2010). Likewise, vocational/work rehabilitation is aimed at providing RTW interventions for

those individuals with ABI who are having difficulty fulfilling their worker role and aspire to RTW or enhance their work performances and productivity post-ABI.

Difficulties following ABI differ, therefore diverse interventions and a combination of interventions are often utilised to address the individual needs of patients. According to Barman, Chatterjee, and Bhide (2016), cognitive rehabilitation is best suited for well-motivated and functionally independent individuals suffering from mild to moderate cognitive impairments after TBI. Cognitive rehabilitation has shown greater benefits when administered as part of a multidisciplinary/interdisciplinary team approach (Barman et al., 2016).

In Wheeler, Acord-Vira, and Davis (2016), six approaches to holistic intervention were identified namely education, peer mentoring, formulating intervention goals, physical activity, skills training and cognitive behavioural therapy. Findings of these authors' systematic review found that the cognitive behavioural therapy approach is effective for both group and individual therapy and suggested that there is only moderate evidence to support goal-directed interventions, aquatic exercises and functional skills training. Limited evidence was found to support that peer mentoring, aerobic exercises, educational intervention and various skills training resulted in positive performance outcomes (Wheeler et al., 2016).

2.5.1 Cost of rehabilitation following ABI

In a literature review on the cost of traumatic brain injury conducted by Humphreys, Wood, Phillips, and Macey (2013) it was found that more than fifty percent of the total medical and healthcare expenses for individuals with TBI occurred during the first year post injury. In Grigorovich et al. (2017), it was reported that in the USA the medical and rehabilitation expenses per year for people with brain injury amounts to over seventy-five billion dollars. Unemployment following brain injury is a major concern as it can lead to difficulty reintegrating into the community and work context, which could subsequently lead to increased financial dependence on state institutions. Stergiou-Kita et al. (2016) found that supported employment is both cost-effective and has financial benefits for individuals with brain injury. It was observed that the annual costs of providing supported employment services for these clients were less than nine thousand dollars, while the average annual earnings for those who participated in supported employment service reflected a positive income rate of more than seventeen thousand dollars per year.

2.6 VOCATIONAL REHABILITATION MODELS AND APPROACHES

Guidelines from the World Health Organization emphasises that people with disabilities are important contributors to society and assigning resources to their rehabilitation would be an investment (WHO, 2001). There are numerous studies describing vocational rehabilitation models, which include among others the Brain Injury Assessment Model, the Critical Pathways Model, the Environmentally Focused Enablement Model and the Common Wealth Rehabilitation Service Client-Centred Model. In a systematic review conducted by Fadyl and McPherson (2009) on brain injury practice guidelines, it was found that the programme-based vocational rehabilitation model, the supported employment model, and the case-coordinated model are widely used during intervention implementation for individuals with ABI. Evidence from a study by Cullen et al. (2007) suggested that the supported employment model significantly improves the employment outcomes of those suffering from brain injury, while the findings from a systematic review published by Cicerone and colleagues in 2011, suggested that the comprehensive-holistic neuropsychological rehabilitation approach can enhance the individual's functional ability, productivity as well as community participation even after several years post injury.

A brief overview of some of the aforementioned vocational rehabilitation models is presented in the following subheadings:



Supported Employment Model

Supported employment (SE) is a cost-effective and individually tailored approach to work rehabilitation that focuses on rapid job searching based on the client's personal interests and preferences (Wehman, Chan, Ditchman, & Kang, 2014; Wehman, Targett, West, & Kregel, 2005). Wehman and colleagues modified the individual placement model for individuals with brain injury that gives preference to customised training at the job site through a job coach instead of primary pre-placement training and interventions. Hence, the use of the supported employment approach has demonstrated substantially higher vocational outcomes for individuals with brain injury (Wehman et al., 2005; Wehman et al., 2003).

Programme-based Vocational Rehabilitation Model

The Programme-based vocational rehabilitation model also known as a comprehensive day treatment programme (CDT), provides both individual and group interventions. The model's intervention is aimed at addressing the clients' cognitive, neuro-behavioural and psychological difficulties and is predominantly guided by a neuropsychological approach. These programmes typically offer intervention over four or five days a week for approximately six months which also includes family education and training, vocational trials, work placement and follow-up. As stated in Hashimoto, Okamoto, Watanabe, and Ohashi (2006), there are some differences in the specific components of the model; however, CDT programmes are generally based on the NYU Medical Centre Head Trauma Programme model. This model contains three sequential elements that include intensive tailored work skills interventions within a structured environment, guided work trials, and assisted placement with transitional job support. Some programmes also include follow-up at specific time points following discharge.

Vocational Case Coordination (VCC) Model

Vocational case coordination is an individualised approach that promotes access to vocationally related needs by facilitating the integration of relevant services to enhance the individual's vocational skills, workplace adaptation and overall work performance (Malec & Moessner, 2006; Malec, Buffington, Moessner, & Degiorgio, 2000). Vocational case coordination adopts a holistic approach where vocational rehabilitation is part of a broader rehabilitation programme that is tailored to suit the specific needs of each client. VCC follows a process of continuous monitoring of the client's progress by a case coordinator who facilitates the integration of identified vocational interventions into a holistic rehabilitation plan. Referrals for various aspects of vocational interventions are based on individual needs and often include vocational counselling, pre-employment training, assisted job placement as well as supported employment services.

Holistic Neuropsychological Rehabilitation

According to Cicerone et al. (2008), Holistic Neuropsychological Rehabilitation (HNR) is not only focused on the remediation of cognitive impairments but also the establishment of a meaningful and satisfactory life in spite of ongoing functional limitations post injury (Cicerone et al., 2008). HNR programmes characteristically provide both individual and group

interventions within a combined therapeutic environment. Holistic rehabilitation programmes have a comprehensive intervention focus on meta-cognition i.e., awareness and self-appraisal, interpersonal functioning as well as emotional regulation. It may also connect with other concurrent ABI intervention programmes to further enhance cognitive, practical skills, and overall functional ability of the ABI client.

2.7 WOMEN IN WORK

2.7.1 RTW challenges for women with ABI and disability

In a study conducted by Colantonio, Harris, Ratcliff, Chase, and Ellis (2010), on measuring the gender difference in self-reported outcomes after traumatic brain injury, findings revealed some similarities and differences between men and women's self-reported symptoms post injury. Men reported symptoms that included loss of confidence, problems with thinking clearly, needing more supervision, as well as increased levels of exhaustion. Whereas the need for supervision, lack of initiative, difficulty with planning and organising, and difficulty setting realistic goals were the most recurrent problems that were reported by women (Colantonio et al., 2010). In a study by Colantonio (2016), it was stated that findings that do not quantitatively report sex and gender differences after brain injury could demonstrate important first-hand differences that are shaped by gender roles, identities, and norms. In a quantitative study by Corrigan et al. (2007) it was found, women with brain injuries showed a higher probability of decreasing their hours of employment compared to men with brain injuries. The study also found significant associations with age and marital status, showing women who are married are more likely to decrease their working hours or completely stop working post injury. In Soeker and Darries (2019), the challenges that women with traumatic brain injury experience in their work environment after vocational rehabilitation were mainly due to post-injury sequelae that impacted on their ability to adapt to their pre-morbid worker identity and work roles. Additionally, exploitation in the workplace, specific work recruitment and legislative policies, contextual factors such as parental responsibilities, and access to safe and reliable transportation emerged as hindering RTW factors for a women suffering from brain injury (Soeker & Darries, 2019). In Stergiou-Kita et al. (2016), on gender influences on return to work after mild traumatic brain injury, it was noted that the change in work-related and breadwinner roles in terms of gender is as a result of the varying socio-political, and economic conditions of a particular context. Historically, the identification of the breadwinner in households has

been considered a uniquely masculine role, however changes in the household compositions such as single income families led by women or changing labour markets could influence the dynamics of traditional gendered occupational roles (Stergiou-Kita et al., 2016).

2.7.2 Segregated labour participation of persons with disabilities in South Africa

As reported in the National Development Plan 2030 (2015), the South African Commission for Employment Equity Report (CEE) 2012-2013, showed persons with disabilities (PWD) accounted for a meagre 86 481 or 1.4% of the total number of employees (6 153 334) in the open labour market, and also provided insights into gaps and inequality in the South African work force. For instance, of the 86 481 (total disability/total workforce) of the total number of employees (6 153 334), only 1.8% were PWDs in top management positions, 1.6% were in senior management and 2.3 % of the skilled workforce were persons with disabilities. According to the CEE (2012-2013), the race and gender population distribution of PWDs was quite similar to that of the total workforce at this level, with White male representation (54.7%) leading by a massive margin. Only 10% were African males, while 9.2% were Indian males and 3.4% Coloured male employees in top and senior management levels. Differences and inequity along gender lines were also apparent in the distribution of female employees with disabilities in top and senior management levels respectively and reflected a work force representation of White females (12.1%-17.6%), Indian females (2.4%-2.9%), Coloured females (2.4%) and African females (4%-5.3%). Both national and international studies have discussed the challenges when employing individuals with disabilities and their subsequent difficulties to access and secure long-term employment. However, individuals with disabilities often face constraints in the labour market due to poor insight and awareness of their disability status, negative attitudes of employers and colleagues, stigmatisation in the work place, physical environmental barriers to work, cost of work place accommodations, as well as legislation guiding the employment of PWDs (National Development Plan 2030-Person with disabilities as equal citizens, 2015).

2.7.3 Supportive equality, equity and diversity legislation in South Africa

Poverty eradication was one of the fundamental objectives of the United Nations Millennium Declaration that was adopted by 186 countries during the United Nations General Assembly [U.N.G.A] in 2000. Within the resolution countries agreed to support gender equity and the

empowerment of women as effective ways to combat poverty, hunger, disease, as well as to stimulate sustainable development (U.N.G.A, 2000). In South Africa, poverty eradication has been a major component of the government strategy over the past 20 years. At the start of democracy in 1994, the elected government had to deal with severe levels of poverty and inequality that were mainly created along racial lines. This made poverty eradication a key component of the governments' first policy framework namely, the Reconstruction and Development Program (RDP). Since then, the government has put several constitutional and legal frameworks in place to address the rise of poverty in the country. South Africa's National Development Plan (NDP) emphasises that the economic inclusion of women plays an essential role to combat poverty and inequality and is vital in achieving the country's envisioned development targets of 2030.

South Africa has established and implemented various policies to overcome gender and disability segregation in the work place. These include, *inter alia*, the Promotion of Equality and Prevention of Unfair Discrimination act, the National Skills Development Strategy 2005-2010, the Employment Equity Act (EEA) and The White Paper on an Integrated National Disability Strategy (INDS). However, the South African government already had existing disability/gender inclusion targets that have not been achieved. Disability is not specifically addressed in the National Development Plan 2030 and although it is referred to in some of its chapters, persons with disabilities are not always mentioned. Yet women and youth are indeed specifically mentioned in the NDP. Consequently, this gave rise to the Disability-Disaggregated National Development Plan which is aimed at strengthening the monitoring and evaluation capacity for effective oversight and advocacy. Thus, the latter development plan would establish a United Nation Convention on the Rights of Persons with Disabilities-compliant legal and policy framework for and reducing the economic vulnerabilities of persons with disabilities in South Africa (The National Development Plan 2030- Person with disabilities as equal citizens, 2015). Subsequently, in April 2017, under Section 54 (2) of the Employment Equity Act No. 55, 1998, a Code of Good Practice on the Preparation, Implementation and Monitoring of the Employment Equity Plan (EE Plan) came into effect. The EE Plan is a designated employer's implementation programme to achieve equitable representation and fair treatment of the designated groups (i.e. Black people, women and persons with disabilities) in the workplace across all occupational levels. The EE Plan addresses the barriers to fair employment practices, i.e. access and treatment in the policies and procedures identified in the consultation and the employment equity analysis process through

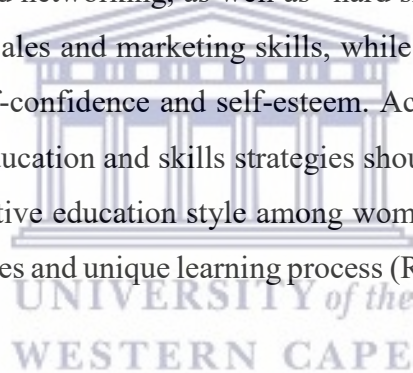
remedial measures in terms of policies, procedures and practices and the working environment in order to ensure the equitable representation of the designated groups in the workplace within set timeframes (National Development Plan 2030-Person with disabilities as equal citizens, 2015). Furthermore, the economic rights of PWDs to engage in entrepreneurial activities is well recognised and encouraged by the South African government who believes that PWDs should actively contribute to the growth of South Africa's economy and benefit from economic growth on an equal basis with others. Therefore, the Preferential Procurement Policy Framework Act 5 of 2000 has put measures in place providing opportunities for PWDs to access public sector procurement systems with a target of 5% access to all preferential procurement quota primarily for entrepreneurs with disabilities and historically disadvantaged communities (National Development Plan 2030-Person with disabilities as equal citizens, 2015).

2.7.4 Women entrepreneurship and self-employment

Many women earn their livelihood through self-employment/entrepreneurial endeavours. According to Bharthvajan (2014), women's entrepreneurship rapidly increased in many industrialised nations as it assists with a country's economic development and growth. Studies shows the entrepreneurial motivations between men and women arises from similar factors such as desire for money, recognition and economic independence, yet distinct differences among aspirant women entrepreneurs have also been noted. In Coleman and Robb (2012), comparing entrepreneurial motivations of men and women among MBA graduates of a business school in the USA, found that men are mainly inclined to follow wealth and career advancement whereas women are more attracted to career opportunities that would allow them to balance their work and family life. Hence, Bharthvajan (2014), found that a significant difference in entrepreneurial motivations between men and women are their perceived family responsibilities. Aspiring women entrepreneurs was shown to experience different problems and constraints in their start-up efforts that often limits development and expansion of their business endeavours. In studies conducted by Torun (2016) and Bharthvajan (2014), the challenges for women entrepreneurs in Turkey and India were similar, and it was noted that a lack of business experience, social and cultural obstacles as well as traditionalism were of the most debilitating factors for women entrepreneurs. In a study by Chinomona and Maziriri (2015) on the challenges facing women entrepreneurs in the Gauteng Province of South Africa,

findings revealed that a lack of training and education coupled with gender discrimination as well as poor access to economic development services limits their economic involvement.

According to Maina (2013), entrepreneurship education is a way of developing entrepreneurial skills in people through innovative strategies and ideas, identification of business opportunities, as well as strong leadership skills. Entrepreneurship education has been noted as a means to add quality to the entrepreneurial experiences of women (Peterman & Kennedy, 2003; Wilson, Kickul, & Marlino, 2007). According to Okpachu, Asa, and Adamu (2017), women entrepreneurs value affective learning opportunities as well as skills opportunities that enhance their connections with relevant social networks. Coleman and Robb (2012) noted that women benefit from entrepreneurial programmes that focus on improving self-confidence and self-efficacy during the learning process. Tynan et al. (2009) stated, in terms of specific skills and competencies, training programmes for women entrepreneurs need to develop both “soft skills” such as confidence building and networking, as well as “hard skills” that focus on areas such as strategy and finance skills, sales and marketing skills, while at the same time highlighting the importance of building self-confidence and self-esteem. According to Radovic Markovic et al. (2012), entrepreneurial education and skills strategies should embrace an active learning mode to encourage a collaborative education style among women entrepreneurs that is based on their individual needs, abilities and unique learning process (Radovic Markovic et al., 2012).

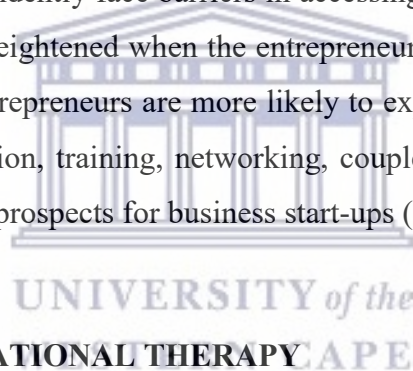


2.7.5 Entrepreneurship and self-employment of people with disabilities

In a study conducted by Renko, Parker, Harris, and Caldwell (2016) on entrepreneurial entry by people with disabilities, it was found that one out of ten individuals has a disability, however research evidence on the benefits of entrepreneurship for those with disabilities remains limited. Harris, Renko, and Caldwell (2013) noted that social entrepreneurship is an employment strategy that can lead to economic self-sufficiency and empowerment for persons with disabilities. Muñoz, Salinero, Peña, and De Pablo (2019) stated that people with disabilities usually start up a business out of necessity given that it is difficult for them to obtain another type of paid employment. Kitching (2014) proposed that self-employment for individuals with disabilities should follow a developmental process since there are several factors that could influence their self-employment efforts with varying development needs that could change over time (Caldwell et al., 2016). Individuals with disabilities face challenges maintaining entrepreneurial initiatives that could be associated with the type or degree of their

disability as well as particular characteristics of their entrepreneurial environment (Kitching, 2014). In South Africa, there is limited research evidence on the challenges that entrepreneurs with disabilities experience during their start-up ventures. In a qualitative study conducted by Maziriri and Madinga (2016) on investigating the challenges of entrepreneurs living with physical disabilities in South Africa, it was found that a lack of entrepreneurial education and training, poor access to finance and equipment as well as minimal government support, were some of the main hinderances to entrepreneurial engagement.

In a study conducted by Caldwell, Harris, and Renko (2017) on women, disability, and entrepreneurship, the authors noted that although living with a disability is distinct, it is important to understand the ways ableism has shaped inequalities on the basis of race, gender, and ethnicity. For women, this meant calling upon their disability to justify unequal treatment by bringing into question their physical, intellectual, and psychological capabilities. Although people with disabilities independently face barriers in accessing important start-up resources, these barriers may be further heightened when the entrepreneur is a woman with a disability. Women with disabilities as entrepreneurs are more likely to experience additional barriers in areas such as access to education, training, networking, coupled with systemic and cultural discrimination that limits their prospects for business start-ups (Caldwell et al., 2017).



2.8 THE ROLE OF OCCUPATIONAL THERAPY

Practices in occupational therapy are directed by the assumptions grounded on the occupational perspectives of humans and health. Humans possess an intrinsic desire and capability to participate in occupation. According to King and Olson (2009), the foundation of vocational rehabilitation in occupational therapy history comprises participation in meaningful occupations. Occupation offers an ideal passage for the recognition and utilisation of human potential as it provides opportunities through which individuals can create and transform their own lives, overcome barriers, pursue their goals, and develop and express their own identity (Klinger, 2005; Watson & Fourie, 2004:19). Therefore, adopting an approach that is client-centred is essential in obtaining a thorough insight into the multifaceted relationship between the person, the environment, and the occupation, as well as the individual's ability to overcome their challenges to occupational performance. Thus, during the rehabilitation process for individuals with brain injury, occupational therapists adopt an eclectic approach in conjunction with various theoretical models and treatment modalities that include among others

neurodevelopmental therapy, remedial cognitive approaches and compensatory approaches (American Occupational Therapy Association, 2017).

2.9 THEORETICAL FRAMEWORKS

2.9.1 The Empowerment Theory

In the current study, empowerment at the individual level of analysis was utilised as a framework to conceptualise the development of an entrepreneurial skills model for women with ABI. According to Zimmerman (2000), the empowerment theory can be used both as a framework for working in the community as well a theoretical model for gaining insight into the processes and outcomes to independently influence and control the decisions that impact on one's life. Empowerment in action enables people and communities to overcome their lack of influence, to recognise and use their own resources to represent their interest in a self-directed and self-determined manner (Zimmerman, 2000). In Frain, Bishop, and Tschopp (2009) empowerment has been noted as being associated with the concepts of self-efficacy, self-advocacy, competence, and self-perceived stigma. In Pratto (2016, p.11) the definition of empowerment was defined as a "state of being able to meet one's goals", depending upon the individual's environment, whether or not there are opportunities to achieve goals, and whether the individual has the capacity to achieve these goals. However, an individual may experience obstacles to empowerment because of deficiencies in the environment, personal capabilities, or both (Pratto, 2016). According to Zimmerman (2000), process and outcomes of empowerment can differ for different people since a single standard cannot fully capture its meaning for all people in all environments. According to Peterson (2014) various empirical studies have shown different results upon how the construct of empowerment is conceptualised that has led to the recognition and agreement among academics that empowerment can be described as a multidimensional construct.

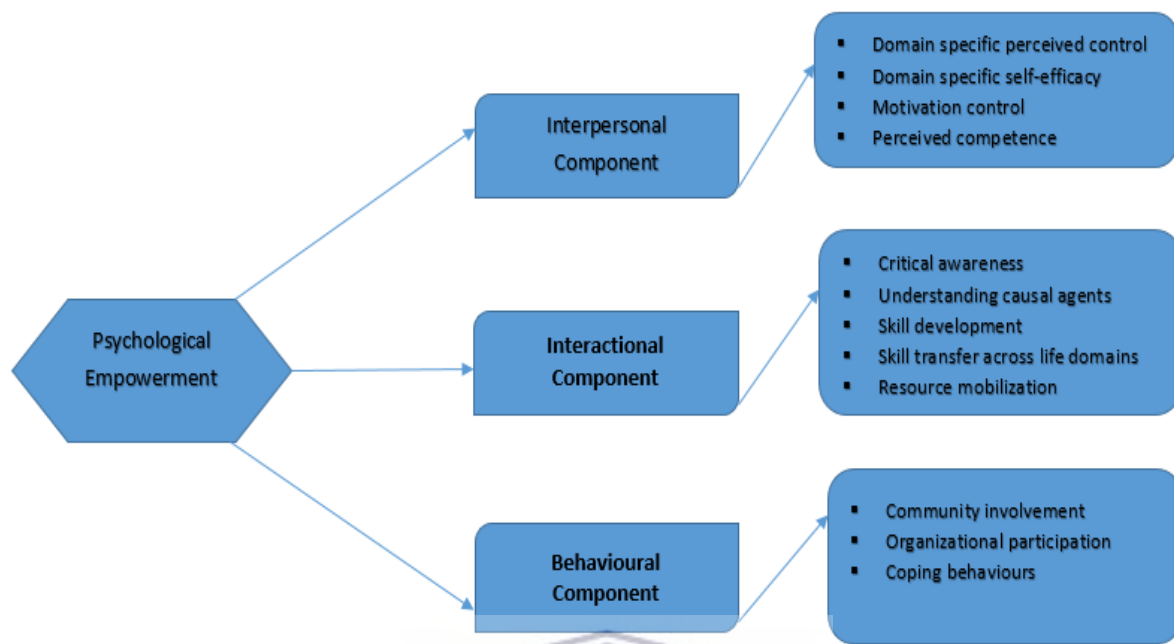


Figure 2.1: Disaggregation of psychological empowerment (Zimmerman, 1995)

Empowerment at the individual level of analysis may also be referred to as psychological empowerment (PE). Psychological empowerment can be recognised by the dimensions of intra-personal, inter-actional and behavioural components. As stated in Zimmerman (2000) the intra-personal components include personality (e.g., locus of control), cognitive (e.g., self-efficacy), and motivational aspects of perceived control. The inter-actional component of PE refers to how people use analytic skills (e.g., problem solving) to influence their environment. The behavioural component of psychological empowerment refers to taking action to exert control by participation in community, organisations or daily activities. According to Sprague and Hayes (2000), empowerment at the individual level instead of being viewed as an attribute, attitude, ability, or behaviour one may or may not possess, the empowerment process should also be considered flexible and reliant upon an individual's educational, social, political, and cultural contexts. In a study conducted by Hough and Paisley (2008) on investigating the empowerment process on psychological empowerment among individuals toward recreation and leisure participating in an adaptive adventure programme, the authors proposed that empowerment of the intrapersonal subtype (aligned with perceived control, motivation, self-efficacy, perceived competence, and mastery), could be enhanced through participation in

programmes when the empowerment process are accentuated with integrated practices. In the same study it was suggested that empowerment may in fact be dispositional, implying that the sense of empowerment that has been developed can be generalised from one situation to another, inferring that it is not context specific but rather dynamic in nature. In a review by Fleming, Valle, Kim, and Leahy (2013), several studies identified strategies for best practices on developing client success and achieving their rehabilitation goals, one of which included the process of empowerment that showed a positive association between enhanced self-concept, self-esteem, and client involvement. According to Zimmerman (2000), the role of professionals during empowerment intervention implementation is that of a collaborator and a facilitator rather than an expert or counsellor, as this will ensure professionals to gain a holistic understanding of their clients during the actions of empowerment. The above statement supports the approach of adopting client-centred vocational rehabilitation practices and the importance of recognising the needs and opportunities that could enhance the client's occupational competency. Van Hal, Meershoek, Nijhuis, and Horstman (2012) noted, during vocational rehabilitation, the process of empowerment is recognised as the belief that individuals should be able to choose and take charge of their own journey back to the work force, thus facilitating vocational interventions that are unique to each individual's needs, contexts and experiences.



2.9.2 The Model of Occupational Self-Efficacy

Whilst the empowerment theory served as an overarching framework and conceptual guide in developing an entrepreneurial skills development model; the Model of Occupational Self-Efficacy (MOOSE) provided empirical guidelines to the structure and operationalisation of intervention components that aims to facilitate and enhance self-efficacy and entrepreneurial skills among women with ABI.

The MOOSE, that was developed by Soeker (2010), aims to enhance the occupational self-efficacy of individuals who had suffered a brain injury to the extent that they are able to independently pursue and competently engage in work related activities post injury. The MOOSE comprises four intervention stages that have structured guidelines and goals that need to be achieved before the client can move on to the next stage. The model is dynamic and interrelated that allows the client to fluctuate between stages according to their unique development during the intervention process. The model is designed to address factors that

impact on occupational identity and competency as well as to facilitate a process of client enablement and achieve maximum occupational role participation (Soeker, Van Rensburg, & Travill, 2012). As part of the respective stages of the model, performance accomplishments are facilitated through a client-centred approach, encouraging a process of self-reflection, enhancement of performance skills and engagement in self-directed meaningful occupations. Through this process, higher occupational competency is achieved by the individual with brain injury when he/she is able to adapt to the demands placed either through the person, the environment or the occupation (Schkade & Schultz, 1992). A graphical description of the MOOSE is presented as Figure 2.2.



Figure 2.2: Model of Occupational Self-Efficacy (Soeker, 2014)

Stage 1 is known as *A strong belief in functional ability* and aims to facilitate self-reflection and introspection. During this stage, the individual with brain injury is encouraged to evaluate his or her circumstances and reflect on their limitations and capabilities using the steps of reflection proposed by Gibbs (1998).

Stage 2 is known as the *Use of Self* that aims to address performance components such as cognitive and physical limitations. During this stage the goal to performance is steered by the clients, and as their skills and abilities in mastering tasks improve, their self-efficacy is enhanced. The individual is likely to develop a greater self-awareness with a clearer and less distorted perception of his or her functional abilities.

Stage 3 is known as the *Creation of competency through occupational engagement*. During this stage, the aim is to facilitate and encourage independent functioning in work-related tasks and activities. Through continuous successful engagement in work activities their self-efficacy is further enhanced. With the improvement of individual capabilities and work performance the client is envisioned to be more competent to resume and sustain their worker role.

Stage 4 is known as the *Capable individual* and envisions the individual to successfully engage in work and related occupations. The aim is for the individual's occupational self-efficacy to be enhanced to the extent that he/she is able perform work with minimal to no support.

2.10 SUMMARY OF CHAPTER TWO

In the literature, evidence suggests that ABI is a major cause of morbidity and mortality worldwide. Individuals with ABI can experience various post-injury symptoms with some individuals experiencing long-term difficulties in vocational, recreational, and social activities. Rehabilitation approaches have been identified that aid in the improvement of daily function, as well as specific vocational rehabilitation models and approaches that address RTW for individuals with ABI. The literature suggests that there are several RTW risk factors involved for women with ABI post injury, hence research supports the recommendations for rehabilitation programmes to address specific RTW barriers stemming from the person and environmental factors that hinders their resumption to work. The literature also identifies the South African government's legislative policies and protocols promoting the economic inclusion and participation of women and those vulnerable to disability and poverty. The relevance of entrepreneurship as a means to economic participation and independence for women and those with disabilities is well recognised both nationally and internationally, yet evidence on specific programmes designed to enhance entrepreneurial skills and entrepreneurship amongst women with ABI remains limited. Furthermore, evidence from the literature suggest vocational rehabilitation is essential in developing strategies to enhance successful vocational outcomes and economic participation for women with ABI. Therefore, the Empowerment Theory and the Model of Occupational Self-Efficacy (MOOSE) have been applied in the current study in providing a conceptual foundation for the design and development of a model that would enhance the entrepreneurial skills of women with ABI.

CHAPTER 3

METHODOLOGY

3.1 OVERVIEW OF THE CHAPTER

This chapter presents the methodology and procedures used to achieve the aim of the study, which was to explore the components required to design a model that would enhance the entrepreneurial skills of women with ABI. It discusses the research approach and a description of the research setting. Furthermore, it describes the research design, the sampling methods as well as the data collection process of phases 1, 2 and 3. Lastly, the ethical considerations pertaining to the current study is discussed

3.2 RESEARCH APPROACH

The current study employed a mixed methods research approach. According to Creswell and Clark (2010), the principal premise of mixed methods research is that when used in combination the quantitative and qualitative approaches provide a better understanding of research problems than using either one on its own. This research approach is widespread, innovative and inclusive which allows researchers to utilise diverse methods in their investigations (McKim, 2015). Mixed methodology is recognised and respected in biomedical and health research, as the strength of each approach can produce greater insights into complex topics of inquiry (Curry et al., 2013).

3.3 RESEARCH SETTING

This study was based at the Work Assessment Units (WAUs) of the Occupational Therapy Departments at the Groote Schuur Hospital (GSH) and Tygerberg Hospital (TBH) in the Cape Metropolitan District of the Western Cape, South Africa. According to the latest 2018-2019 population estimates the Cape Metropolitan District population is estimated to be 4 140 565 million and covers an area of 2 460km² (Statistics South Africa, mid-year population estimates, 2020). As reported in the City of Cape Town's Socio Economic Profile of 2017, the labour force participation for women in general stood at 62.7%.

The two WAUs at the Occupational Therapy Departments at Tygerberg and Groote Schuur Hospitals predominantly perform functional capacity evaluations (FCEs) and full work assessments that tests and prepares the readiness of clients to re-enter the open labour market after injury or illness. Both units' service package includes vocational counselling, work site visits, advocating and mediating with employers with regard to reasonable accommodations, liaising with learnership institutions for client placement, facilitating sheltered employment placement as well as conducting disability grant assessments. The GSH WAU and TBH WAUs accepts referrals from primary to secondary level health facilities as well medical insurance organisations. One of the main service objectives of both WAUs and broader goals of the respective Occupational Therapy Departments, is to enhance their patients' prospects of returning to work, as well as pursuing alternative meaningful and paid occupations. According to the TBH and GSH WAUs, vocational rehabilitative services are impacted by limited human resources and the high service demand for RTW work assessments and disability grant eligibility assessments. Therefore, certain aspects of vocational rehabilitation services are provided but often hindered due to time and resource constraints. Reportedly the RTW rates have improved but remain below the planned service outcomes of the respective WAUs (personal communication with chief occupational therapists managing the GSH WAU and TBH WAU, July 2017). Both GSH and TBH WAUs were considered as the ideal setting to explore and develop the components of a model to enhance the entrepreneurship skills of women with ABI. Figures 3.1 and 3.2, respectively, present a map of the Cape Metropole and a map of health sub-districts depicting the Groote Schuur Hospital (GSH) and Tygerberg Hospital (TBH), where the two work assessment units (WAU) are situated, as well as the two psychiatric hospitals that also offer some form of vocational rehabilitation services.

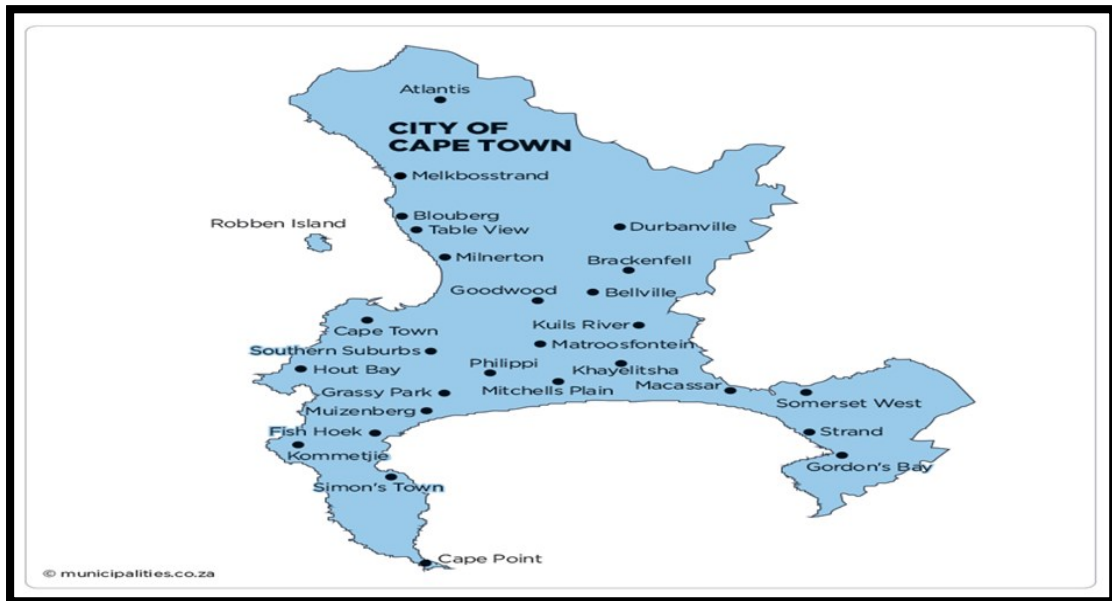


Figure 3.1: Map of the Cape Metropolitan (Source: Maps of Cape Town online, 2019)

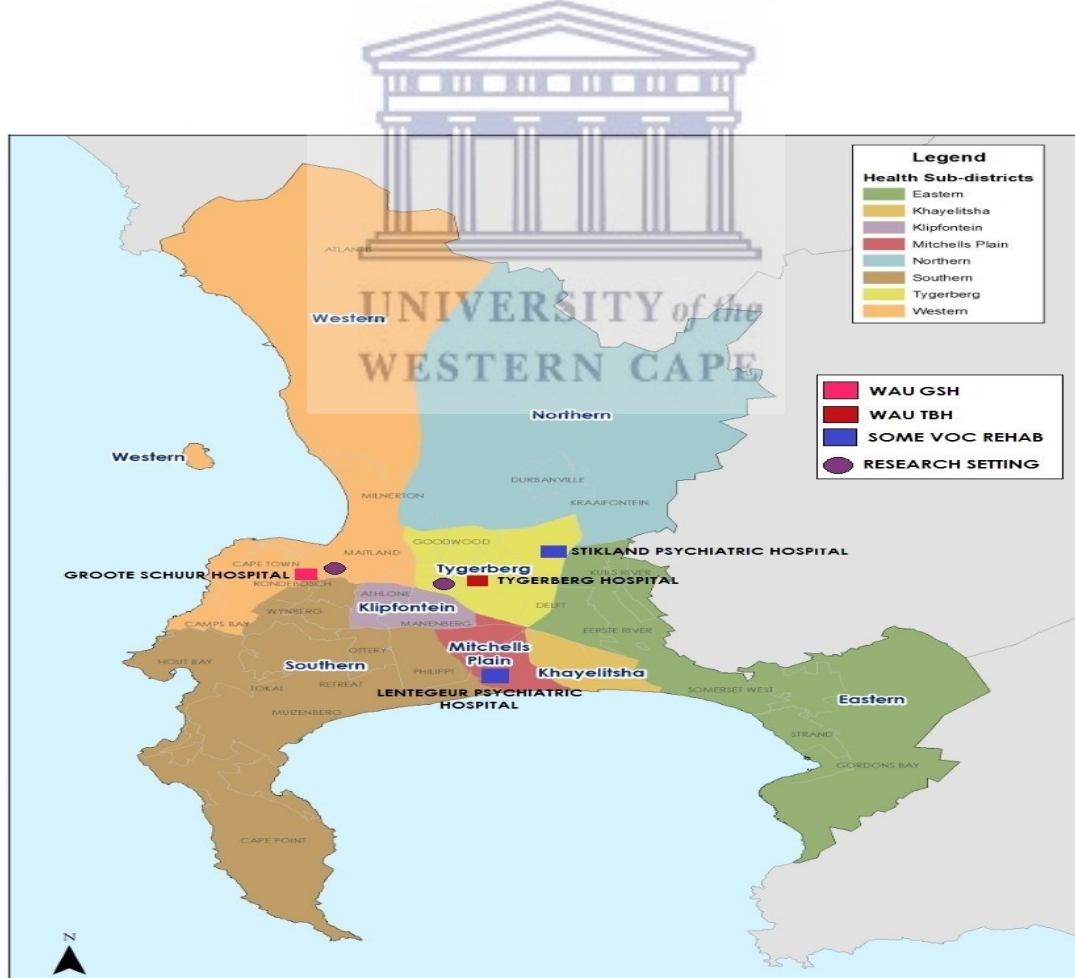


Figure 3.2: Map of health sub-districts in the Cape Town Metropolitan and research setting (GSH & TBH: WAU–Work Assessment Units)

Source: Maps of Cape Town online (2019)

3.4 RESEARCH DESIGN

A multi-phase mixed methodological design was utilised in this study. As described by Creswell and Clark (2010), the multi-phase design procedure entails an iteration of sequentially aligned and interrelated quantitative and qualitative data sets over multiple phases to address the overall aim and objectives of a study. As stated in Almeida (2018), a multi-phase design is a more complex design that comprises three or more phases, emphasising that the design holds both advantages and limitations in its use. Advantages of the design include its suitability for investigating complex problems and its flexibility for accommodating emergent questions at different stages. However, a multi-phase design is very time consuming and often requires a team of researchers with advanced skills and experience in mixed method research. Likewise, the integration of findings may become more complex, especially if contradictory study results emerge. In addition, the design may incur high costs when followed over an extended period of time (Almeida, 2018).

The current study's research design encompassed three separate phases, namely Phase 1, Phase 2 and Phase 3. Consequently, the current study was conceptualised from the findings that emerged from the three phases that were independent in methodological design.

The first three objectives of this study were combined in Phase 1, which sought to determine the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work, as well the qualitative exploration of the barriers and facilitators to entrepreneurial skills development for women with ABI. A convergent parallel mixed method design was utilised in Phase 1.

Phase 2 sought to achieve the fourth objective of the study that entailed a scoping review of relevant literature to establish suitable theoretical and practical approaches in vocational rehabilitation of women with ABI. According to Arksey and O'Malley (2005), although there are similarities between a systematic and a scoping review, the latter does not include an appraisal of the quality of the research evidence. Therefore, the scoping review's aim was to determine what range of evidence is available on the topic of inquiry.







Phase 3 sought to achieve the fifth objective of the study by means of a Delphi study. According to Bartholomew, Parcel, Kok and Gottlieb (2011), the contribution of essential stakeholders serves as an important feature of a programme's development process. Therefore, by means of a Delphi study the aim was to seek the opinions and consensus on the design and development

of the envisaged model from a panel of purposively selected experts. According to Guest (2013), each true mixed methods study has at least one point of integration which is called the “point of integration”, when the qualitative and quantitative components are brought together. This point of integration occurred during Phase 3 of the current study. The information that was obtained from the previous study phases as well as the responses from the panel of experts in the field of ABI management and rehabilitation were triangulated and integrated to elucidate the components necessary in the design and development of the proposed model.

An outline of the study’s methodological approach is presented in Table 3.1



Tale 3.1: Summary of methodological approach of study

Study Phases	Study Design	Data Collection	Data Analysis	Relevance to the study
<p style="text-align: center;">Phase 1</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Stage 1 </div> <div style="text-align: center;">  stage 2 </div> </div>	<p style="text-align: center;">Convergent parallel mixed design</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Quantitative </div> <div style="text-align: center;">  Qualitative </div> </div>	<p style="text-align: center;">Cross-sectional Survey using the WORQ-SR</p> <div style="text-align: center;">  Semi – structured interviews until saturation occurs </div>	<p>Using the SPSS Statistics Standard version 26, data was analysed using descriptive and inferential statistics</p> <div style="text-align: center;">  Manually handled utilizing an inductive coding approach to thematically analyse the content of the data. </div>	<p>Forms a baseline of health problem, the RTW status of women with ABI, as well as the impairments, activity limitations, and participation restrictions post ABI. Therefore, the health problem’s influence on functioning, behaviour and environmental aspects, and work resumption could be outlined.</p>
<p style="text-align: center;">Phase 2</p> <p>Identification of theory based methods and strategies</p>	<p>Qualitative content analysis of the methods</p>	<p style="text-align: center;">Scoping Review</p> <p>Preliminary assessment of potential size and scope of available research literature and identify nature and extent of research evidence</p>	<p>Data was charted by following iterative process which was continuously updated by the researcher to ensure extraction process is consistent with the research question and the purpose of the review</p>	<p>Theory based methods and practical strategies that have been used to enhance entrepreneurial skills and RTW of women with ABI were identified from literature through a scoping review. Enabling identification of theoretical methods, select programme methods as well as select or design strategies</p>

<p>Phase 3</p> <p>Programme development</p>	<p>Quantitative</p>	<p>Delphi study</p> <p>A three round e-Delphi survey was employed to generate agreement on the best possible strategy to enhance entrepreneurial skills and RTW in women with ABI</p>	<p>Consult with intended participants and implementers.</p> <p>Create programme scope, sequence, and theme.</p> <p>Develop concept maps and protocols.</p> <p>Develop programme materials</p> <p>Review available programme materials</p> <p>Pre-test programme materials with experts and implementers</p>	<p>In this phase, the researcher collated the information provided in the previous steps to design a programme.</p> <p>Through a Delphi survey, a contextually relevant entrepreneurial skills programme was developed.</p>
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3.5 STUDY POPULATION AND SAMPLING

During the quantitative strand (Stage one) of Phase 1, a convenience sampling technique was employed to recruit female patients diagnosed with ABI via statistical records from the two WAUs as well as from the medical databases of the Groote Schuur and Tygerberg hospitals. During the qualitative strand (Stage two) of Phase 1, a purposive sampling technique was employed. Likewise, in Phase 3 of the study, purposive sampling was also employed to recruit participants with expertise in vocational and neurorehabilitation that included occupational therapists, psychologists, social scientists and academics in occupational health institutions. A brief summary of this study's sampling techniques is described in the following sub-sections while a more detailed explanation of the procedures used in the respective phases are provided in subsequent chapters.

3.5.1 Convenience sampling

Convenience sampling is type of non-probability sampling when individuals of a target population satisfy a certain set of criteria and are subsequently included in a study for the purpose of investigating a particular topic of inquiry (Etikan, Musa, & Alkassim, 2016). According to Etikan et al. (2016), convenience sampling methods places primary emphasis on generalisability (i.e., ensuring that the knowledge gained is representative of the population of women with a clinical diagnosis of ABI from which the sample was drawn). The statistical records of women who received a clinical diagnosis of ABI were available and easily accessible to the researcher at the research setting and therefore considered as an appropriate sampling technique.

3.5.2 Purposive sampling

During the qualitative strand of the current study, a purposive sampling technique was used to select participants based on the study's purpose and stipulated inclusion criteria with the expectation that each participant could provide their own unique experience of RTW and entrepreneurial skills development after ABI. According to Etikan et al. (2016), the purposive sampling technique is employed when the researcher sets out to investigate a particular topic of interest and seeks to gain information from specific people who are in the best position to

provide the necessary information based on their unique experiences and insights on the topic at hand. This technique allowed the researcher to gain rich information that added value to the qualitative strand of the data collection process (Morse & Niehaus, 2009). The purposive sampling technique also aims to identify and select individuals or groups of individuals that are proficient and well-informed with a topic of interest, have expert knowledge, are willing to participate, and have the ability to communicate experiences and opinions in a reflective manner (Creswell, Klassen, Plano Clark, & Smith, 2011). Consequently, in Phase 3 the purposive sampling technique was used to identify and select the experts who participated in the Delphi survey.



3.6 PHASES OF DATA COLLECTION

The following section provides a description of the methodological approaches that were employed in each phase of the data collection process to meet the research objectives and broader aim of the current study. Further descriptions and discussions will follow in the respective chapters. Figure 3.3 below provides a graphical description of the respective phases of the current study.

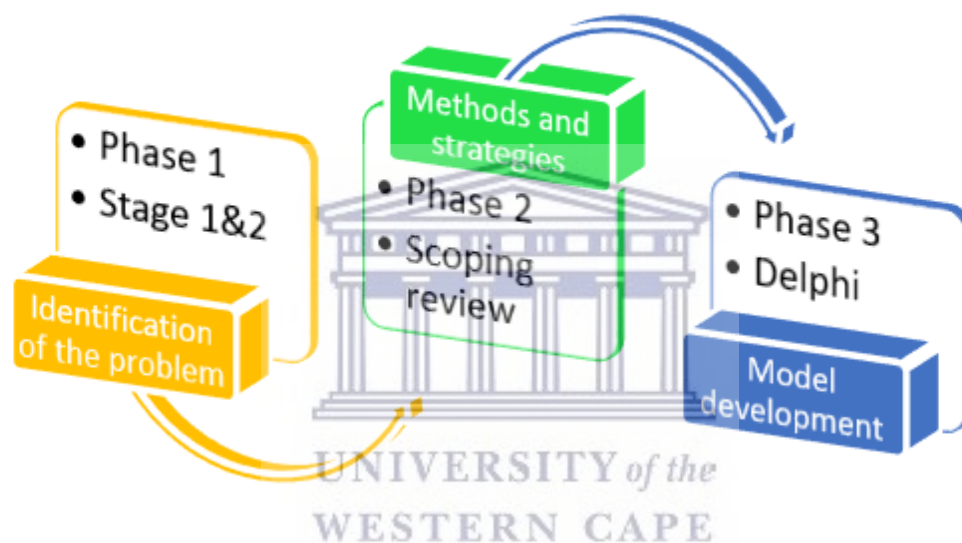


Figure 3.3 Methodological framework of the study

3.6.1 Phase 1: Identification of the problem (Objectives one, two and three)

Convergent parallel mixed-method design

In Phase 1, the quantitative and qualitative methods were planned and executed in two stages to meet objectives one, two and three. The two research components are independent and does not depend on the results of the other research component (Schoonenboom & Johnson, 2017). According to Creswell (2013), with this particular design the quantitative and qualitative data is gathered roughly at the same time whereby the researcher later incorporates the findings in the overall results of the study. During this phase of the study, in order to determine the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work, a quantitative approach with a cross-sectional survey design (stage one) was used. The exploration of the barriers and facilitators to entrepreneurial

skills development for women with ABI was explored by employing a qualitative approach (stage two) with an exploratory and descriptive design. Through the analysis and interpretation of both the quantitative and qualitative study findings, the researcher was able to ascertain both convergent and divergent conclusions that aided in providing empirical evidence of essential components to be considered during the design and development of envisioned entrepreneurial skills model.

A detailed description of the data collection process of the two stages within Phase 1 is further discussed in the following sub-sections (see 3.6.1.1 and 3.6.1.2).

3.6.1.1 Quantitative Stage 1 (Objective one)

To determine the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work

A quantitative approach was used to answer the first objective of the current study. Descriptive statistics was used to summarise the baseline demographic, health status and environmental data of respondents, while a regression analysis was utilised to determine whether socio-demographic, impairment-related restrictions and environmental support-related factors predict RTW for women with ABI.

Research design: A cross-sectional survey was employed in this stage of the current study. A survey is a data collection technique that delivers a quantitative description of a population by studying a sample of that particular population (Gravetter & Forzano, 2018; Creswell, 2013). Furthermore, survey research offers a unique way of gathering information from large cohorts that is advantageous in yielding greater statistical control and analysis (Jones, Baxter, & Khanduja, 2013).

Study participants: Women who received a clinical diagnosis of ABI were conveniently sampled from the two designated WAUs at Groote Schuur and Tygerberg Hospital (GSH and TBH). Sampling was also based on the participants' ICD-10 diagnosis code, which is part of a coding system that communicates health data in a consistent and reproducible manner (South African ICD-10 Technical User Guide, 2014). In consultation with both managers of the WAUs at GSH and TBH, an estimated combined total of 311 female patients with a diagnosis of ABI who were screened, assessed and/or referred for further intervention between the years 2016-2017 at both units, were confirmed. The sample size for the quantitative stage of the current study was thus determined using the Taro Yamane formula, which is a simplified formula to

calculate sample sizes (Yamane, 1973). Consequently, a total of 182 women with ABI were calculated to take part in the quantitative strand of the current study. Thereafter, participants were selected from the electronic data bases and clinical records of GSH and TBH with ICD-10 codes specifying ABI diagnoses of cerebral vascular accidents (CVAs), traumatic brain injuries (TBIs), benign brain tumours, as well as malignant brain tumours that were not metastatic in nature. The data collection procedure is further discussed under chapter four of the current study.

Inclusion criteria: The criteria included women between 18 and 65 years, who had worked pre-morbidly in the formal labour market, had been diagnosed with ABI with a post-acute brain injury stage of recovery of approximately four to six months and, who had received curative and rehabilitation services, including physio, psychological, speech and/or occupational therapy. Participants with psychiatric conditions or other medical conditions that might have an influence on the sequelae of ABI were excluded.

Data collection instrument: The Work Rehabilitation Questionnaire (WORQ) was used to gather the information needed to achieve the first objective of the current study. It is a standardised instrument that assesses and records the functioning among individuals with several health conditions receiving vocational rehabilitation. The WORQ was found to have a high level of internal consistency (Cronbach's $\alpha=0.88$) and inter-rater agreement ($\kappa=0.82$) as well as satisfactory levels of test retest reliability ($r=0.79$) and good face, content and criterion validity (Finger, Escorpizo, Bostan, & De Bie, 2014). WORQ contains two parts i.e., Part 1 and Part 2. For the current study only Part 1 of the questionnaire was used consisting of seventeen items that contain socio-demographic and work-related questions. The WORQ had been used in similar studies based in the African context and demonstrated satisfactory levels of test retest reliability (Ganie, 2021; Olaye, 2019). The questionnaire was translated into its Afrikaans version, which entailed the forward and backward translation from the English language to Afrikaans language by two multilingual interpreters (Sousa & Rojjanasrirat, 2011).

Pilot study: A pilot study was conducted to evaluate the execution of the procedures and methods as well as an overall analysis and identification of weaknesses that may be addressed for use in the main study. According to Doody and Doody (2015), pilot studies are often performed to test the feasibility of techniques, methods, questionnaires, interviews, and how they function together in a particular context.

The pilot study was conducted over a one-month period with thirteen participants that were recruited from the hospitals' data basis via face-to-face and telephonic interviews. The pilot study allowed the researcher to determine the estimated time frame required for administration of the questionnaire and that telephonic interviews facilitated better access to participants who meet the study's inclusion criteria. In addition, the researcher noted additional probing into specific questions provided the participants with a better understanding and response to the question.

Data analysis: The researcher utilised the statistical software package SPSS (version 26) to analyse the data that was collected. In the current study descriptive statistics were employed to summarise the baseline demographic, health and environmental information of the survey respondents using tables and charts. According to Creswell (2014), descriptive statistics provides a description of the basic characteristics of data by briefly summarising the sample and the measures that were used in a particular study. Inferential statistics i.e., a binary logistical regression model was utilised in order to determine whether socio-demographic, impairment-related restrictions, and environmental factors predicted return to work among women with ABI. As stated in Schreiber-Gregory, Jackson, and Bader (2018), logistic regression does not require a linear association among the dependent and independent variables, the error terms do not need to be normally distributed, homoscedasticity is not required, and the dependent variable in logistic regression is not measured on an interval or ratio scale. Therefore, the researcher's rationale for utilising a binary logistic regression analysis is because the dependent variable is rated as categorical, which allowed the selected key independent variables to be entered at the same time without determining a ranked order based on each variable's significance in relation to each other. The researcher made use of SPSS (version 26) to operationalise the binary logistic regression by analysing the composite scores of each key independent variable and explaining the amount of variance to the respondents' RTW status, which functioned as the dependent variable. The goodness-of-fit of the model and the statistical significance was checked, which included the coefficient of determination Nagelkerke and Cox and Snell R square. The level of statistical significance was set at 95% confidence level, with a confidence interval of .05. The results are further described and discussed in chapter four of the current study.

3.6.1.2 Qualitative Stage 2 (Objectives two and three)

The exploration of the perceived barriers and facilitators of entrepreneurial skills development of women with ABI

A qualitative approach with an exploratory and descriptive design was employed to meet the second and third objective of the current study. According to Fouché and De Vos (2011), exploratory research is used when a researcher sets out to gain insight and understanding of a social issue by answering “what” questions. In the current study, the researcher wanted to know, “What are the perceived barriers and facilitators of the transition to work and/or entrepreneurial skills development of women with ABI during rehabilitation/vocational rehabilitation?”. Descriptive research is used when a researcher wants to provide in-depth descriptions of a social issue, answering “how” and “why” questions (Fouché & De Vos, 2011). The researcher aspired to answer how and why the health problem impacts on the functioning, behaviour and participation of women with ABI after injury.

Study participants: Participants who participated in the quantitative stage were purposively sampled to take part in the qualitative stage. A total of ten (10) participants were selected and consented to participate after meeting a set inclusion and exclusion criteria. The sample size correlates with the findings of a systematic review on PhD studies conducted by Mason (2010), showing that eight to thirty study participants are of a suitable sample size in qualitative studies.

Inclusion criteria: The criteria included women between 18 and 65 years, who had worked pre-morbidly in the formal labour market, had been diagnosed with ABI with a post-acute brain injury stage of recovery of approximately four to six months and, who had received curative and rehabilitation services including physio, psychological, speech and/or occupational therapy. Participants with a psychiatric condition or other medical conditions that might have an influence on the sequelae of ABI were excluded. The participant’s functional ability included having adequate cognitive ability to independently perform their daily activities. They must have been able to understand and communicate in either the English, Afrikaans or Xhosa languages. Those with psychiatric conditions or other medical conditions that might have an influence on the sequelae of ABI were excluded.”

Data collection technique: Data were collected by means of face-to-face semi-structured interviews. The researcher used semi-structured interviews to ascertain the subjective responses from participants on their personal and unique experiences post-ABI (De Vos, Strydom, Fourie, & Delpont, 2011). The semi-structured interviews allowed the study

participants to share their experiences during their rehabilitation process as well as the challenges or facilitators they encountered resuming work and/or pursuing entrepreneurship activities.

Data management and analysis: Proper management of data in the current study was ensured by the researcher through conducting all of the semi-structured interviews face-to-face as well as audio recording all interviews. The researcher transcribed and translated all of the audio recordings verbatim. Thus, by actively handling all raw data the researcher was able to immerse herself in the data throughout the research process. The data was stored as password protected files linked to the UWC data repository. The data would be deleted after a period of 5 years.

Thematic data analysis was the method used to analyse the qualitative data of the current study (Creswell, 2007). Data were analysed adopting a method adapted from among others, Tesch (1990). The researcher utilised a deductive and inductive reasoning approach to elucidate emerging themes that developed from the data. The researcher also aimed to identify possible new theories that could be used in the design and development of the proposed entrepreneurial skills development model.

In order to obtain a thorough understanding of the information recorded from the participants, the researcher read through all the transcripts several times to capture the underlying meaning of texts in the transcripts and to gain greater insight on the perceptions and experiences of the study participants. Descriptions and direct quotes depicting similarities in meaning were collected to form categories using the Atlas.ti 7.5.4 software. By referring to the relevant literature the researcher was able to establish a theoretical link among categories obtained. Following the careful analysis procedure, patterns of relationships between categories emerged. Thereafter, themes were formulated, and subsequently discussed in chapter five in the context of reputable theoretical knowledge.

Trustworthiness/Rigour: Below is a brief overview on the aspects to ensure and establish trustworthiness and rigour during the qualitative strand of the current study:

The rigour of the qualitative phase of this study was achieved by employing four aspects of trustworthiness in Guba's Model as recommended by Krefting (1991). It encompassed the criteria of credibility, transferability, consistency and neutrality. ***Credibility*** was ensured by means of member checking, triangulation, interviewing techniques and reflexivity. ***Transferability*** was ensured by providing dense descriptions of the research population, sampling procedures, the participants, the research settings, and the method of data collection

and analysis. *Consistency* was ensured by providing a detailed description of the methods used during the phases of enquiry as well as peer evaluations. *Neutrality* was ensured by the researcher by employing the strategies of peer evaluations, reflexivity and member checking. Further strategies as suggested by Krefling (1991) to achieve credibility of the qualitative data analysis is further discussed in chapter five of the current study.”

3.6.2 Phase 2: Methods and strategies (Objective four)

To conduct a scoping review on the literature that focuses on vocational best practices of entrepreneurial skills development and entrepreneurship for women with ABI

A scoping review methodology was employed for the theory-based methods and strategies in Phase 2, answering the fourth objective of the current study. According to Munn et al. (2018), scoping reviews can be performed to identify and examine features or factors related to a particular concept. For instance, Harfield et al. (2015), conducted a scoping review to ascertain the characteristics of indigenous primary healthcare service delivery models. The authors conducted a systematic search, followed by screening and the selection of studies, followed by a data extraction process from the included studies. The results of the review were eventually grouped into eight key factors that could subsequently inform a best practice model for indigenous primary healthcare services (Harfield et al., 2015). Further stated by Munn et al. (2018), scoping reviews tend to be a useful approach for reviewing evidence rapidly in emerging fields or identification and analysis of knowledge gaps of what has not been investigated or reported on. For instance, a scoping review conducted by Wagman, Håkansson, and Jonsson (2015) aimed to identify knowledge gaps on the topic of occupational balance. The review illustrated several research ‘gaps’ including the absence of studies conducted outside of western societies, the lack of knowledge around peoples’ levels of occupational balance, as well as a dearth of evidence regarding how occupational balance may be enhanced (Wagman et al., 2015).

Given the main aim of the current study, the researcher set out to explore the vocational rehabilitation literature that focus on best practices enhancing entrepreneurial skills for women with ABI, hence the researcher also aspired to search the literature to identify both empirical evidence and dearth on RTW and entrepreneurial skills programmes, models and strategies for women with ABI. Consequently, the research question for the current scoping review was: “Which current studies describe and evaluate approaches used to facilitate RTW and

entrepreneurial skills/entrepreneurship for women with ABI within a vocational rehabilitation context?”

The method of data collection for the current study’s scoping review was based on the framework outlined by Arksey and O’Malley (2005) and ensuing recommendations made by Levac, Colquhoun, and O’Brien (2010) and the Joanna Briggs Institute (Peters et al., 2015). In order to ensure rigour, the researcher followed the process as guided by the steps by Arksey and O’Malley (2005) which included: 1). Identifying the research questions, 2). Searching for the appropriate studies by means of electronic databases, reference list etc. 3). Choosing the appropriate studies that relate to the review’s question, 4) Mapping the data, 5). Organising, summarising and reporting the results.

Table 3.2 provides a summary of the variances among a traditional literature review, rapid review, scoping review and systematic review.

Population and sampling: The population under the topic of inquiry was identified as a collection of research studies instead of a collection of people or individuals. As suggested by Arksey and O’Malley (2005), key search terms were established aimed at identifying a comprehensive set of articles detailing vocational and/or work rehabilitation interventions including methods and programmes that included self-employment or entrepreneurial initiatives as methods to return to work or gainful employment for women with ABI.

Inclusion/Exclusion criteria: All study designs and full-text articles in English that focused on return to work and entrepreneurial skills development were considered. Articles that had been published in the last 11 years (2007-2019) were selected. The target search included articles that were peer reviewed, experimental studies and grey literature such as unpublished academic research and organisational reports. Participants of included studies consisted of both males and females however, priority was given to studies that focused on women with ABI. Literature on entrepreneurial skills development for people with disabilities, all articles focusing on return to work, self-employment or gainful employment were included. Articles that were available in other languages other than English, articles that required payment for access, as well as those articles without a detailed description of the vocational interventions offered to ABI participants were excluded from the review.

Data sources and search strategy: Data were collected and conceptualised at three levels namely, data base identification; search terms; and search process. The research question guided the selection of the search terms, which is included Boolean words as well as truncation as part of the search strategy. The researcher utilised the TIDieR checklist as guided in

Hoffmann et al. (2014), to draw up an initial data extraction sheet for the first five studies to evaluate whether the process was in line with the scoping review's question and overall aim. Thereafter, an iterative process was followed by the researcher by continuously updating the data charting form. The final data extraction sheet was built into an excel spread sheet for ease of data coding and structuring. A record sheet was used to present the intervention contents as observed in the included studies. This enabled the researcher to observe and verify the consistency of the descriptions of the essential intervention components as well as establishing the meaning of these components that emerged from the various approaches utilised in the identified studies.

Data synthesis/Analysis: Data from this scoping review was analysed both descriptively and thematically. Descriptive summaries provided the demographic features of the included studies while the meta-synthesis approach suggested by Sandelowski and Barroso (2008) was used to integrate the different identified vocational interventions provided to individuals and or woman with ABI. The meta-synthesis approach allowed the researcher to collectively view specific research information within the selected articles using a record sheet that allowed ease of accessibility and integration of findings (Sandelowski & Barroso, 2008). The scoping review allowed for a controlled and structured process to identify and assess the available research evidence on vocational interventions on RTW and entrepreneurship for individuals/women with ABI. In addition, through the scoping review the researcher was also able to recognise a dearth in the current vocational rehabilitation literature on interventions that focus on self-employment and entrepreneurship as part of RTW outcomes. It should be noted that this scoping review did not aim to critically appraise the content of the included studies but was rather aimed at providing an overview and mapping of the available evidence on the topic of inquiry. The grade of evidence and methodological rigour for each of the included studies were therefore not evaluated in the review.

A detailed description on the methods of data collection, the results and meta-synthesis of the scoping review is further discussed under chapter six in the current study.

Table 3.2: Comparison among traditional literature review, rapid review, scoping review and systematic review

Type of Review	Description	Search	Appraisal	Synthesis	Analysis
Traditional literature review	Generic term: published materials that provide examination of recent or current literature. Can cover wide range of subjects at various levels of completeness and comprehensiveness. May include research findings	May or may not include comprehensive searching	May or may not include quality assessment	Typically narrative	Analysis may be chronological, conceptual, thematic, etc.
Rapid review	Assessment of what is already known about a policy or practice issue, by using systematic review methods to search and critically appraise existing research	Completeness of searching determined by time constraints	Time-limited formal quality assessment	Typically narrative and tabular	Quantities of literature and overall quality/direction of effect of literature
Scoping review	Preliminary assessment of potential size and scope of available research literature. Aims to identify nature and extent of research evidence (usually including ongoing research)	Completeness of searching determined by time/scope constraints. May include research in progress	No formal quality assessment	Typically tabular with some narrative commentary	Characterizes quantity and quality of literature, perhaps by study design and other key features. Attempts to specify a viable review
Systematic review	Seeks to systematically search for, appraise and synthesis research evidence, often adhering to guidelines on the conduct of a review	Aims for exhaustive, comprehensive searching	Quality assessment may determine inclusion/exclusion	Typically narrative with tabular accompaniment	What is known; recommendations for practice. What remains unknown; uncertainty around findings, recommendations for future research

3.6.3 Phase 3: Model design and development (Objective five)

To design and develop a model in order to enhance entrepreneurial skills of women with ABI by means of a Delphi study

According to Heiko (2012), the Delphi method is widely acknowledged as a respected investigative instrument for collecting the opinions of people who are experts in their field regarding a particular topic of inquiry. In order to answer the fifth objective of the current study, a Delphi study was utilised to reach consensus among participating experts on the best possible approach to facilitate and enhance entrepreneurial skills of women with ABI. Subsequently, the data that was obtained from the current study's phases 1 and 2 enabled the researcher to formulate a stimulus document that focused on the intervention components, strategies and structure of the proposed entrepreneurial skills development model. Afterwards, a modified e-Delphi survey was conducted over three consecutive rounds that involved the organised engagement of experts in the field of vocational and neurorehabilitation.

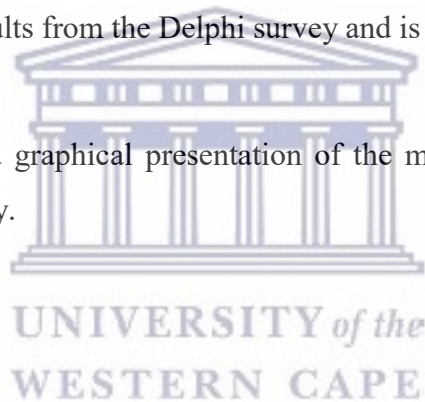
Study participants: A purposive sampling technique was employed to select experts in the field of vocational and neurorehabilitation who are involved in the management and RTW of individuals with ABI. Experts were selected from public and private healthcare speciality and academia. Consequently, fifteen (15) of thirty-five (35) selected experts consented to participate in the Delphi study. The sample size was therefore considered to be appropriate for the current study (De Haes & Van Grembergen, 2009; Baldwin & Trinkle, 2011). Thereafter, 13(n=13/15) among the experts who consented to participate responded to three open-ended questions during the first round of the Delphi survey, yielding an initial response rate of 86%.

Data collection procedure: A brief overview is provided on the method employed during the Delphi study's data collection process, while a detailed description is further provided in chapter seven of the current study. After the first Delphi round the information provided by the experts on the three open-ended questions were collated, analysed and integrated with information obtained from the previous two phases of the study. Subsequently, during the second Delphi round experts were requested to rate the intervention components of the preliminary draft practice model using a rating scale of agree; indifferent; and disagree.

The quantitative responses from the second Delphi round were analysed descriptively and observed for consensus among the panel of experts on the survey items. The information that consensus was not reached in the second Delphi round were adjusted and sent back to the panel of experts for further review in the third and final round of the Delphi survey. Consequently, the panel of experts were able to provide input regarding the overall structure, intervention components, and strategies to be utilised during the intervention implementation of the developed entrepreneurial skills development model.

Data analysis: The qualitative data from the first Delphi survey was thematically analysed that allowed pertinent themes to emerge. While the quantitative data collected from the second and third Delphi rounds was summarised using measures of central tendency to ensure an accurate and objective description of the study results. Tables and figures were also used to illustrate the results from the Delphi survey and is presented in the subsequent chapters seven and eight.

Figure 3.4 below provides a graphical presentation of the methodological triangulation employed in the current study.



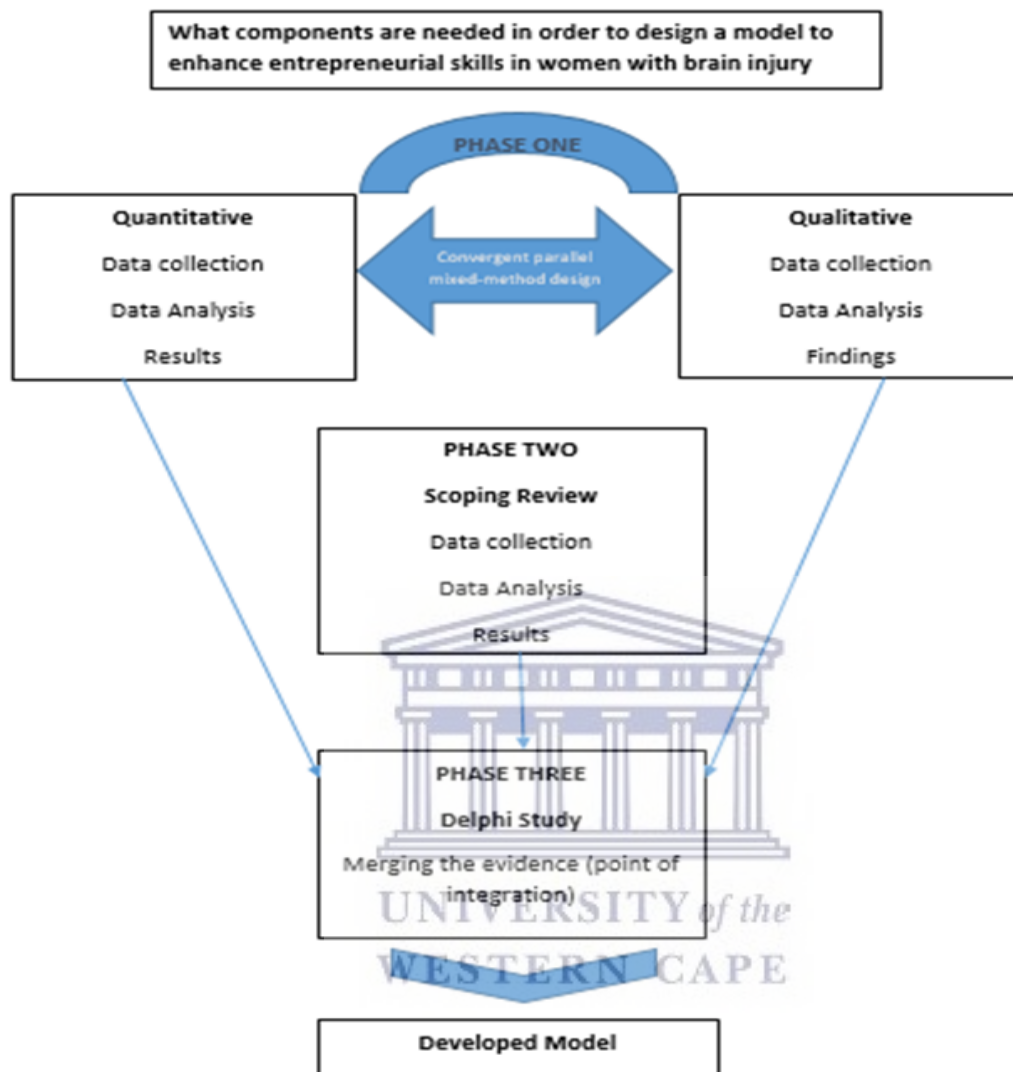


Figure 3.4 Methodological triangulation

3.7 ETHICS STATEMENT

This study adhered to The World Medical Association Helsinki Declaration of 2008 that guides the conduct of medical research involving human participants. Permission and ethical clearance were obtained from the University of Western Cape Research and Ethics Committee (Appendix 3.1). The study proposal was registered on the National Department of Health Research Database (NHRD) prior to the start of the study (Appendix 3.2).

Successively permission and ethical clearance was granted by the Groote Schuur Hospital (Appendix 3.3) and Tygerberg Hospital's (Appendix 3.4) ethics committees to conduct the research at the two designated Work Assessment Units. The current study was conducted in accordance with the ethical practices relating to the study of human subjects as specified by the Faculty of Community and Health Sciences Research Ethics Committee of the UWC and the Western Cape Department of Health. The researcher used the following guidelines:

- i) The purpose of the study was clearly explained to the study participants, signed and informed consent was sought from all participants;
- ii) The participants were informed that their participation is voluntary and that they have a right to withdraw from the study at any time without any consequences;
- iii) The participants' anonymity was ensured by using identification codes on all data forms;
- iv) All forms and questionnaires were collected by the researcher who was responsible for storing it in a locked and secure place;
- v) All the audio recordings were deleted after they had been fully transcribed and documented;
- vi) Pseudonyms were also used to protect the participant's identities;
- vii) Few risks were expected to be encountered in the current study; however, participants were provided with the option of a referral to a counsellor for management if they were in anyway affected or distressed by the questions or procedures of the study;
- viii) Furthermore, all the information from this study will be preserved for a minimum of five years; thereafter it will be discarded; and

The findings of the study will be made available to the relevant stakeholders at the Western Cape Department of Health.

3.8 SUMMARY OF THE CHAPTER

In this chapter the study's methodological framework was described. Both quantitative and qualitative methods were employed through the use of a cross-sectional survey, semi-structured interviews, a scoping review and a Delphi study. The study took place at the work assessment units (WAUs) based at the Groote Schuur and Tygerberg Hospitals in the Cape Metropolitan of the Western Cape, South Africa. The study participants for the quantitative and qualitative strands were women who were clinically diagnosed with ABI. Participants in the Delphi study included academics and health/clinical practitioners involved in the management, rehabilitation and vocational rehabilitation of individuals

with ABI. The process of ensuring and upholding the study's ethical standards were discussed. The subsequent chapters present and discuss the methodologies, results and findings of the designated phases of the current study.



CHAPTER 4

DETERMINING THE IMPACT OF IMPAIRMENT-RELATED RESTRICTIONS, SOCIO-DEMOGRAPHIC AND ENVIRONMENTAL FACTORS ON WOMEN WITH ABI'S ABILITY TO RETURN TO WORK

4.1 OVERVIEW OF CHAPTER

In this chapter the findings of the quantitative study that relate to the first objective are presented. The objective is to determine the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work. An outline of the demographic profile of the study participants, their health and environmental characteristics are provided using texts, tables and charts. Furthermore, the factors associated with the RTW of women with ABI is explained and discussed.

4.2 METHODOLOGY

4.2.1 Study population and sample

Women who were clinically diagnosed with ABI by qualified medical doctors were conveniently sampled from the statistical and medical records of the two designated work assessment units (WAUs) at the Groote Schuur and Tygerberg Hospitals. It was estimated that a combined total of 311 female patients with ABI were either screened, assessed and/or referred for further intervention between the years 2016-2017 at both units. The study participants fulfilled a set of inclusion criteria for eligibility to participate in this study as discussed under chapter three of the current study.

The Taro Yamane (Yamane, 1973) formula was used to calculate a projected sample size for this study. The Taro Yamane is a formula for calculation or determination of sample size in relation to the population under study. Thus, it could be argued that the inferences and conclusions drawn from the current survey could then be generalised to the entire population of women with ABI commonly seen at the two WAUs at TBH and GSH, since after 139 interviews saturation was achieved as no new information emerged. The formula of Taro Yamane is presented as follows:

$$n = \frac{N}{1 + N(e)^2}$$

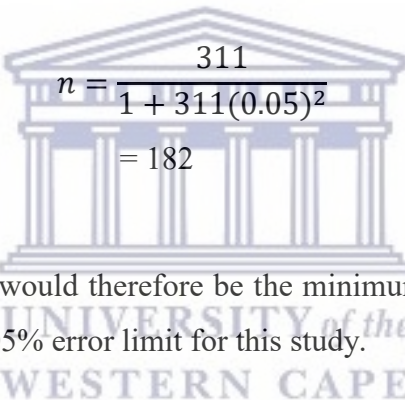
Where :

n= sample size required

N = number of people in the population

e = allowable error (%)

Placing information in the formula at a 95% confidence level and an error limit of .05% results in:



The logo of the University of the Western Cape, featuring a classical building facade with columns and a pediment. The text 'UNIVERSITY of the WESTERN CAPE' is overlaid on the image.

$$n = \frac{311}{1 + 311(0.05)^2}$$
$$= 182$$

One hundred and eighty-two would therefore be the minimum sample size to maintain a 95% confidence level and a .05% error limit for this study.

4.2.2 Design

A cross-sectional survey was implemented utilising the Work Rehabilitation Questionnaire (WORQ). Surveys are useful in providing quantitative or numeric descriptions of a population by studying a sample of that particular population (Gravetter & Forzano, 2018; Creswell, 2013).

4.2.3 Data collection instrument

The psychometric properties and evidence for the use of the WORQ as a credible instrument have been shown for its high test-retest reliability and good internal consistency as discussed under chapter three of the current study (Ganie, 2021; Olaoye, 2019; Finger

et al., 2014). The researcher made use of the first part of the WORQ self-report version for data collection. Part 1 (Appendix 4.1) of the WORQ questionnaire consisted of 17 questions that contain items that include socio-demographic, health, work and environmental supports-related information. Using the procedure outlined by Sousa and Rojjanasrirat (2011), the questionnaire was translated into its Afrikaans version which entailed the forward and backward translation of the questionnaire and piloted for content and linguistic clarity.

4.2.4 Data collection procedure

4.2.4.1 Time frame

The data collection for this stage of study was conducted over a period of 9 months. The pilot study was conducted over a one-month period from August 2018 to September 2018, thereafter the data collection for the main study took place from October 2018 to May 2019. All ethical procedures were followed as defined in the ethics section under chapter three.

4.2.4.2 Administration of questionnaire

The researcher obtained approval from both participating hospitals' ethics committees to access clinical and statistical information from the two WAUs and medical databases of GSH and TBH. Once approval was granted the researcher contacted the administrative heads of the designated occupational therapy departments and WAUs of the participating hospitals to discuss and explain the study aim and planned data collection process. During this time, the researcher requested permission to approach staff willing to avail themselves to assist in this regard.

The pilot study was conducted with thirteen participants that were recruited from the hospitals' data basis via face-to-face and telephonic interviews. It was found that the participants were able to understand and complete the questionnaires in both English and Afrikaans adequately, both via face-to-face and telephonically with the researcher. The researcher could also assess the estimated time frame required for administration of the questionnaire and found that a maximum of ten minutes was required per survey during a

face-to-face interview and fifteen minutes via a telephonic interview. Furthermore, the pilot study revealed a delay in the recruitment of participants for inclusion from the hospitals' out-patient clinics and WAUs due to a high "did not attend" patient rate. It was also noted that telephonic interviews could potentially be better than face-to-face interviews, as it would allow easier access to participants who meet the study's inclusion criteria. The researcher also found that probing the question "do you have any restrictions" if "yes" "can you specify or describe what type of impairment impacts the most on your functioning", provided the participants with a better understanding of the question. Once the researcher and her research supervisor were satisfied with the outcomes of the pilot study, the main study could commence.

A total of 190 participants were identified that met the inclusion criteria. Information sheets describing the research and consent forms were then provided to availing therapists (including occupational therapists, physiotherapists and speech therapists) to distribute to consenting participants. The researcher conducted brief training sessions with available therapists involved in distributing and/or administering the questionnaires as well as briefly clarified questions that required a qualitative description to assist participants on survey items that needed more explanation. The researcher initially aimed to complete the majority of questionnaires when participants attended the work assessment units and out-patient clinics at TBH and GSH. Subsequently, the researcher also provided training to an independent occupational therapist to assist with participants completing the survey telephonically or at the designated WAUs. Hence, the completion of questionnaires could be done through self-administration as well as telephonic interviews. Participants were also given the option to remain anonymous for this study.

One hundred and seventy-seven (177) of the participants agreed to participate. A total of 156 copies of the questionnaires that were distributed were available for analysis obtaining a response rate of 89.2 % (n=156/177). Seventeen of the questionnaires that were returned were insufficiently completed. The incomplete and unsatisfactory questionnaires were set aside by the researcher to later scrutinise if responses therein were highly incomplete or inaccurate. The researcher later discarded the incomplete questionnaires as some missing data pertaining to age, level of education and RTW status can result in bias of overall results. A final response rate of 80% (n=139/177) was therefore achieved.

4.2.5 Quantitative data analysis

The statistical software package SPSS (version 26) was used to enter, clean and analyse the data (SPSS Incorporated, 2019).

4.2.5.1 Description and operationalisation of variables

The dependent variable in this study is return-to-work (RTW) status, which refers to the resumption of work in the competitive labour market that includes the formal, informal as well as self-employment sector. Socio-demographic factors comprised the respondents' age, marital status and level of education. Impairment-related restrictions comprised any limitation in participating in daily tasks and activities as a result of cognitive, perceptual, physical or emotional difficulties. Environmental factors comprised support from family and friends, workplace support and governmental or private support post-ABI. Additionally, the type of vocational rehabilitation received, and medical or therapeutic treatment received, formed part of environmentally related factors.

The key independent variables in the regression model were selected by reviewing the related literature (Matérne et al., 2019; Cancelliere et al., 2016; Colantonio, 2016; Donker-Cools et al., 2015; Foy, 2014; Corrigan et al., 2007; DeSouza, Sycamore & Kriker, 2007; O'Brien, 2007).

The description of the codes for both the dependent and independent variables as it was operationalised in SPSS (version 26) is provided in Appendix 4.2.

4.2.5.2 Descriptive statistics

The demographic, health and environmental related characteristics as well as the RTW status of the study participants were summarised using descriptive statistics of measures of central tendency, frequency and percentages. Summary statistics for the key independent variables were also calculated.

4.2.5.3 Logistic regression analysis

The variables that predicted return to work among women with ABI was determined using a binary logistic regression analysis. Ten variables were tested in the equation. The nine key independent variables were: Age; Marital status; Educational level; Treatment received; Impairment-related restrictions; Type of vocational intervention received; Family and friends' support; Workplace support; Support from government or private organisations. The key dependent variable was set as RTW status. The binary logistic regression analysis was executed on the variables at 95 percent confidence interval to determine a model fit for the data, and to identify the variables that predicted RTW.

4.3 RESULTS

The results are presented according to this study's primary objective. Marital status was categorised as Single (never married, divorced/separated and widowed) and Married. Educational level was categorised as Primary level; Secondary level, and Tertiary level (college, university and postgraduate degree). Impairment-related restrictions were categorised as Yes (by collapsing cognitive, perceptual, physical, emotional restrictions) and No (No presence of impairment). Type of vocational rehabilitation was categorised as, Vocational intervention (by collapsing cognitive, physical, case management, vocational training, and work adaptation intervention); Work evaluation; and No intervention.

The current RTW status and environmental supports are described and graphically presented in Figure 4.1. Furthermore, the logistic regression analysis of variance in whether socio-demographic, impairment-related restrictions, and environmental supports of women with ABI are associated with RTW are explained.

4.3.1 Demographic and clinical characteristics of the study sample

The study sample consisted of only women 100% (n=139) with the mean age of 40.17 (SD=10.56) (R=43). The majority of the participants were between 20-40 years (52.2%). Over sixty-two percent (62.6%) of the participants were married. Most of the participants had reached a secondary level of education (70.5%), with 18.7% having a primary level

education while only 10.8% of the respondents obtained a tertiary level of education. Seventy-five percent (75%) of the participants indicated that they received medical or therapeutic intervention while most of the participants (86.4%) reported experiencing impairment-related restrictions that influence their ability to perform certain daily tasks and activities. More than half of the participants indicated having had no vocational rehabilitative intervention (57.1%), with 20.3 % indicating having undergone work evaluation, and 22.6% having received some form of cognitive, physical, and work adaptation intervention. The demographic, health and rehabilitation characteristics of the study sample is presented in Table 4.1

Table 4.1: Demographics, health and rehabilitation characteristics of respondents (n=139)

Variable	n (139)	%
Age (years)		
≤ 40	73	52.5
41-50	40	28.9
51-65	26	18.8
Marital Status		
Single*	52	37.4
Married	87	62.6
Education Level		
Primary School	26	18.7
Secondary School	98	70.5
Tertiary**	15	10.8
Received Medical/Therapeutic Rx		
Yes	113	81.2
No	26	18.7
Impairment-related restrictions		
Yes***	108	77.7
No	31	22.3
Type of Voc Rehab		
Voc intervention ****	30	22.6
Work evaluation	27	20.3
No intervention	76	57.1

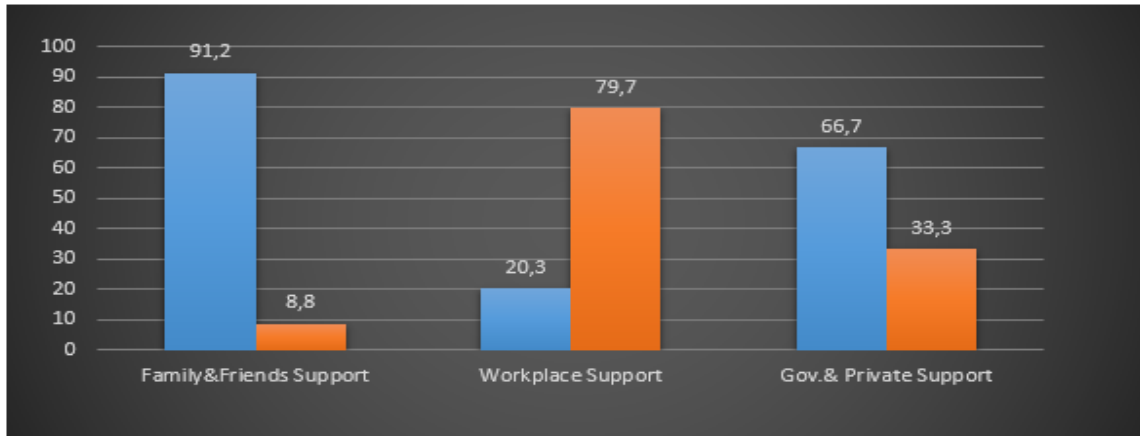
Single*: Never married, divorced/separated and widowed; **College, university and postgraduate degree; *** Yes: cognitive, perceptual, physical, emotional restrictions;

****Voc. Intervention; cognitive, physical, case management, vocational training, and work adaptation intervention
Mean Age: 40.1±10.56; Range 43; Mode 38; Median 40

4.3.2 Supports towards work resumption

Following reports on socio-demographic and health and rehabilitation characteristics, the participants also identified the support they received post-ABI and during their RTW process. Most of the participants (91.2%) received support from their family members and friends post-ABI. Supports from family and friends in the form of emotional, physical and financial aid, were reported by respondents. More than half of the participants (66.7%) indicated having received the support from government and private organisations post injury and their RTW process. These supports included government financial aid in the form of temporary disability grants, while the private organisations and companies, offered paid learnership opportunities that provided training, work practice opportunities as well as potential job placement. However, most (79.7%) of the study participants indicated having received no support from supervisors or managers in the work environment post-ABI. Figure 4.1 presents a graphic depiction of the environmental supports of respondents.

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■ Received support
 ■ Received no support

Figure 4.1: Environmental supports to RTW

4.3.3 Return to work predicting factors

The binary regression analysis was utilised to measure among the independent variables, those that influence the dependent variable the most. The dependent variable i.e., RTW status, was categorised as have not returned to work (No) and returned to work (Yes). Nine key independent variables were set in the model.

4.3.3.1 Variables predicting return to work (Binary regression analysed)

The model is significant, $\chi^2(11, 139) = 38.97, p < .001$ (Table 4.2). Between 24.5% (Cox and Snell R^2) and 33.2% (Nagelkerke R^2) of the variance in whether socio-demographic, health status, and environmental support of women with acquired brain injury is explained by the model. The Hosmer and Lemeshow test was significant, $\chi^2(11, 139) = 15.73, p = .046$ which is not good, with a PAC of 77.7% observed from the classification table.

Age predicted RTW, Wald $\chi^2 = 16.822, p < .05$. Older women were less likely to return to work compared with younger women (OR = .905, 95% CI = .863, .949). Level of education marginally predicted RTW, Wald $\chi^2 = 3.558, p = .059$. Those who had attained tertiary level education were about seven times more likely to RTW compared with those who had attained primary level education (OR = 7.617, 95% CI = .924, 62.803). Environmental support predicted RTW, Wald $\chi^2 = 4.385, p = .036$. Those who received support from their managers or supervisors in the workplace were about five times more likely to RTW compared with those who received support from family and friends (OR = 5.660, 95% CI = 1.117, 28.666).

Table 4.2: Summary of logistic regression analysis for variables predicting RTW (n=139)

Predictors	B	SE	Wald χ^2	P	e ^B	95% CI
Age	-.099	.024	16.822	.000	.905	[.863, .949]
Marital status	.171	.459	.138	.710	1.186	[.482, 2.198]
Education			4.122	.127		
Secondary	.027	.574	.002	.963	1.027	[.333, 3.165]
Tertiary	2.030	1.076	3.558	.059	7.617	[.924, 62.803]
Treatment received	.104	.576	.033	.856	1.110	[.359, 3.429]
Impairment-related restrictions	.910	.773	1.386	.239	2.484	[.546, 11.294]
Type of vocational rehabilitation			.819	.664		
Work evaluation	-.612	.676	.819	.365	.542	[.144, 2.039]

No intervention	-.282	.539	.274	.601	.754	[.262, 2.169]
Family support	-.196	.840	.054	.816	.822	[.158, 4.267]
Workplace support	1.733	.828	4.385	.036	5.660	[1.117, 8.666]
Government and private support	.165	.496	.111	.739	1.180	[.446, 2.3121]
χ^2		38.97				
Df		11				
%		77.7				

Marital status failed to predict RTW, Wald $\chi^2=.138$, $p>.05$. Those who were married and those who were single were equally less likely to RTW, (OR=1.186, 95% CI=.482, 2.198). Treatment failed to predict RTW, Wald $\chi^2=.033$, $p=.856$. Those who have had medical or therapeutic treatment and those who have had none were equally less likely to RTW, (OR=1.110, 95% CI=.359, 3.429). Impairment-related restrictions failed to predict RTW, Wald $\chi^2=1.386$, $p=.239$. Those who have had restrictions and those who have had no restrictions were equally less likely to RTW, (OR=2.484, 95% CI=.546, 11.294). Type of vocational intervention failed to predict RTW. Those who had received no intervention, Wald $\chi^2=.274$, $p=.610$, were equally less likely to RTW compared with those who had received intervention, (OR=.754, 95% CI=.262,2.169). Similarly, support from family failed to predict RTW, Wald $\chi^2=.054$, $p=.816$, those who had received family support were equally less likely to RTW compared with those who had not received family support, (OR=.822, 95% CI=.158,4.267).

4.4 DISCUSSION

The results of this stage of the study provided insight into the associations between socio-demographic, health and rehabilitation characteristics, as well as environmental supports of women with ABI and their RTW. Returning employees to work is multifaceted and involves the interaction of many factors beyond disease, and often at times, the specific disease-related or biomedical determinants are not the main drivers of patient-centred outcomes. Thus, researchers have become increasingly concerned about the influence of personal and environmental factors on health and functioning after brain injury (Cancelliere et al., 2016;

Forslund et al., 2013). According to the International Classification of Functioning, Disability and Health (ICF), personal factors are “the particular background of an individual’s life and living, and include features of the individual that are not part of a health condition”, such as gender, race, age, social background, education, profession, etc. Environmental factors are defined as “the physical, social and attitudinal environment in which people live and conduct their lives”, such as products and technology, support and relationship, services, systems and policies (World Health Organisation, 2001).

In several studies the person-related factors such as age and gender i.e., older people and women, were found to have a higher risk of not returning to work after ABI (Arwert et al., 2017; Wäljas et al., 2014; Hofgren et al., 2009). The results of the current study showed a RTW rate of 61.2% for women with ABI. This rate of employment is almost identical to the general labour force participation of women (62.7%) as reported in the City of Cape Town’s Socio Economic Profile of 2017. The results revealed a significant association between age and RTW, demonstrating that older women (40-50 years) with ABI were less likely to return to competitive employment post-ABI. These findings coincide with several studies where age have been associated with RTW of individuals with brain injuries. For instance, in a systematic review by Cancelliere et al. (2014), age was identified as a predictor to RTW for employees with TBI, showing younger employees, aged 20 to 29 years discontinued their wage replacement benefits more quickly than those who were in an older age group. Similarly, in O'Brien (2007), age was identified as a major predictor of RTW success, with individuals under the age of 40 years generally faring better than those over the age of 40. In Corrigan et al. (2007), findings revealed in comparison with men, women with ABI were more likely to decrease hours or be unemployed, except in the oldest age group (55–64) in which women were less likely to be unemployed than men and showing better employment outcomes for women with ABI as age increased. However, the findings in studies by Dornonville de la Cour, Rasmussen, Foged, Jensen, and Schow (2019), and Matérne et al. (2019), run counter to existing literature; the age of women with ABI was not found to be a risk marker for not returning to work. Divergences in research findings pertaining to person-related factors affecting return to work for individuals with ABI could likely be attributed to the different studies’ methodological designs, generalisability or recruitment bias linked to demographics, as well as the legal and social framework of a particular research setting or country (Dornonville de la Cour et al., 2019; Matérne et al., 2019; O'Brien, 2007). Therefore, in the current study the results on decreased employment as age increased could also likely be

attributed to the labour market in the South African setting, where the formal sector employment rate decreased by 28 000 in September 2019, with 11 000 full-time and 17 000 part-time jobs shed during the first quarter of the year. The Cape Metropolitan, Western Cape's, demographic information in 2016 indicated a dependency ratio of 47.6% per 100 (15-64 years), which is expected to increase across the years 2017 and 2023. Thus, indicating the proportion of the population not in the workforce who are 'dependent' on those of working-age stood at 47.6 dependents to every 100 people of working age. Higher dependency ratios imply greater strain on the working age to support their economic dependents (children and aged) and this increase could potentially have far reaching social, economic and labour market implications. The rate of unemployment stood at 23.1%, a drop of 0.6%, yet males had showed the highest labour force participation at 75.7% compared to females at 62.7%. Furthermore, female-headed households have also shown an increase of up to 40% (Socio-economic profiles City of Cape Town, 2017). Given the inherently lower employment rate for women in general in the Cape Metropolitan, Western Cape; it can be deduced that person-related factors and the socio-economic context of the study setting could be an indicator for poorer RTW rates for older women with ABI. Consequently, older women with ABI would less likely be the applicant of choice when competing for a job with other younger, more able-bodied applicants in the open labour market. This may very well hold significant financial and psychological implications for older women with ABI in single parent households and for those who are sole providers for their families. Furthermore, the likelihood of increased dependence on state disability/social security grants could further contribute to disabling circumstances for older women with ABI (Van Niekerk et al., 2011).

Educational level is another important factor, in that having a low education level increases the risk of not returning to work. In the current study, the findings although marginally significant showed the association of educational level with RTW for women with ABI, showing those who attained tertiary level education were about seven times more likely to RTW compared with those who had attained primary level education. Several studies have supported the notion, a higher educational level is more positively associated with RTW (Matérne et al., 2019; Donker-Cools, Daams, Wind, & Frings-Dresen, 2016; Trygged, Ahacic, & Kåreholt, 2011). For instance, Walker, Marwitz, Kreutzer, Hart, and Novack (2006) showed that patients without a university degree were 2.3 times less likely to return to work than university graduates. Similarly, in Corrigan et al. (2007) persons with a high school education or more were more likely than persons with less than a high school education to increase hours of work

rather than stop working. In Matérne et al (2019), findings revealed that 45% of the individuals with a university degree returned to work while only 32% of those with compulsory school education returned to work. As stated in Matérne et al. (2019), a higher education level is often associated with white-collar jobs, and these positions are often more flexible and provide a wider range of possible job opportunities. This seems to correlate with the job market demand of the Cape Metropolitan (Socio-economic profiles City of Cape Town, 2017), of which the main economic sectors include finance and business services (36.1%), manufacturing (16.1%), trade and hospitality (15.6%), community and general government services (15%), transport, storage and communication (11.2%), construction (4.1), electricity (1.1%), agriculture (0.7%), and mining (0.1%). Furthermore, the educational levels for the population of the Cape Metropolitan in 2016 established that only 34% of the population obtained a secondary school certification and 14.4% obtained a higher education certification (Socio-economic profiles City of Cape Town, 2017). Indicative to the above-mentioned job market and educational statistics, the majority (70.5%) of this study's participants only reached (and not necessarily completed) a secondary level education. This places them in a semi-skilled job category within a labour market that is already in a downward trend with regard to job availability. According to Sprague and Hayes (2000), empowerment is considered fluid and reliant upon an individual's educational, social, political, and cultural contexts and not just viewed as an attribute, ability or behaviour one may possess. In view of the broader aim of the current study, the educational level and academic capacity of the individual should be an important factor to consider especially during the intervention implementation an entrepreneurial skills development model for women with ABI.

With regard to supportive environments, some studies have shown that support from family is important for patients with a brain injury during RTW (Nalder, Fleming, Cornwell, & Foster, 2012; Strandberg, 2009). The results of the current study revealed that support from family and friends did not predict RTW for women with ABI. In Ownsworth (2010) and O'Brien (2007) part of a client-centred RTW approach, the family support and involvement in work-related decisions were listed as important components in reorganising the home and family routine whilst strengthening the readiness and commitment to work. Similarly, in Cancelliere et al. (2016) it was found that social support including family members, friends and community members, were viewed as necessary for successful RTW.

The results of this study further showed that participants who received support from managers or supervisors in their workplaces were about five times more likely to RTW. This is not

surprising considering the vast empirical evidence on the success rate of RTW of individuals with ABI when there is a supportive workplace, inclusive organisational culture, and positive social relations with employers and co-workers. Ownsworth (2010) advocated approaches that equally address metacognitive and contextual factors including creating supportive and enabling environments both within the home and work context.

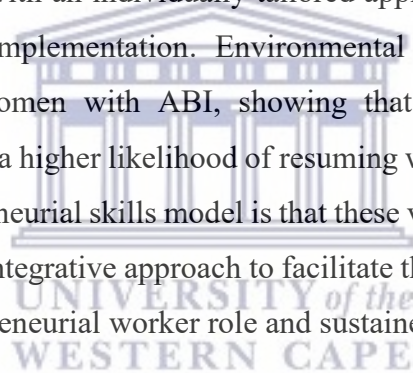
Furthermore, some studies reported that living in a relationship provides a natural support system for individuals with brain injury (Harris, Barnier, Sutton, & Keil, 2014). There are some studies that indicated marriage may be a positive predictor to RTW for women with ABI, whereas in the current study being married was not associated with RTW. In Corrigan et al. (2007) it was found that decreased employment was most evident for those women who were married and were much more likely to decrease hours or stop working compared to single women. Whereas in Donker-Cools et al. (2015) it was found that not being married appeared to be negatively associated with RTW after ABI, specifically the odds of being unemployed versus being employed were 1.57 times greater for unmarried versus married women. According to Matérne et al. (2019), the interface between gender and marital status may result from men being more likely to be the primary wage earner in the family which could likely provide a better opportunity for women with ABI to either stop working or work fewer hours. However, for those women who are not married it is important to consider the occupational and breadwinner roles in the family unit that could reflect different dynamics based on their social and economic situations (Stergiou-Kita et al., 2016), and this is especially relevant to the socio-economic profile of the current study setting showing a steady increase (40%) of female-headed households (Socio-economic profiles City of Cape Town, 2017).

The current study did not find a significant association between those participants who received medical or therapeutic treatment with RTW, nor did having impairment-related restrictions predict RTW. Similarly, the type of vocational rehabilitation received by these study participants were not associated with RTW. Some possible reasons for the discrepancy between this study's findings and the literature may be the context in which vocational rehabilitation services are delivered, which is predominantly affiliated with the Department of Health of the Western Cape province in South Africa. Vocational rehabilitation services are offered at a tertiary rehabilitation service level and have a good structure for providing comprehensive vocational interventions. Yet, the scope of the services rendered are often narrowed by the overwhelming need for work assessments to determine disability grant eligibility as per criteria of the South African Social Security Agency (SASSA). With limited human resources and time

constraints these vocational rehabilitation units might not have sufficient impact to implement interventions needed to overcome the multiple barriers that prevent access for persons with disabilities to RTW, maintain work, or to seek alternative sustainable employment opportunities (Coetzee et al., 2011). Furthermore, tertiary health institutions adopt a multidisciplinary team structure where different professionals provide health services on separate discipline specific goals. The health team might seldom have an opportunity to work together on the same aim to solve the health or disability problem of the patient. In the current study the patient care might have not been streamlined enough to facilitate a successful vocational outcome for some of this study's participants due to resource limitations and the patient care structure of the particular health institution. This seems to correlate with the findings in a study on the impact of personal and environmental factors on employment after TBI by Forslund et al. (2013), noting that the institutional support such as the number of rehabilitation services was not a significant predictor in their study but the need for well-coordinated healthcare and rehabilitation services were subsequently significantly associated with positive employment outcomes post injury. Another possible reason why the type of vocational rehabilitation received failed to predict RTW in the current study could be a result of restricted RTW coordination and collaboration among the relevant stakeholders. In a systematic review conducted by Cancelliere et al. (2016), it was found that the important components of RTW interventions are work-related training, workplace interventions, work accommodations, and contact between the various stakeholders. The findings of the review also found that the development of a RTW plan and having a case-coordinator in place to implement this plan showed improved RTW outcomes for employees with general disability (Cancelliere et al., 2016). Findings in the current study indicate that not only does the study participants' person related and health status influence RTW, but also environmental factors that include the social, workplace, health and rehabilitation processes as well as the socio-economic environment. This correlates with Pratto (2016) who stated that a person may experience obstacles to empowerment because of deficiencies in the environment as well as personal capabilities, therefore the process of empowerment through entrepreneurial skills development for women with ABI should be tailored to address the demands placed either through the person, the occupation or the environment (Pratto, 2016).

4.5 CONCLUSION AND RECOMMENDATIONS

The results from the cross-sectional survey showed that the person-related factors of women with ABI influence RTW and meaningful occupations. Consistent with prior studies from developing countries, the current study participants experienced impairment-related restrictions post-ABI. Those participants who were older (40-50 years) but still of working age were found to have a higher likelihood of not returning to work post injury. Despite the fact that the study participants engaged in some form of rehabilitation service post-ABI, more than half did not receive any form of vocational rehabilitation. In the context of the current study, it is evident that the high unemployment rate and specific labour force demand could have had an influence on the labour force participation of the participants of this study. Also, the study results showed patterns across the level of education for entering the labour force. This necessitates a design for an entrepreneurial skills model that is inclusive to individuals in different working age groups with an individually tailored approach to knowledge and skills transfer during intervention implementation. Environmental factors influence RTW and economic participation for women with ABI, showing that the support from the work environment is associated with a higher likelihood of resuming work post-ABI. The inferences for the designing of an entrepreneurial skills model is that these variables should be deliberated as part of an empowering and integrative approach to facilitate the competency of women with ABI to participate in an entrepreneurial worker role and sustained economic participation.



CHAPTER 5

EXPLORATION OF THE BARRIERS AND FACILITATORS TO ENTREPRENEURIAL SKILLS DEVELOPMENT FOR WOMEN WITH ABI

5.1 INTRODUCTION

In this chapter the findings of the qualitative study that relates to the second and third objectives of this study is presented. The details of the qualitative methodological process and data analysis is discussed. The current chapter also presents the findings associated with three themes that emerged from the study namely, “Barriers within the rehabilitation process”, “ABI causes loss of a sense of self and financial strain”, and “Entrepreneurship and education as a strategy to empowerment”, as well as a description of the derived study concept map.

5.2 METHODOLOGY

5.2.1 Study population and sample

A purposive sampling technique was used to recruit women with ABI who participated in the quantitative stage of the current study. A purposive sampling technique is often used in medical, behavioural, and community health research (Daniel, 2012). The study sample presented with particular features and characteristics suited for the study’s topic of inquiry, therefore the researcher was able to gain a good understanding of the study participants’ unique experiences and perceptions regarding the research topic. Consent to participate in the second stage of the study was obtained from ten participants who satisfied the inclusion criteria as earlier discussed under chapter three. The sample of ten participants was considered an appropriate size for participation as suggested in Mason (2010).

5.2.2 Research design

The study utilised a qualitative approach employing an exploratory and descriptive design. The impetus to conduct the study was to explore and describe the experiences of women with ABI during their rehabilitation process, their resumption to work and entrepreneurial skills development. The researcher also wanted to find out how and why their health problem impacted on their daily function, post-injury behaviour, participation restrictions as well the

influence that environmental factors had on occupational performance and participation (Fouché and De Vos, 2011). Furthermore, the researcher utilised concept mapping to illustrate the associations of the participant's health and well-being, their experiences during their rehabilitation process as well as their RTW and self-employment situations post-ABI.

5.2.3 Data collection technique

Face-to-face semi-structured interviews were held with each participant that lasted approximately 45-60 minutes. A subsequent follow-up interview was arranged with two of the participants to gain additional information and clarity on their situations. Face-to-face interviews allowed the researcher to uncover and reveal the deeper meanings, beliefs, perceptions and experiences of the study participants post-ABI (De Vos, Strydom, Fouche, & Delpont, 2005).

5.2.4 Data collection procedure

The study participants were contacted telephonically and once verbal confirmation for participation was obtained an introductory meeting was arranged. Upon meeting the participants, the researcher provided them with an explanation and rationale for the study as well as an information sheet to later refer back to (Appendix 5.1). The researcher also explained and clarified their involvement in the study as well as the risks and benefits of participating in the study. The participants were assured on their right to withdraw from the study at any time without any consequences and were also informed of the methods of ensuring their confidentiality and the safe keeping of their personal information and records. Once the researcher was satisfied that the participants understood their involvement in the study, a consent form was provided to sign that was co-signed by the researcher and a witness (Appendix 5.2). Two of the participants were interviewed at Groote Schuur Hospital and three were interviewed at Tygerberg Hospital. The rest of the participants were interviewed at venues closer to their homes that included the public library and small coffee shops. All the study participants were provided a stipend to cover any travelling expenses incurred by them to attend the interviews. The interviews were conducted by the researcher in both English and Afrikaans. The interviewing techniques were applied by posing a broad, open-ended question to allow the participants to speak casually (see Appendix 5.3 for the interview guide). During the interviews, the researcher observed participants' facial expressions, body language and tone of

voice while making brief notes on key areas of concerns brought up by participants. Permission from the participants was obtained to record the conversations which were later transcribed verbatim by an individual skilled in the task. The audio recordings allowed the researcher to capture all the details and facts that were provided during the interviews and also to note the non-verbal signs such as sighing, pauses and overlaps. Furthermore, the audio recordings could be replayed to minimise bias and misrepresentation of the authentic interview contents as well as amend and improve transcripts to enhance the rigour and quality of data analysis.

5.2.5 Data saturation

According to Charmaz (2006), the idea of saturation comes from grounded theory and is said that saturation during qualitative data collection occurs when the researcher stops collecting data because fresh data no longer triggers new insights. In this study the point of saturation became evident after interviewing ten participants and no new patterns or themes emerged.

5.3 DATA ANALYSIS

5.3.1 Thematic content analysis

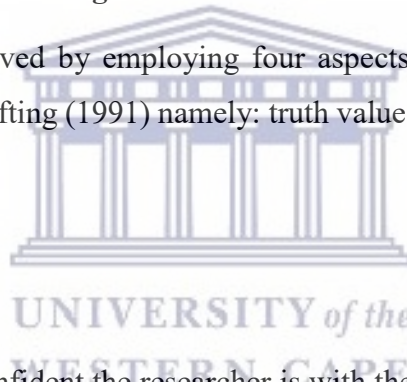
As discussed under chapter three of the study, thematic data analysis was the method used to analyse the qualitative data of the current study. To ensure data quality, the researcher who is fluent in both English and Afrikaans, analysed all transcripts in the language participants spoke during the interviews. In order to minimise the risk of misinterpretation and loss of the Afrikaans-speaking participants' intended meanings; their original words, phrases, and connotations were captured, analysed and later translated into English to convey its linguistic equivalence. In addition, the use of Atlas.ti 7.5.4 (Atlas.ti Scientific Software Development GmbH, 2017) further enabled the researcher to capture the underlying meaning of texts in the transcripts that later were grouped together to form categories using the family network tool on the Atlas.ti software. As patterns of relationships between categories emerged, overall themes could be formulated. Thereafter, the researcher reviewed the data that was integrated into the themes to determine whether the theoretical evidence supports each theme or whether additional information was needed (Creswell, 2014).

5.3.2 Reflexivity

Reflexive journaling was employed by the researcher to record personal feelings and ideas that might have influenced her objectivity during the study. According to Tufford and Newman (2010), reflective journaling and writing down preconceived assumptions can assist the researcher to remain objective during the research process. By applying the technique of bracketing the researcher was able to isolate personal assumptions and opinions towards the study. This allowed the researcher to follow the research process and analyse emerging findings in a controlled and organised manner. In addition, the researcher regularly consulted with her research supervisor as well as engaged in formal conversations with peers on her own assumptions of the study topic to maintain an objective stance towards the research data.

5.3.3 Establishing trustworthiness/rigour

Rigour of the study was achieved by employing four aspects of trustworthiness in Guba's Model as recommended by Krefting (1991) namely: truth value, applicability, consistency and neutrality.



5.3.3.1 Truth value

Truth value establishes how confident the researcher is with the truth of the findings based on the research design, informants and context (Krefting, 1991). The researcher made use of audio recordings during face-to-face interviews and made use of a trained individual to transcribe the recordings verbatim. Furthermore, to ensure the truthfulness and originality of the data, the participant's natural ways of communication were captured, which included their pauses, repetitions during sentences, sighing as well as connotations and jargons. No modification or editing to the interview transcripts were made to ensure the rich and authentic perspectives of the study participants.

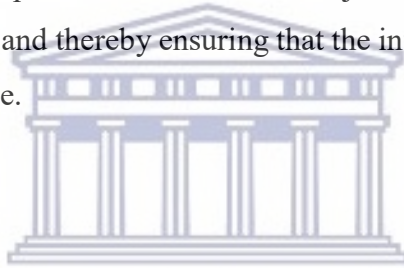
5.3.3.2 Member checking

Member checking consisted of taking data and interpretations back to the study participants for them to confirm the authenticity of the information of their narratives (Creswell & Miller, 2000). The researcher contacted the majority of the participants telephonically to discuss the interpretations of the emerging categories and confirm whether the explanations and

descriptions of their experiences of the topic of interest were adequately presented. During this time, the participants were also able to clarify information that they felt was not properly represented while approving other descriptions and explanations about their experiences and views of the topic of inquiry. Additional changes or suggestions from the study participants were then further analysed and integrated into the study findings.

5.3.3.3 Triangulation

Triangulation is a technique used to strengthen research rigour by combining multiple data sources and methods, namely theoretical, methodological and investigator data (Guba & Lincoln, 2005). Data triangulation was used in the current study to ensure that the information that was collected is reliable. Three methods of data collection were utilised, and included the interviews with the study participants, the researcher's objective and structured observations as well as her reflective records and thereby ensuring that the information collected during this study was consistent and reliable.



5.3.3.4 Interview techniques

The researcher employed face-to-face semi-structured interviews and made field notes to gain a comprehensive understanding of the study participants' experiences as well as their personal attitudes and feelings towards the topic under inquiry (Babbie, 2007). Face-to-face interviews also allowed the researcher to observe the participants while communicating in their natural language as well as obtain visual information such body language and facial expressions during the discussion of the topic of injury. The researcher bracketed any personal biases to ensure that the findings are a true reflection of the study participants' experiences.

5.3.3.5 Peer debriefing

The researcher engaged in regular consultations with the research supervisors as well as discussions with peers and colleagues who provided the researcher with objective feedback due to their impartial relation to the study at hand. Constructive criticisms from these colleagues kept the researcher alert to bias assumptions to prevent the distortion of information and to ensure credibility.

5.3.3.6 Applicability

Applicability refers to how transferable the findings of a study are to another setting. However, qualitative study findings are not typically intended to be generalised to other populations (Soeker, 2011). In the event that this study will be evaluated for its applicability, and carried out in a different environment or setting, transferability was ensured by providing dense descriptions of the study participants, the detailed data collection methods, as well as a thorough description of the data analysis and procedures.

5.3.3.7 Consistency

In qualitative research it is important to provide thorough information on how repeatable a study could be or how exclusive the situation of a study is (Krefting, 1991). Therefore, the researcher sought to provide a detailed explanation and dense descriptions of the exact methods of data collection, the analysis process, and the interpretation of findings to ensure the consistency of the current study.

5.3.3.8 Conformability

Documentation for every statement or interpretation of findings made by the researcher requires a minimum of two sources to ensure that the data supports her analysis of the findings (Krefting, 1991). The strategies of peer evaluation, reflexivity and member checking ensured that the researcher remained aware of her influence on the research data and findings. In addition, neutrality was ensured by presenting the data in a manner that could be audited by the researcher's two supervisors, allowing them to track the methods and processes that were used during the study and for them to request clarity on how or why certain assumptions or decisions were made by the researcher during the study.

5.4 FINDINGS

5.4.1 Demographic data of the participants

Semi-structured interviews were held with ten women with ABI who were aged between 24-57 years with a post-ABI duration ranging from 2-8 years. Only three out of all the participants were married. Eight of the participants did not complete high school, one completed a grade

12 education and one participant obtained a tertiary education. At the time, two of the participants were employed, two participants were self-employed, one participant was enrolled in a learnership programme, while the rest of the participants were unemployed. A summary of the demographic information of the study participants is provided in Appendix 5.4.

Participant 1 (P1): SE is a 57-year-old married woman with a grade 10 education level. She has two children. She resides in Kraaifontein, Cape Town. She suffered a brain aneurysm in 2015. After the incident she experienced difficulty with her vision and memory, as well as some labile emotions. Prior to her diagnosis she was self-employed as a baker. She has partially resumed her self-employment activities since the onset of her condition.

Participant 2 (P2): ES is a 45-year-old single woman with a grade 10 education level. She has one child. She resides in Eerste River, Cape Town. She was diagnosed with a malignant brain tumour that was excised in 2010. She reported experiencing memory and concentration difficulties prior to as well as post-surgical intervention. Prior to her ABI she was employed as a machinist. She was unemployed for a period of fourteen months thereafter returned to work as a cashier.

Participant 3 (P3): LBO is a 41-year-old single woman with a grade 10 education level. She resides in Elsies River, Cape Town. She experienced a left cerebral vascular accident (CVA) in 2014. After her CVA she experienced right upper limb weakness, cognitive, and emotional difficulties. Prior to her CVA she was employed as a CCTV security guard at a local grocery store. She returned to work four months post-CVA. After two months she resigned due to inability to cope with the demands of her job. She currently remains unemployed.

Participant 4 (P4): NR is 29-year-old single woman with a grade 11 education level. She resides in Belhar, Cape Town. She was involved in a motor vehicle accident in 2012 and suffered a moderate traumatic brain injury. She was intubated and in a coma for one week at the Tygerberg Hospital. After her discharge she made a full physical recovery, however experienced residual short term memory and concentration difficulties. Prior to her accident she was employed as a bar lady. At the time of the interview, she was participating in a twelve-month store assistant learnership programme for a local retail company.

Participant 5 (P5): LB is a 36-year-old single woman with a tertiary education level. She resides in Somerset West, Cape Town. She was involved in a motor vehicle accident in 2010 and suffered a moderate traumatic brain injury. She suffered extensive facial injuries as well as several fractures to both upper and lower limbs. After the accident she experienced speech

and cognitive difficulties. She was employed as a jewellery designer prior to her accident. She currently is self- employed as a street vendor.

Participant 6 (P6): VG is a 48-year-old single woman with a grade 10 education level. She resides in Ravensmead, Cape Town. She has one child. She was diagnosed with a pituitary brain tumour that was excised in 2016. Post-surgery she experienced changes in her mood, poor memory as well as frequent episodes of severe fatigue. She was employed as a machinist prior to her injury. She returned to work six months after her operation; however, she resigned soon after due to her inability to cope with the demands of her job. She currently remains unemployed.

Participant 7 (P7): CW is a 24-year-old women with a grade 12 education level. She resides in George, Western Cape. She was involved in a motor vehicle accident in 2016. She suffered a left subdural haematoma (mild traumatic brain injury). At present she continues to experience concentration and memory difficulties. She was employed as a receptionist prior to her accident and only returned to work as a receptionist two years after her accident.

Participant 8 (P8): BW is a 42-year-old single woman with a grade 10 education level. She has one child. She resides in Rondebosch, Cape Town. She was involved in a motor vehicle accident in 2014 and suffered a moderate traumatic brain injury. She received psychological intervention for post-traumatic stress disorder (PTSD) after her accident. She was employed as a hairstylist prior to her accident. She did not return to work and currently remains unemployed.

Participant 9 (P9): EH is 42-year-old married woman with a grade 7 education level. She resides in Bredasdorp, Western Cape. She has no children. She experienced a left cerebral vascular accident in 2015. After her CVA she presented with right hemiplegia with right hand spasticity as well as cognitive difficulties. She was previously employed as a domestic worker; however, she currently remains unemployed since 2015 and receives a permanent state disability grant.

Participant 10 (P10): EB is a 28-year-old married woman with a grade 10 education level. She has two children. She resides in Kuilsriver, Cape Town. She experienced a right cerebral vascular accident after giving birth to her second child in 2016. Since her injury she has been experiencing mild cognitive problems and continues to experience psychological and emotional difficulties. Prior to her injury she was employed as an administrative clerk. She did not return to work and remains unemployed.

5.4.2 Emerging themes

The findings are presented according to themes, categories and sub-categories. The first theme, “Barriers within the rehabilitation process” explains the perceived barriers to RTW experienced by the participants following their brain injury and the hindering factors that influenced vocational integration. The second theme, “ABI causes loss of a sense of self and financial strain” explains the impact of impairment and activity limitation experienced by the participants and the disruption of occupational participation. The theme also depicts the financial burden caused by unemployment as well as the advantage of having social support post-ABI. Lastly, theme three, “Entrepreneurship and education as a strategy to empowerment,” represents proposed strategies which could form part of the planning and development of a model that would enhance entrepreneurial skills in women with ABI.

5.4.2.1 Theme one: Barriers within the rehabilitation process

Theme 1: Barriers within the rehabilitation process	Categories: <ul style="list-style-type: none">• Communication oversights during rehabilitation• Difficulty coping on returning to work
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This theme represents the participants’ experiences during their rehabilitation and return to work process post-ABI. The theme highlights the participants’ interactions with the health team and their difficulties in resuming and maintaining work. The theme also depicts the hindrances to economic independence once a RTW outcome was not achieved.

Communication oversights during rehabilitation

This category describes the participants’ lack of understanding and uncertainty of the influence their ABI had on their future employability and vocational goals. It also presents the participants’ perceptions and experiences of the hierarchical patient/health professional relationship and how expert decisions, opinions and interactions impacted on their (participants) motivations to resume their worker role. One participant described her experience and stated:

“Al wat die dokter gesê het ek moet stap (oefen), daar is niks fout met my nie so ek kan gaan werk” [“The only thing the doctor told me, is to walk (exercise), there is nothing wrong with me so I can go work”] P6

Another participant stated:

“Dokter het nie vir my gesê hoekom hy my soontoe (work assessment unit) stuur nie, dit het eintlik gegaan oor SASSA geld, maar ek voel tog hulle kon meer gedoen het, ek weet nie of ek verkeerd was om dit te verwag.” [“The doctor did not tell me why he sent me for a work assessment, it actually was to find out if I am eligible for a disability grant, but I feel they could have done more (provide more information and guidance to the ABI diagnosis), I don’t know if I was wrong to expect that”] P1

Participants reported feeling excluded during their health management and rehabilitation process and expressed frustration to be found fit for work yet were still experiencing significant difficulty with residual ABI impairment-related restrictions. One participant stated:

“Dokter he gesê jy is gesond maar ek voel nie gesond nie, mens sukkel dit was baie hectic vir my” [“The doctor said I am healthy but I don’t feel healthy, a person has difficulty and it was very chaotic for me”] P2

Another participant stated that the effects of the injury was like an internal disorder and invisible to others.

“Hulle weet nie hoe dit is in die binnekant van jou liggaam nie” [“They don’t know what it like on the inside of my body”] P6

Participants revealed they were uncertain about the effects of the injury on their health and societal participation and felt nervous to ask the treating medical staff what they could expect to happen post-ABI.

- **You are fit for work. Now what?**

Participants expressed that they could not understand what a work assessment entailed and were under the impression it would assist them (participants) to return back to their old jobs or possible alternative ways to start earning a living. A participant stated:

“All I understood is that they want to see if I’m fit for work with the test they do to see if you can do this or do that” P4

Another participant stated:

“Daar was nie veel van 'n verduideliking nie; mevrou ons moet dit (assessments) doen om te kyk of u weer sal kan werk of hoe anders as jy nie kan werk” [“There was no explanation for why they doing the work assessment ... to maybe say madam, we doing this to see if you can work again or how else you are finding difficulty to work”] P1

Further statements from study participants revealed that they were not fully informed and guided on the way forward to RTW after rehabilitation discharge and this further negatively impacted on their sense of vocational direction and aspirations. A participant stated:

“Maar ek sou gewaardeer het as hulle na my toe terug gekom het, en vir my gesê het, kyk jy is nog geskik vir werk of u kan nie werk. Ek het dit glad nie van hulle kant af gekry. Hulle het daardie informasie na die dokter toe aan gestuur en ek het niks tot vandag toe weet ek nie wat is die uitslag verder gewees nie” [“But I would have appreciated it if they (health professionals) could have given me feedback if I am fit for work or not. I did not get any feedback about my work ability from their side. They have sent that information to the doctor and until today I still don't know what my work assessment results are”] P1

Another participant stated:

“They said I would never be able to work, which again made me not able to trust myself and trust my own abilities, they just told me ‘No you can't go to work’. They tell you what you cannot do due to your injury but they don't notice you can do work and still have skills.” P4

There was limited support in returning some study participants to work. Liaising with the employers on possible work accommodation as well as following up with participants after discharge were minimal. A participant described her experience by stating.

“Uhm, daar was net gesê jy is fit vir werk en ek kan maar weer nou my ou werk gaan doen. Toe dink ek gaan ek myself, leer praat. Die assessment was net ek kan weer terug gaan werk toe, maar hulle het nie gevra hoe voel ons oor die feit dat ek moet terug gaan werk toe nie” [“They said you fit for work you can now go and do your old job again. So I thought should I teach myself how to speak properly again? The assessment outcome was ... now you can go back to work but they never asked me how do I feel about returning to work”] P3

Another participant stated:

“Van my kant af as jou terapeut klaar is met jou, sou ek verwag het sy moet vir my 'n guideline gee, soos om my werkgewer na toe te gaan en te se kyk sy is weer fit vir werk ons het haar nou fit verklaar maar daar kan miskien meer probleme wees, ek kannie baie cope met stress nie, sit vir haar in minder stressvolle environment” [“From my side if the therapist is done with you I would expect some sort of guideline, like contacting my employer and say look she is again fit for work but there could be difficulties. For instance, I cannot cope anymore when I am stressed... so motivate to the employer to allow me to work in a less stressful environment”] P1

- **Minimal options to RTW**

Participants stated that they felt after their work assessment there were minimal options and opportunities to return to work or any other form of gainful employment. One participant stated:

“Daar was niks wat ek kon staar gemaak het nie ... hulle het niks aangebied wat my self vertrouwe weer kan opbou of enige iets van dai aard. Daar was nie eens so miskien kan ek weer leer om A, B and C te doen, daar was niks van die sort. Volgens hulle is ek fit vir werk, daar was niks follow up.” [“There was nothing I could depend on, they offered nothing that could assist in building up my self-esteem or something like that. There was not even maybe I could learn again to do A, B and C ... there was nothing. According to them I was fit for work and there was no follow up”] P3

Another participant stated that some sort of guideline is needed of what to expect or where to seek assistance should the need arise after discharge.

“Wel ek sal dit actually waardeer as hulle amper soos 'n instruction manual gegee het die dag toe ek klaar maak” [“Well I would have appreciated it if they could have provided me with some kind of instruction manual when they were finished with me”] P7

Difficulty coping during return to work

The study participants reported that in spite of being declared fit for work, their attempts to successfully integrate back into their old jobs or any new jobs was extremely challenging.

Participants expressed that they felt doubt and did not trust their own abilities to return to a formal job and optimally perform work tasks. The study participants reported that they had limited knowledge on other options or measures for vocational reintegration or other ways of earning money.

- **I was not in a good space**

According to some study participants there were several external factors that influenced their transition back to work that consequently exacerbated their existing stressful circumstances. A participant expressed her dilemma by stating:

“Ek het nie fit gevoel vir werk nie, maar ek moes gaan werk om finansiëel my kinders te support” [“I did not feel fit for work, but I had to go work to support my children financially”] P6

Another participant had to return to work due to expired paid sick leave, she stated:

“My leave was klaar, agterna het hulle my unpaid leave gegee en ek moes terug gaan werk toe, maar ek was nie gereed vir werk. Ek kan nou sien dai tyd was ek nie reg vir terug gaan werk toe nie, daar was nog te veel goed wat nie kon gedoen het” [“My paid sick leave expired, afterward they awarded me unpaid leave but thereafter I had to go back to work, but I was not ready. I can see now at that time I was not ready to return to work, there was just too many things I could not do”] P3

Another participant reported that frequent medical follow-up and her unstable health impacted on her work attendance. She stated:

“I have been constantly sick you know, and every time there’s new medication I had to use and then so I had to adapt to that medication you know. Sometimes when I was absent from work, I had a doctor’s letter and sometimes I didn’t have” P8

- **I could not cope in my job**

The participants who returned to work expressed experiencing difficulty performing work duties due to residual cognitive, emotional and coping difficulties. They were not equipped with the necessary adaptive strategies and skills to manage their work performance. Work tasks that were previously performed with ease seemed more difficult to manage. Participants stated:

“Vir my was dit heel different na ek terug gegaan het, so ek dink nie meer ek sal my werk kan doen nie. Maar ek was opgelei om dit te doen maar ek kon dit nie meer doen nie” [“For me it was totally different when I returned to work. I do not think I would be able to do my work anymore, I was trained to do my job but I just could not do it anymore”] P3

The participants further shared that physical discomfort, fatigue and poor coping abilities made it more difficult to work. The participant stated:

“It was very difficult for me to work, every time when I sit behind the sewing machine then my feet become painful and swollen, that is why it was difficult because I could not understand why. You struggle, it was hectic, there is a production target that you need to meet and sometimes you cannot meet the target. I just became tired so quickly but then the doctor says you healthy, but I don't feel healthy” P2

Difficulty coping during demanding work situations exacerbated stress and anxiety levels of the participants. Lack of workplace support and negative feedback on work performance further demotivated the study participants in their worker role. This resulted in a decline in work aspirations. A participant stated:

“Daar was te veel stressvolle dinge wat ek nie kon doen nie. Maar hulle het my nie in 'n kleiner winkel gesit (not accommodated). Die manager het gese; 'jy kom nie hier in my winkel nie, gaan uit want ek weet nie hoe kan hulle toelaat dat iemand na 3 weke 'n stroke gehad het om in die winkel te kom werk'. Dit het my self vertrouwe ook geknak. Ek het vergeet om sekere goed te doen.” [“There were too many stressful things that I just could not cope with and do. But the employer did not move me to a smaller department. The manager even said “you don't come in my shop... leave, because how can they (health team) allow someone that had a stroke three weeks ago to come back to work in this shop’. This damaged my self-esteem. I forgot how to do certain things in my work”] P3

Another participant stated that even though she stood a good chance for a promotion, she declined due to her difficulty in handling stress from her current job demands. This impacted on her ambition and drive to further her career. She stated:

“Daar was 'n hoër pos, maar ek sal nie verkies om die hoër post te vat nie. dis net te veel stress” [“There was a higher post available, but I decided not to accept a higher position, it is just too much stress”] P10

A participant eventually resigned soon after returning to work as she could not adjust and cope with the work demands after her ABI. She expressed her difficulty by stating:

“Dit was 'n aanpassing vir twee maande en toe kan ek nie meer cope, en toe los ek die werk. en op die oomblik werk ek nou al vir die afgelope twee en 'n halfjaar nie meer. So eintlik het die stroke baie nagevolge gehad wat ek nou nog nie eers meer kan deal” [“It was an adjustment for two months and then I could not cope anymore and then I resigned from my job. At the moment I have not worked for the past two and a half years. So the stroke actually had a lot of negative consequences with which I still cannot deal with”] P3

5.4.2.2 Theme two: ABI causes loss of a sense of self and financial strain

<p>Theme 2:</p> <p>ABI causes loss of a sense of self and financial strain</p>	<p>Categories:</p> <ul style="list-style-type: none"> • Diminished trust in the self • The burdensome time gap between ABI and RTW • Social support enhances occupational engagement
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In this theme participants expressed how their ABI impacted on the “self” and depicts how the related impairments of the injury inflicted imbalance on their daily occupations, participation and livelihood. The study participants reported they did not view themselves as capable beings anymore and had little hope for future work endeavours.

Diminished trust in the self

In this category the participants reported that apart from experiencing the external factors that impacted on their RTW, they became aware of the internal processes that occurred within their own self. They reported that the effects that the ABI imposed on their functioning disrupted almost all spheres in their lives. Apart from experiencing physical and cognitive difficulties after their injury, emotional difficulties additionally impacted on their recovery process.

- **Once they have worked on your brain you will never be the same**

Participants reported that the effects of the ABI on their physical and cognitive abilities became more evident during tasks and activities they could once perform independently. A participant expressed how she experienced difficulty with her short-term memory and stated:

“Ek is besig met iets dan net 'n minute of twee dan weet ek nie wat ek moet gedoen het nie of waarmee ek besig was nie, of wat ek wil gedoen het nie of waar ek die goete gesit het nie, dis moeilik, yes” [“I am busy with something then the next minute or two, then I don't know what I was busy with or what I wanted to do, or where I have left things, it is difficult”] P6

Another participant experienced speech difficulty as well as weakness in her dominant hand and expressed her difficulties by stating:

“Ek het baie disappointed gevoel, die persoon. wat ek was, en die persoon wat ek nou is... Ek kon oral in die winkel werk. Maar nou is ek net op een plek as gevolg van my spraak en my hand nou moet ek net op een plek bly” [“I felt very disappointed, the person I was and the person that I am, now. Before, I could work anywhere in the shop, but now I am only on one place, because of my speech difficulty and my hand and now I must only work in one place”] P10

Another participant stated that she attempted to take part in learnerships offered by retail companies to enhance her opportunities for employment. She reported that her poor memory significantly impacted on her ability and performance to complete the theoretical tasks of the learnerships. She stated:

“I think I suck at my work skills. When I am in class I can shout out the answers, but the minute I get home it's like I blank out. I literally cannot work on my own without a facilitator” P4

Participants also reported that socially they experienced difficulties. Feelings of frustration, irritability and fluctuating mood made them want to socially withdraw. A participant expressed her difficulties by stating:

“Vir my is dit frustrating want ek was 'n baie active mens voor my stroke. Ek is glad nie die mens wat ek was nie. Ek is baie ongeduldig en ek was 'n mens wat baie patience gehad het. Maar nou is ek baie ongeduldig want dis frustrerend.” [“For me it is frustrating because I was an active person before the stroke. I am

totally not the person that I was. I have very poor tolerance and I am a person that had a lot of patience. But now I am very impatient because it is frustrating”]

P3

Another participant stated:

“As ek moet werk dan wil ek net so sit ek hou nie van mense rond om my nie. Een dag is ek so nice en die ander dag anders.” [“If I should go back to work, I want to sit and do my work, I don’t like a lot of people around me. One day I am nice the next day I am different”] *P9*

- **I don’t trust myself anymore**

Participants reported that one of the most prominent difficulties they experienced post-ABI, is the trust they have lost in their own self. After the brain injury the participants experienced significant difficulty utilising previous skills, difficulty performing functional activities as well as utilising regulatory and coping skills during challenging psychosocial encounters. Poor self-awareness after the ABI was a common factor among participants. One participant expressed the change she felt about herself and stated:

“My mind set is nie meer dieselfde nie... Ek is 'n heel different persoon as wat ek was, en is glad nie die mens wat ek was nie” [“My mind is not the same anymore. I am a completely different person; I am not the person I once was”] *P3*

Another participant stated she feels anxious as she always anticipates failure in tasks and activities she engages in. She stated:

“Ek weet ek sal nie kan by hou ... al is ek besig met wat” [“I know I will not be able to keep up ... it doesn’t matter what I am busy with”] *P6*

Another participant stated that during her attempt to participate in learnerships she experienced a lot of strain and fear of failure and rejection. She stated:

“I struggle to trust that I am doing the right thing. I don’t trust myself ... and I think the fact that I don’t trust myself is when I am doing something wrong and how people react to me when I’m doing it wrong” *P4*

The participant also stated that the perceptions of other people about her capabilities was also very important to her as it was an affirmation of her abilities. She stated:

“People get frustrated with you and people get irritated with you. Then you keep asking yourself ‘why could you do this yesterday ... but why don’t you know how

now?'. So whether I trust myself or not is really based on how everyone else is going to react to me" P4

Another participant reported that after her accident, when applying for jobs she would deliberately omit information on her application about her health and the fact that she had a brain injury. She feared that the potential employer will not have faith in her work abilities. She stated:

"Op my werk aansoeke het ek nie my brain besering in gesit, sodat hulle nie moet dink dat jy vertraag (retarded) is nie. Daai werkgewer sal miskien nie verstaan nie ... dit kan miskien jou salaris benadeel (less pay) of jou kontrak mag miskien nie weer renewed word nie" ["On my work applications I would not include information about my health and brain injury so that they must not think that I am retarded. The employer might not understand and it might impact on my salary or my contract might not get renewed again"] P7

The burdensome time gap between ABI and RTW

The above category describes the participants' experiences on how prolonged unemployment after ABI impacted on their lives. The participants reported that apart from experiencing financial burden they also experienced a loss of ambitious drive and motivation. Most participants reported that they did not receive any form of financial assistance as their symptoms or impairments were not substantial enough to warrant a state disability grant. Participants expressed their concerns about never finding a job again and losing their remaining work skills due to not being able to participate in the work force.

- **I was under a lot of pressure**

The participants reported that not being able to return to work had a grave impact on their livelihood. Financial strain further impacted on their emotional well-being and exacerbated their stress levels. Several participants stated:

"Ek was 'n jaar en sewe maande sonder inkomste. Ek was baie onderdruk" ["I was without an income for a year and seven months, I was under so much pressure"] P10

"Ek was vir 'n jaar en ses maande by die huis gewees, ek het deur die proses gegaan vir arbeidsterapie, som dae het nie taxi geld nie, dan moet ek ma

kanselleer” [“I was at home for a year and six months. I went for occupational therapy, but some days I did not have taxi fee, then I had to cancel”] P2

“Ek het by die huis gesit, drie jaar is 'n baie lang tyd om by die huis te sit” [“I sat at home for three years... three years is a very long time to sit at home”]

P3

“Ek meen dit het my amper twee jaar gevat om weer werk te kry” [“I mean it took me almost two years to find work again”] P7

Participants reported how their loss of income also impacted on their family members' livelihood needs. This reflects in one participant's statement:

“Weet jy wat dit is om te werk my skat? om te support my familie financially. Ek wurg nou nog met 'n krag rekening wat ek moet af betaal en ek moet my dogter se college fooi self betaal. “Dit was 'n jaar van sit wat vir my baie irritated en emosioneel gemaak het omdat ek nie veel kon doen aan my situasie nie” [“Do you know what it is to work my dear? to support your family financially.? I am still choking on an electricity bill and I need to pay my daughter's college fees. It was a year of sitting (not working) that made me very irritated and emotional because there was not much I could do about my situation”] P1

Other participants stated:

“I am rearing a 9-year-old daughter and I want the best for her. I spoke up, and asked for help (financial) but some people get tired of helping you” P8

Social support enhances occupational engagement

This category represents the supportive and motivating role of the participants' family and friends post-ABI. Participants' roles and habits were impacted on which caused a disruption in parental role fulfilment as well as the role of wage-earner. Family support became an essential factor in the participants' daily lives. The participants reported that support from family and community members motivated them to work towards gaining functional independence.

- **Welcomed support from family and the community**

Other than their worker roles being negatively influenced post-ABI, the loss of independence in their primary roles as mothers and homemakers seem to have created a significant decline in the study participants' self-esteem and emotional state.

A participant experienced the loss of function of her right upper limb after her stroke that hindered her ability to care for her infant child. She reported on the social support she received by stating:

“Ek was baie onder druk ek kon nie eens myself was nie. Ek het 'n kind gehad wat ek moet sorg, ek kon skaars 'n borsel uithaal om haar hare te kam. Ek kon nie na haar kyk nie ... en dit was die ergste vir my. Maar my vriende was daar amper elke dag om my te ondersteun. My buurvrou het ook na my dogterjie gekyk as ek nie kon cope” [“I was very depressed I could not even wash myself. I had a child that I needed to care for. I could not even hold a brush, to comb her hair. I could not look after her, and that was the worst for me. My friends were there almost every day to support me. My neighbour also assisted me by looking after my daughter when I could not cope”] P10

Another participant stated after spending three months in ICU she experienced significant memory problems. She described how she received support from her mother by stating:

“My mother at that time was like my memory, and she still is. We never had a good relationship but after the accident she supported me in everything. She would remind me of lots of things I would tend to forget. My mom would make sure that I get to my appointments and reminded me of things all the time. She would even talk on the phone on my behalf. I feel we definitely became closer” P4)

Another participant expressed how the support from her spouse helped her to become more motivated towards her recovery and how she eventually became more involved in an informal small business initiative. She stated:

“My man hy het my daardie tyd lekker ondersteun. Hy het die extra mile gegaan, en op sy af dae overtime gewerk om extra geld in te bring sodat ek die nappies en melk en sulke goed kan koop. My man het sommer 'n huis winkeltjie probeer op sit sodat ek myself kon besig hou deur die dag as hy in die werk is” [“My husband supported me during the time I was at home after my stroke. He went the extra mile and even worked during his off days to earn extra money so that I can buy nappies and milk and such things. He even tried opening up a house shop so that I can keep myself occupied while he was at work during the day”] P10

One of the participants reported that after her brain surgery she experienced physical and psychological impairments and experienced financial difficulties. In an attempt to resume her self-employment baking initiative, the surrounding community members encouraged her to start baking again and supported her by regularly placing orders. This helped relieve some of her financial strain. She stated:

“Die community het my goed support daar is nog altyd mense wat sê; ‘Sarah niemand maak ‘n doughnut soos jy nie’. En daar het my besigheid weer begin en toe kom mense terug, regtig waar ek het goed geldjies gemaak” [“The community supported me well and some use to say ‘Sarah, no one makes a doughnut like you’. From there on my business started again, and then people started buying from me again, I really could make good money”] P1

Another participant stated that support groups within her community helped her cope with the emotional and psychosocial difficulties she experienced after her brain injury. She stated:

“Soos ‘n woman’s support group, ons het ‘n dag in die week gekies en basically oor onself gepraat. En daar het vrouens opgestaan tot vrouens wat ge abuse was. Dit was wat ons ook kon doen om ons community te support” [“Like with the women support group, we choose a day in the week to come together and basically just talk about ourselves. There were women who stood up and spoke about their abuse. This was what we could do to provide support in our community”] P2

5.4.2.3 Theme three: Entrepreneurship and education a strategy to empowerment

<p>Theme 3: Entrepreneurship and education a strategy to empowerment</p>	<p>Categories:</p> <ul style="list-style-type: none"> • A need for information and mentorship • It is difficult to start entrepreneurial ventures without funds
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This theme presents the participants’ perceptions and opinions on factors that should be addressed towards promoting the development of self-employment programmes for women with ABI and disabilities.

A need for information and mentorship

This category explains the participants' views on how the rehabilitation programme can be made more endearing for women with ABI by means of entrepreneurial skills training. The participants shared their perceptions of the rehabilitation process and voiced that their work ability was only measured in quantifiable factors which was largely based on the clinical presentations of their injury in relation to returning to work in the formal labour market. A disability grant was only awarded based on a means test and clinical presentation, of which most of the ABI participants did not qualify for. The majority of the study participants suffered financial strain. Participants stated:

“Ek kon nie meer die werk sessies bywoon nie because financially kon ek dit nie bekostig nie, daar was nie inkomste nie. Toe ek gaan apply vir 'n grant toe sê hulle ek kan nie 'n grant kry nie net vir my meisie kind, wat maar R400 (four hundred rand) 'n maand is en dit help nie veel nie. Dus hoekom ek maar nou tou op gegooi het en ek sit nou by die huis ek het nie werk nie ek is nie financially stabiel nie”
[“I could not attend the work sessions anymore because financially I could not afford it, there was no income. I tried applying for a grant, but they said I don't qualify, only a children's grant for my daughter, which is only R400 a month, and that money doesn't help much. This is why I gave up, now I am sitting at home, I have no work, I am not financially stable”] P3

- **A need to understand how to do it properly**

A need was identified to gain more knowledge, skills, support and guidance on how to start small self-employment initiatives. The participants reported that self-employment could assist with lessening the financial burden as well as offer an opportunity to become productive and meaningfully contribute to their households. A participant stated:

“I am planning on starting my own small business you know But then when I'm thinking about it ... I can't start something with nothing” P4

Another participant stated:

“Daar is baie moeilike tye, dan beoog ek om 'n klein besigheidjie te begin, dan dink ek hoe gaan ek Uhm..hoe begin ek”[“There are difficult times, then I consider starting a small business ... then I think how do I begin”] P2

The participants reported that becoming self-employed is a viable solution to improve their current financial situation and it would also allow them to remain productive and improve functional and work skills. Some participants stated:

“I still need to be doing something productive, but I still need to maintain my focus. For me starting my own small business I would need to understand what I need to do and that way I would want to do more for myself” P7

“I need to understand how to start my own business properly, I need to have the basic foundation like a learnership course in venture creation, something like that” P4

Some participants reported that they believe that they would be able to start their own business, however they would require external support. Participants stated:

“I would like support from another small business owner, just to get some insight to how to go about and how to run it and make it better” P7

“You know many other business people can come around, to support or have small business workshops where they can maybe give guidance” P8

The participants reported that have some form of external support, or awareness about resources that they could use as a guide would have a positive impact on their motivation to pursue their own self-employment initiatives. Participants voiced their suggestions by stating:

“Like maybe attending a crash course, or just be allowed to volunteer, or know about places that allows you to volunteer. Also if we can go to a place where we can do practical stuff to learn new self-employment skills” P5

Another participant stated:

“At the learnership I learnt to do administrative tasks, but maybe if they can teach such a course of working for yourself. You know I wouldn't mind and would love to work for myself” P8

It is difficult to start entrepreneurial ventures without funds

In this category the study participants expressed their concerns about their limited knowledge on how to gain financial support to start a small business.

- **All I need is just a financial push**

The participants reported that even though there is financial assistance available for small business start-ups, they were not aware of such resources for individuals with disabilities who want to become self-employed. A participant expressed her situation by stating:

“Jy weet, ek beplan elke keer om iets te doen om meer geld te kry, maar as dit daarby kom dan moet jy rent betaal, jy moet krag betaal en dis altyd iets wat voorkom. Nou kan jy nie kom om iets te begin nie, want mens makeer financial support” [“Every time I plan to do something to earn more money, but when it gets to that then the rent needs to be paid, electricity needs to be paid and there is always something. You cannot get to start something because you need financial support”] P2

Another participant stated that she is good with styling people’s hair because she previously worked as a hairstylist. She reported that she has the skill and would be able to work for herself; however, due to having no funds she cannot afford the equipment and materials to start her own business. She stated:

“I’ve learnt now and have experienced the difficulty of not having enough money. Having your two hands and you have the skills... but you need blow dryers and flat irons, some money for shampoos, conditioners and your hair chemicals and whatever you need to start off. Its things you need some money for” P8

Another participant became a street vendor and started making her own yogurt products. She reported her difficulties to financially sustain her business. She stated:

“Die ingredients is nie te cheap so in die yogurt wat ek maak daar is coconut milk in en dis organic. Die fonsie is baie belangrik soms is da nie baie sales, as mens net 'n financial hupstoot kan kry net vir die dae wat die sales laag is dat mens nie die besigheid laat uitbrand nie” [“The ingredients are not cheap, so in the yogurt there is coconut milk and it is organic. The funds are very important as some days there is no sales. If only I can get a financial push just to cover those days when sales are low so that the business don’t go completely bankrupt”] P5

5.5 DISCUSSION

This chapter aimed to answer the second and third objectives of the study which entailed obtaining the participants' perceptions and experiences of their RTW barriers and facilitators post-ABI. Hence, the chapter also explored the impairment-related limitations and participation restrictions during their rehabilitation process, their transition to work as well as entrepreneurial skills development opportunities. The three emerging themes were synthesised and conceptualised to elucidate facts supporting the planning and design of a model to enhance entrepreneurial skills in women with ABI. In addition, concept maps were used to consolidate the data that was obtained from ten women with ABI and mapped into a logical visual format.

5.5.1 Theme one: Barriers within the rehabilitation process

The category "communication oversights during rehabilitation", revealed that participants did not feel confident enough to freely communicate their needs with the health team during the rehabilitation process. The participants described their difficulties with having a low self-esteem post injury, while poor self-acceptance and lowered self-awareness hindered their ability to cope with daily activities. According to Wade (2015) patient participation is essential in physical medicine and during rehabilitation. However, the participants in the current study felt excluded from their rehabilitation plan and management. There is evidence that individualised patient information, advice and follow-up are of significant importance for the recovery of people with acquired brain injury (Turner-Stokes et al., 2015). However, the participants in this study did not experience an open and approachable relationship with the health and rehabilitation team. This led to a lack of knowledge about their health condition and how it might impact on their daily functioning, and therefore exacerbated their fears and anxiety about their future well-being. As stated in Ruzenski (2019), several studies bear significance to the investigative focus of empowerment and that individuals with disabilities value services that are welcoming and when they are able to connect with professionals. Also, Castro et al. (2016) suggested that patient participation is a strategy that will facilitate a patient-centred approach, which in turn leads to patient empowerment. Likewise, Sahlsten, Larsson, Sjostrom, and Plos, (2008), identified patient empowerment as a consequence of patient participation. Similarly, client involvement as the primary decision makers and as active participants rather than passive recipients of services has long been recognised as a primary tenet in vocational rehabilitation (Van Hal et al., 2012; Shaw, McWilliam, Sumsion, &

MacKinnon, 2007). In the current study the participants experienced a lack of opportunities to be actively involved during their RTW planning and the exploration for alternative future employment opportunities. In relation to patient participation there are two rehabilitation activities frequently used, namely goal planning and shared decision making (Melin, 2018). However, some of the participants in this study reported having received minimal vocational counselling. Limited post-discharge guidance and follow-up further influenced how some participants came to terms and adjusted to their new situation post-ABI. Thus, intensifying their lack of vocational goal-directed behaviour. According to Levack and Dean (2012) the agency culture or specifically a team approach can positively influence a client's achievement in obtaining a job. However, in the current study context where the public health sector serves the majority of the population, vocational rehabilitation services are provided but often impacted on due to time and resource constraints.

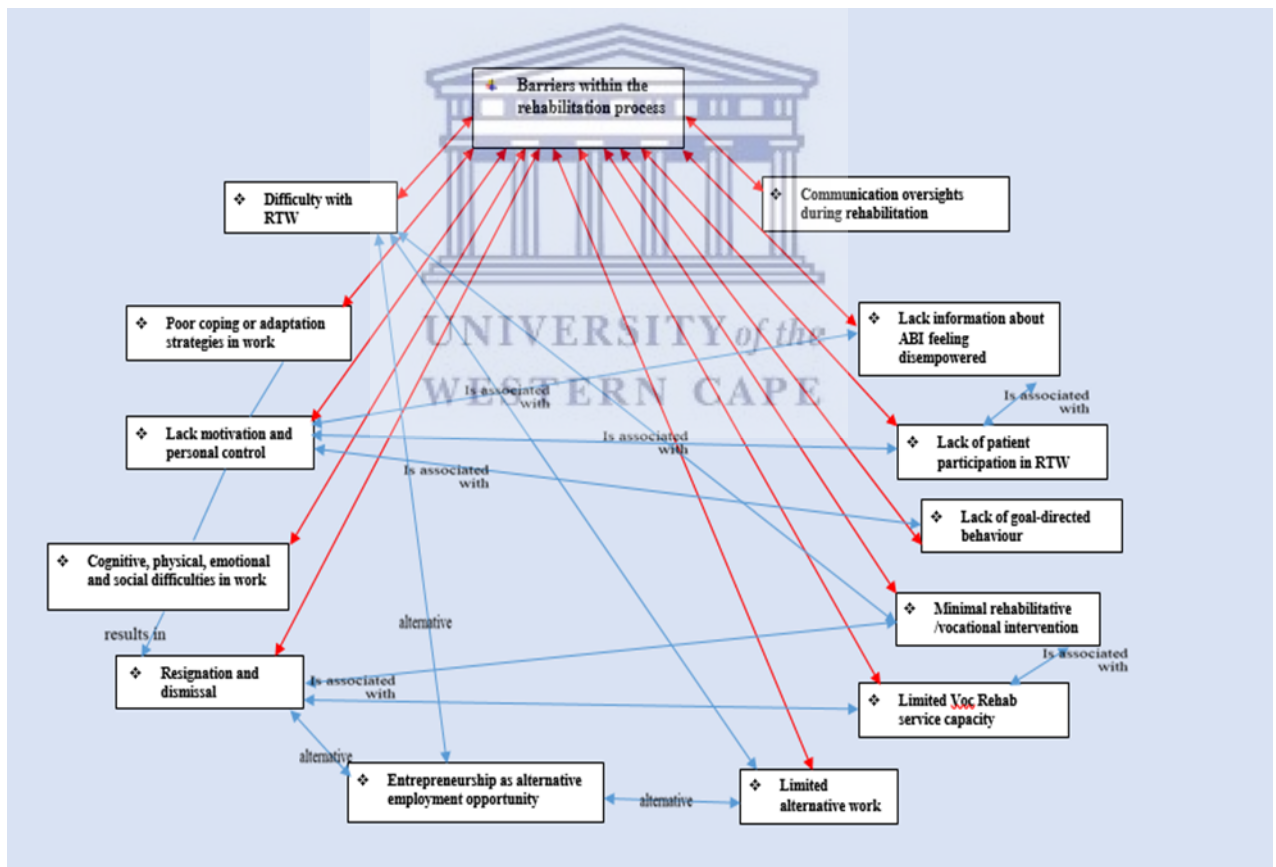


Figure 5.1: Diagrammatic representation of theme one

Therefore, the participants in this study perceived their rehabilitation process as a discouraging forecast to their future well-being. The participants reported that the rehabilitation services were lacking in providing the necessary functional skills and offered limited RTW support or

interventions to pursue alternative employment options. Furthermore, the category “difficulty coping during return to work”, presents some of the participants’ challenges during their work reintegration process. The study participants were faced with financial need, family caring obligations as well as expired paid sick leave that required them to return to work shortly after their ABI incident. Cognitive, physical, emotional and social difficulties upon RTW hindered the study participants’ ability to employ the necessary strategies to cope with their job demands and stressors within their work environment. Also, for some study participants their non-accommodative work environments and a variety of social demands seemed to be overwhelming upon their early RTW and subsequently led to premature job loss. In this instance entrepreneurship may provide a viable and realistic option toward overcoming at least some of the traditional obstacles to employment, such as negative attitudes and ignorance, and environmental barriers especially with regard to inadequate vocational rehabilitation services, and lack of career development (Goyri, Svastics, & Csillag, 2019). In Soeker, Wegner, and Caldwell (2014), it was stated that entrepreneurship can be a facilitator to productive work as it will allow individuals with brain injury and disabilities to establish their own income generating opportunities when formal jobs are inaccessible. As stated in Stephan, Hart, Mickiewicz, and Drews (2015), the main motivations for becoming an entrepreneur in general is the need for income, independence/freedom, job satisfaction, and self-realisation. Kitching (2014) posited that the move to self-employment and entrepreneurship for people with disabilities can be characterised as a split between push and pull factors where pull factors relate more to independence and ability to accommodate the individual’s lifestyle needs, flexibility in working hours, location of work, and accommodation of special needs in the workplace. In the current study the participants’ desire to recover from their difficult employment situations and financial hardship seems to correlate with the above statements by Kitching (2014). However, the participants in the current study expressed that post-injury changes impacted on their self-efficacy and motivation to return to work in the open labour market. According to Bagheri (2017), entrepreneurial competences have cognitive, attitudinal, behavioural, social and functional sides and could also be developed by education, training and experience. Therefore, in view of the current study findings there is feasibility of re-envisaging women with ABI’s experience of disablement in an employment market by means of entrepreneurship education and skills training (Dhar & Farzana, 2017). That is why for women with ABI, entrepreneurship can be a viable opportunity to prove and represent their worker competences and improve their economic situations. Furthermore, during entrepreneurial skills development for women with ABI the role of the vocational rehabilitation practitioner would

need to be that of a collaborator and to partner with the individual with ABI to help them re-engage and re-create their worker selves. Through a process of empowerment, entrepreneurial skills development could enhance women with ABI's functional and work abilities to achieve full occupational participation in a way that is unique to them (Fadyl, McPherson, & Nicholls, 2015).

5.5.2 Theme two: ABI causes loss of a sense of self and financial strain

This theme highlights the participants' awareness of not being the same person as before their brain injury. The study participants experienced a significant lack of perceived control, ambition and determination for vocational goal attainment that consequently manifested a debilitating sense of well-being. Zimmerman (2000) asserted that perceived control is the belief that one can influence outcomes, whether it is achieving a goal or avoiding undesirable situations. Perceived control is about the measures being categorised in the personality, cognitive, and motivational domains of the personal empowerment related sphere. The "diminished trust in the self" emanated from an array of cognitive, psychological and functional limitations that the study participants experienced post-ABI. This in turn led to them becoming reluctant and demotivated in pursuing occupational goals. A few of the participants in this study reported that they had difficulty with their memory as well as difficulty remaining attentive during occupational tasks and activities post-ABI. Consistent with the literature, cognitive and behavioural problems have been shown to be predictors of difficulties with return to work regardless of injury severity (Grigorovich et al., 2017). The study participants highlighted that low self-awareness after their ABI hindered their ability to self-monitor and employ self-regulating behaviour during task performance. According to Ownsworth (2010), the accurate self-appraisal of personal abilities following ABI contributes to motivation and the ability to set realistic employment goals and willingness to accept guidance as well as employ coping and adaptive strategies during the rehabilitation process. According to Schultz and Schultz (2009), having self-efficacy highlights one's perceptions of his or her skills and abilities in successful respectable performances. For the participants in the current study difficulty relating to their previous worker identities and in pursuing vocational goals revealed a poor self-efficacy consequent to their injury. Therefore, the evaluation of strengths as well as weaknesses especially regarding factors of self-efficacy towards occupational attainment should be identified. This would in turn aid in the planning and implementation of tailored

interventions that will help shape their goals towards determining their own employment outcomes.

Furthermore, participants in this study reported the loss of a stable income significantly impacted on their quality of life as well as their entire family unit. Stated in Plagnol and Easterlin (2008), satisfaction and happiness have been linked to periods in the life course when men and women attain expected levels of material goods and family life status. Hence, “the burdensome time gap between ABI and RTW” depicted the impact of unemployment on the livelihood and well-being of the participants in this study. Being unemployed for prolonged periods of time left the participants with little money to fully meet their basic livelihood needs. Thus, for the participants in the current study, entrepreneurship could help them identify and pursue start-up opportunities to enhance their financial independence, well-being and an improved quality of life.

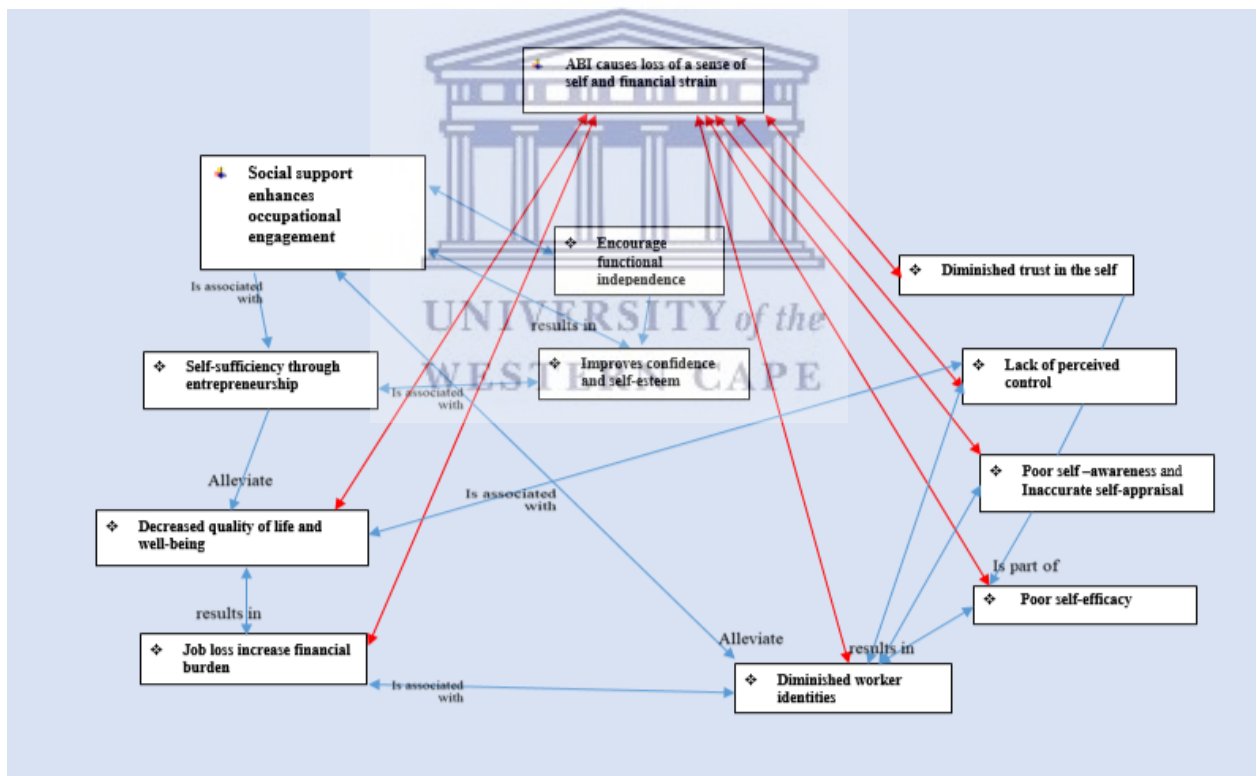


Figure 5.2: Diagrammatic representation of theme two

The “welcomed support from family and the community” portrays the assistance the study participants received with fulfilling roles and activities that included, among others self-care, child-rearing tasks and general home management responsibilities. According to Halabisky (2014), for the individual with a disability the lack of confidence can be increased when family

and friends are not supportive. On the other hand, for the participants in the current study the social support network became an essential factor in their daily lives and the support from family and community motivated them to work towards gaining functional independence. According to Soeker et al. (2014), the support from family offers significant value and benefits during the recovery process for the individual with brain injury. In the current study, family and community members served as a strong source of motivation to the study participants who engaged in entrepreneurial activities post-ABI. Gyóri et al. (2019) observed that apart from personal internal motivation factors to entrepreneurial initiatives, the broader social and economic environment (its support or obstruction) is another source of motivation, which is called the social, economic, or external motivation factors (Howard, 2017). In the current study one participant's spouse provided her with the encouragement and support to start a "house shop", that in turn improved her confidence in her functional ability and provided her with a sense of purpose and direction whilst engaging in entrepreneurial tasks. In Renko, Parker Harris, and Caldwell (2016) it was stated that informal family support plays a significant role in the lives of individuals with disabilities including their self-employment start-up efforts. This holds true for another participant whose mother served as a strong financial and motivational support in her yogurt vending initiative. In addition, for another participant the encouragement and praise from her community members motivated her to continue and grow her home baking initiative. As found in the current study the social environment aided in the activity engagements of the study participants, which shows that a supportive and accessible environment enhances occupational participation. This affirms that as part of interventions to enhance the entrepreneurial skills of women with ABI, a strong social support network and the inclusion of family and significant others should be facilitated during empowering intervention processes (Soeker et al., 2014).

5.5.3 Theme three: Entrepreneurship and education a strategy to empowerment

In this theme the participants emphasised that self-employment and entrepreneurship is an empowering and relevant occupation to address their current situations. "A need for information and mentorship", portrayed the study participants' innate desire to regain control of their own welfare. Beyt-Saeed and Parandeh (2013) noted that self-empowerment is to increase self-control over life to promote health. This resonated with the study participants since they expressed a need to learn more about how to initiate self-employment ventures to help ease the financial strain and psychological tension associated with unemployment.

Steenekamp, Vander-Merwe, and Athayde (2011) are of the view that South Africa does not suffer from a lack of creative spirit but rather a lack of business education and entrepreneurial skills that can empower individuals in an enabling environment. Fatoki and Garwe (2010) also confirmed that entrepreneurship education is still one of the prime factors limiting the growth of the economy in South Africa. Coleman and Robb (2012) stated that there is general agreement by researchers that entrepreneurship can be taught, yet at the same time there is little consistency in terms of opinions on how it should be taught leading to a broad array of educational programmes. In a study by Chhabra, Raghunathan, and Rao (2020), their proposed conceptual model provides promising potential to measure entrepreneurial intention among women entrepreneurs, by integrating and adapting the constructs of the extended social cognitive career theory model and entrepreneurial potential model. In Okpachu et al. (2017) and Saraih et al. (2018), the utilisation of pedagogic and andragogic educational approaches to entrepreneurship education served as a preparatory function to influence beliefs, attitudes and intentions towards entrepreneurship. These educational approaches also aid in the transfer of knowledge and skills that could facilitate enhanced efficacy in an entrepreneurial worker role. However, in spite of the participants in this study identifying self-employment activities as a viable option they had limited information and knowledge to formulate a self-employment goal. This coincides with Coleman and Robb (2012) noting women are more likely to agree that they have some innovative ideas but do not always know how to apply these ideas. The participants in this study proposed varying modes that could enhance their knowledge and confidence in initiating their own ventures such as intern or mentorship support from businesses that foster inclusive entrepreneurship and learnership programmes or crash courses that focus on the basic facts and skills to small start-up ventures. However, the current study participants reported experiencing varying cognitive, emotional and behavioural difficulties that could pose challenges to their entrepreneurial skills acquisition abilities. Hamburg and Buksch (2015) as well as O'Brien and Delaney (2017) empirically identified the best ways on how to implement entrepreneurship education should involve training on practical projects to simulate real experiences that are similar to daily trades. In addition, teaching possibilities based on existing digital tools is beneficial for those who require more flexibility and user-friendly learning environments (Hamburg and David, 2017). According to Vanevenhoven (2013), entrepreneurship education for individuals with disabilities needs to adopt the best possible form of individual tailoring.

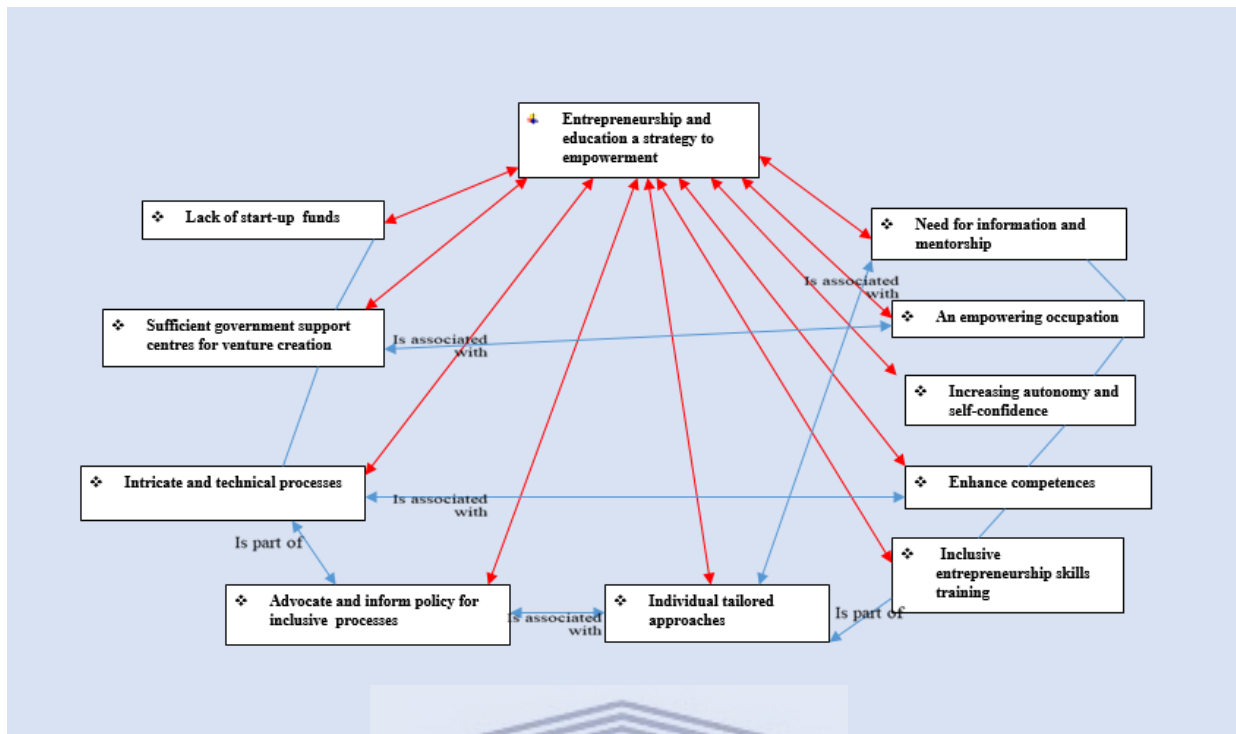


Figure 5.3: Diagrammatic representation of theme three

The study participants reported that a lack finance was one of their biggest challenges in their attempts to entrepreneurial initiatives since their own meagre funds were barely covering their basic livelihood necessities. As echoed by the study participants, “it is difficult to start entrepreneurial ventures without funds” is in line with numerous studies that found that a lack of finance is one of the biggest barriers to self-employment ventures for people with disabilities (Maziriri & Madinga, 2016; Torun, 2016; Renko et al., 2016; Maritz & Laferriere, 2016; Chinomona & Maziriri, 2015). The participants in this study were of the view that commercial banks are unwilling to approve monetary loans because of their unemployment status and poor financial credibility for repayment. This corresponds with the research findings of Maziriri and Madinga (2016), and Chimucheka and Mandipaka (2015), noting many individuals with disabilities are unaware of the government support centres and initiatives in South Africa that financially assist those living with disabilities in job creation.

The South African government and private enterprises have put various programmes and funds in place aimed at empowering the women of South Africa. This includes, among others the Isivande Women’s Fund (IWF), Women Entrepreneurial Fund (WEF), Business Partners Women in Business Fund, Absa Women Empowerment Fund and the Special Projects and Programmes Unit (SPP). However, most financial assistance programmes require detailed

business plans and documentation as part of the application process. As pointed out by Maziriri and Madinga (2016), most applicants do not know what is expected of them when making application to financial institutions. For women with ABI such application requirements could pose as a hindrance as they might lack the necessary technical knowledge and skills to pursue such formal application processes. This coincides with the findings of this study's participants who experienced lingering executive skills deficits. In addition, aspiring women entrepreneurs and those with impairments or disabilities have to face various problems associated with their start-up ventures, and these problems are doubled because of their dual role as a wage earner and homemaker as reported by the participants in this study. Kitching (2014) pointed out that policy-makers need to consider inclusive methods of delivering advice and support to disabled entrepreneurs. Within the vocational rehabilitation context, the holistic client-centred approach adopted by occupational therapists enables them to be key role players in advocating for their clients who face participation barriers stemming from personal, socio-economic and environmental factors. Therefore, it is important for occupational therapists who are involved in the area of economic empowerment and development to facilitate the integration of their clients into supportive environments created by government initiatives that helps establish small and micro-enterprises for individuals with disabilities (Gamieldien & Van Niekerk, 2017). This could also provide opportunities for occupational therapists to liaise with other government sectors outside of the health sector to influence inclusive processes to financial services and business skills development for women with disabilities who aspire to pursue entrepreneurial initiatives.

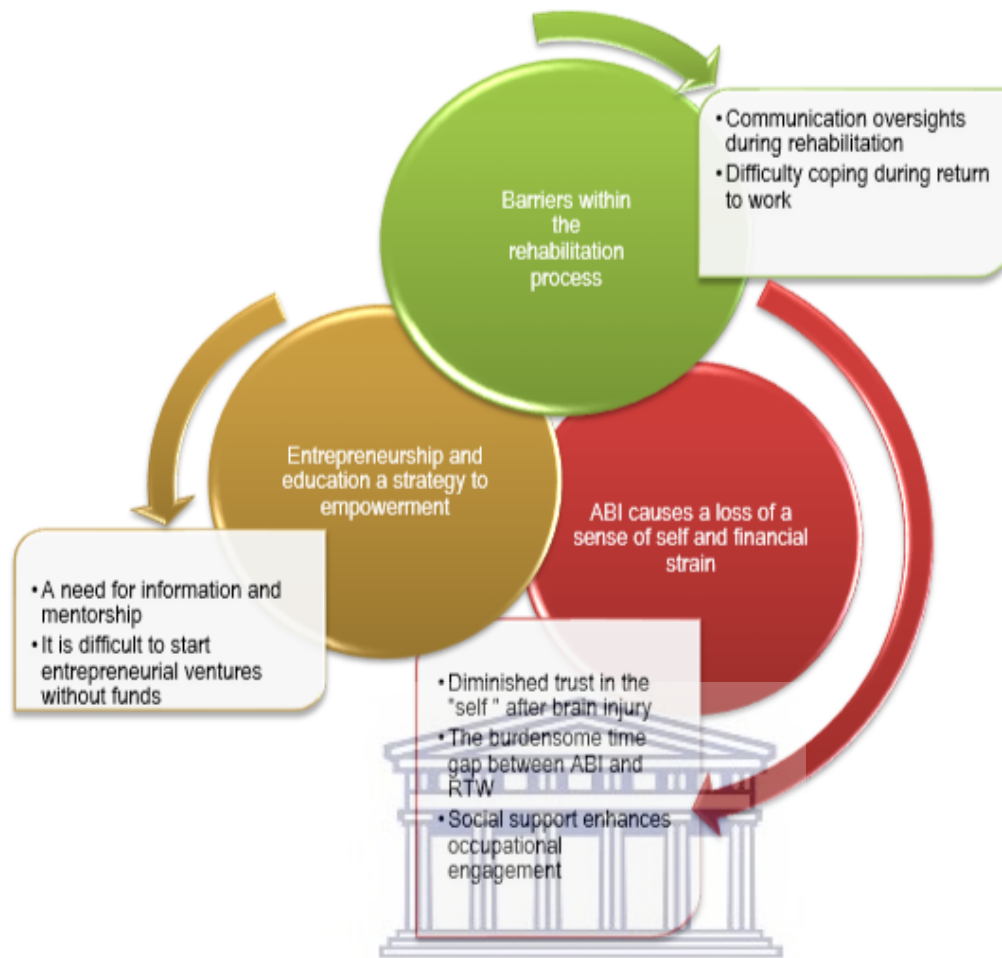


Figure 5.4: Concept map of the perceived barriers and facilitators to work and entrepreneurial skills development after ABI

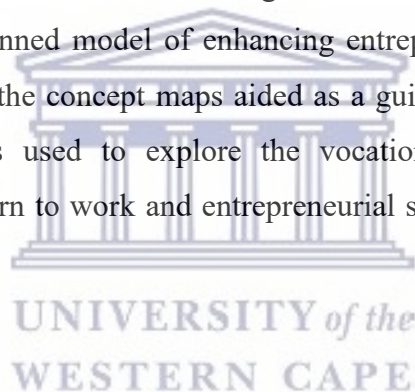
5.6 CONCEPT MAPS

Three concept maps were extracted from the study findings (Figure 5.4). Each sphere characterises a concept map that corresponds with the themes that were discussed and is theorised to be connecting with one another. The concept map suggests that a lack of engagement and exchange between the patient and the rehabilitation professionals after ABI negatively impacts on their personal drive and motivation throughout the rehabilitation process (communication oversights during rehabilitation), this consequently hinders a client-centred approach. Unmet individual needs, desires and preference to occupational engagement results in RTW challenges and premature job loss, while entrepreneurship are not offered as an alternative when RTW is not possible (difficulty coping returning to work). The second sphere illustrates the impact of ABI sequelae on the participants' perceived control, disempowerment, and subsequent participation restrictions (diminished trust in the self), whereas an

individualised rehabilitative approach to entrepreneurial skills development could mitigate prolonged future financial hardships (the burdensome time gap between ABI and RTW) and enhance personal efficacy and empowerment. The social environment is depicted as a supportive element to activity participation as well as entrepreneurial engagement for women with ABI. The third sphere illustrates that entrepreneurship development is supported and embedded in the country's legislature and policy guidelines yet, women with ABI who ultimately forms part of a much larger cohort of persons with disabilities who are struggling from inclusion especially within the area of employment, experiences difficulty to attain and benefit from existing resources.

5.7 CONCLUSION

The current chapter shows the valuable information gained from women with ABI who will be the direct recipients of the planned model of enhancing entrepreneurial skills. Themes that developed and presented with the concept maps aided as a guide for the succeeding chapter where a scoping review was used to explore the vocational rehabilitation content in interventions pertaining to return to work and entrepreneurial skills development for women with ABI.



CHAPTER 6
METHODS AND STRATEGIES
SCOPING REVIEW

6.1 INTRODUCTION

This chapter presents the findings of the phase 2 of the current study. In an effort to answer the study's fourth objective a scoping review was conducted. The fourth objective was aimed at reviewing the existing evidence-based literature for studies that hold descriptive approaches, models and programmes on return to work and entrepreneurial skills development for women with ABI. It describes the methodological process of data collection, the characteristics of the reviewed studies as well as detailed descriptions of findings on interventions used or described by the included studies. The findings are discussed in relation with reputable theoretical and empirical literature.

6.2 METHODOLOGY

As earlier discussed under chapter three of the current study, the scoping review framework outlined by Arksey and O'Malley (2005) was used to explore the literature on vocational best practices of entrepreneurial skills development and entrepreneurship for women with ABI.

Based on an explorative research question the current scoping review aimed to systematically elucidate key concepts, types or absence of evidence by synthesising the existing knowledge related to the fourth objective and broader aim of the current study. To ensure rigour of the scoping review the researcher followed the steps developed by Arksey and O'Malley (2005) as earlier discussed in chapter three of this study. The question, "What current studies describe and evaluate approaches used to facilitate RTW and entrepreneurial skills and entrepreneurship for women with ABI within a vocational rehabilitation context?" guided this scoping review.

A list of relevant key terms was used to screen and identify suitable research studies to determine if the subsequent contents of the retrieved papers were consistent with the research question (Arksey & O'Malley, 2005). The following sub-sections describes the scoping review's data collection process in line with the proposed steps suggested in Arksey and O'Malley (2005). The results of the scoping review are presented as descriptive and numerical summaries as well as thematic analysis (Peters et al., 2015). The descriptive summaries included demographic characteristics of the studies and a meta-synthesis approach proposed

by Sandelowski and Barroso (2008) was employed to analyse and integrate extracted vocational interventions from the different research methodologies into the current review.

6.2.1 Study sampling

Based on the scoping review's question, sampling included a comprehensive set of articles detailing vocational/work rehabilitation interventions. Vocational rehabilitation methods and programmes that focus on self-employment/entrepreneurial initiatives as RTW strategies for women and individuals with ABI were also pursued. The time frame of the reviewed literature spanned over 11 years from January 2007 to December 2019. The time frame was set at 11 years due to the dearth of research in the topic area. Studies were included and excluded using the following criteria:

Inclusion/exclusion criteria

All study designs including quantitative and qualitative full-text articles in English that focused on vocational rehabilitation, return to work programmes, and strategies and intervention protocols for individuals with ABI, were considered. The researcher included articles that were peer-reviewed and experimental studies. The study participants that were included in the reviewed studies comprised both male and females with ABI in their population sample. Priority was given to studies that focused on vocational rehabilitation for women with ABI. Due to the limited literature on entrepreneurial skills development for individuals with disabilities within the vocational rehabilitation context, studies focusing on return to work in the capacity of self-employment or other forms of gainful employment were part of the inclusion criteria. Studies that were published in other languages other than English, articles that required payment for access and studies that did not adequately describe the vocational intervention were excluded from this review.

6.2.2 Data collection process

The method through which data were collected is present at three levels namely, database identification; search terms; and search process.

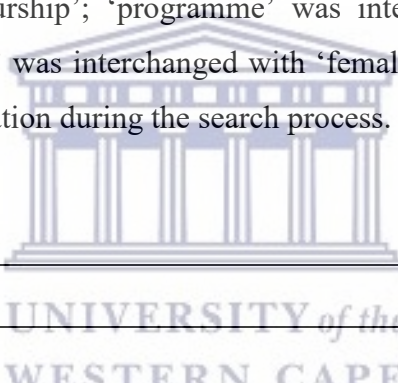
6.2.2.1 Data base identification

The following databases were accessed: Cochrane Library; Ebscohost (Academic Search Complete; CINAHL; Health Source {Nursing/Academic}; MEDLINE; and PubMed). Databases were searched via the University of the Western Cape (UWC). Correspondingly, grey literature was included that provided documentation for vocational rehabilitation protocols and guidelines for women with ABI on databases such as ProQuest, and the World Health Organization.

6.2.2.2 Search terms

The research question guided the selection of the search terms. It included Boolean words as well as truncation as part of the search strategy. The phrases ‘self-employment’ was interchanged with ‘entrepreneurship’; ‘programme’ was interchanged with the American spelling of ‘program’; ‘women’ was interchanged with ‘female’. The key search terms were also used in a selective combination during the search process.

Table 6.1: Key search terms



Return to work
Women or females
Vocational rehabilitation
Entrepreneurship
Self-employment programme or program development
Acquired brain injury
Strategies

6.2.2.3 Search process

The first step of the process commenced with the title search. By adhering to the set inclusion and exclusion criteria of the study, initial searches were conducted in each of the databases. To ensure the effectiveness of the search the researcher entered the keywords or synonyms of the key words in strings or Boolean phrases to search for suitable and potential titles. Boolean connectors “OR”, “AND” and “NOT” were used to separate possible appropriate articles. The Boolean operator “OR” was used to connect synonyms and associated terms in each of the key

concepts, whereas “AND” was used to connect all of the key terms together. “NOT” was used to exclude specific terms from being included in the search. The search strategy was refined based on appropriate terms used in the databases after the initial review of the articles were performed. Thereafter, the article titles that were identified during the database search were reviewed by one reviewer and the researcher’s supervisor. All studies that described vocational interventions for acquired brain injury were included. A summary of search results is provided and attached as Appendix 6.1. To ensure credibility the sourced articles’ titles and abstracts were sorted in folders labelled “relevant”, “revisit” and “discard”. Thereafter, the studies in the “revisit” folder was reviewed to check for inclusion or exclusion by reading through the full text. Studies that were subsequently excluded were based on ‘not sufficiently describing the applied intervention as well as studies that did not have females in the study population of the designated study samples’. Afterwards, the applicable articles were downloaded and sorted to ascertain their suitability for the following step which entailed the abstract assessment.

In step two, the abstracts of all suitable titles identified during the title search were read independently by the researcher and then evaluated according to the criteria of the review. The abstracts that adhered to the inclusion criteria were identified for the full-text review. Subsequently, the studies selected for retrieval were assessed for methodological rigour using a critical appraisal tool (Appendix 6.2). All the articles were independently reviewed by the researcher then discussed with her supervisor regarding their suitability. The research supervisor acted as a control to verify decisions made at all the stages of the review process. The selected studies that fulfilled the screening process of step two were appraised for relevancy in the field. The third step of the screening process was performed to determine whether the selected studies were eligible in providing appropriate descriptions of vocational rehabilitation interventions.

6.2.3 Data extraction and charting

A data extraction sheet was utilised to capture the information describing vocational interventions in the selected studies. The TIDieR guide proposed by Hoffmann et al. (2014) was used to formulate a preliminary extraction sheet for the first five studies to evaluate whether the process of extraction was consistent with the aim of the scoping review. By following an iterative process, the researcher continuously updated the data charting form. After deliberation and discussion between the researcher and research supervisor a final data

sheet was established. The final data extraction sheet was built into an excel spreadsheet to facilitate easier coding of the data. Subsequently, a detailed description of the intervention components as presented by the included studies were captured in an organised manner. A description of the data abstraction sheet is provided in Appendix 6.3.

6.2.4 Data synthesis/Analysis

Descriptive and numerical summaries as well as thematic analysis were used to analyse the data (Peters et al., 2015). The demographic features of the studies were described using tables and charts, while the different research methodologies and contents were combined and theorised using a meta-synthesis approach (Sandelowski & Barroso, 2008).



6.3 RESULTS

6.3.1 Overview of data abstraction

After satisfying the set inclusion criteria the database and grey literature search produced a total of 756 records. Thereafter, based on the title, the abstracts of 106 articles were selected for further review. Later, 59 articles from the total reviewed abstracts were discarded, while 47 articles were identified for a full-text review of the articles using the scoping review appraisal tool (Appendix 6.2). Subsequently, 25 articles were included in the final review. The initial 59 articles were later rejected due to the fact that they did not describe the vocational intervention utilised within the studies, while the latter 22 articles were excluded because they did not present with the sufficient appraisal score nor present the gender of the sample population. An additional article was subsequently found through reference mining and included. Figure 6.1 presents a graphical description of the process leading to a total of 26 articles that were included for this review.

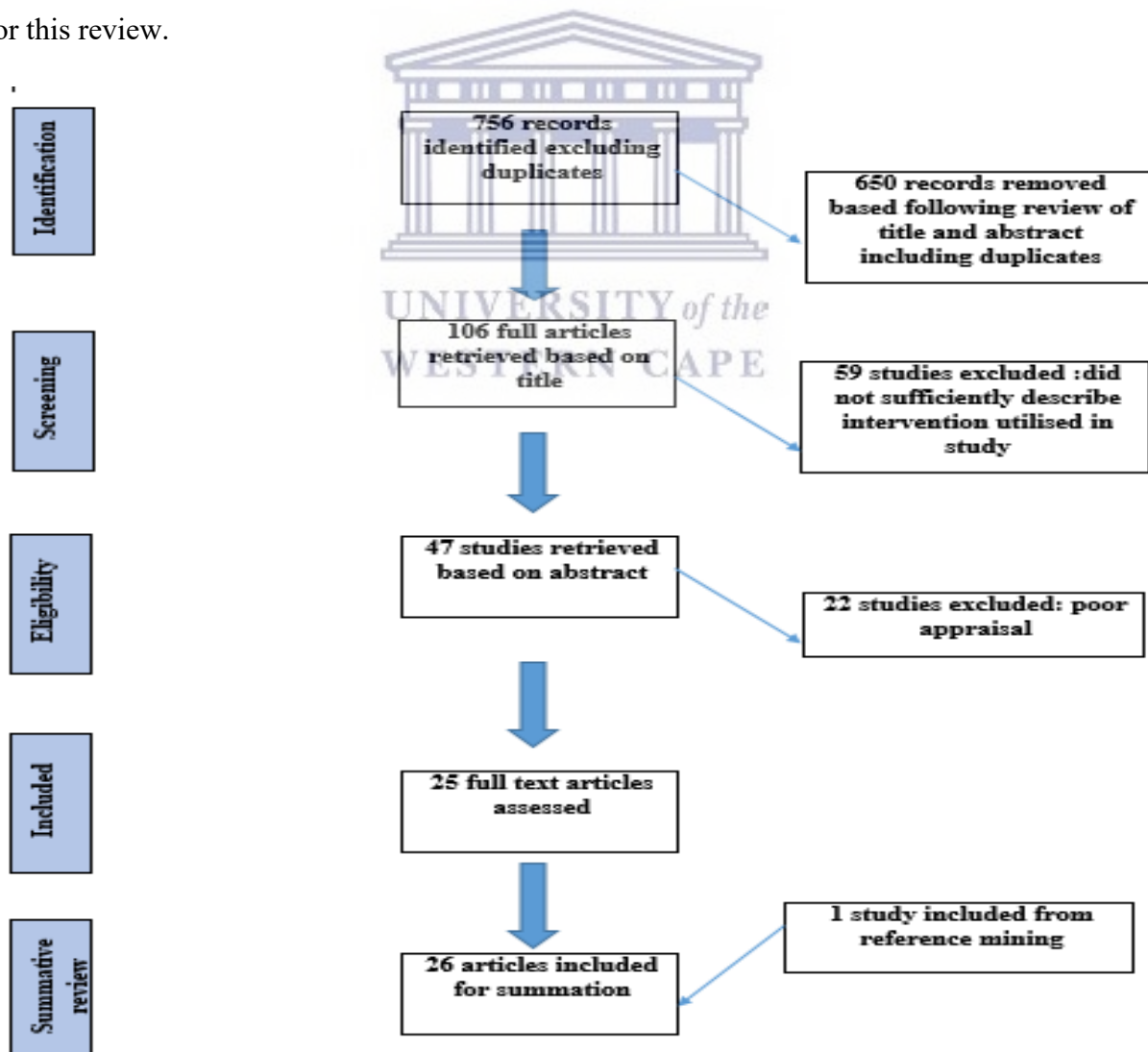


Figure 6.1: Flowchart of the scoping review process

6.3.2 Description of included studies

The characteristics of articles that were selected as part of this review are presented and described under the following sub-headings: the authors' details, their location, the journals that the articles are published in, the publication date, data collection time frame, the study site as well as the research design. An outline of the characteristics of the included studies is presented in Appendix 6.4.

6.3.2.1 Authors

It was found that ninety-seven authors collectively contributed to the 26 included studies. Among these authors, three were involved in more than one study; Van Velzen, Frings-Dresen, and Lundqvist contributed to two studies, while Van Velzen and Frings-Dresen both contributed to another study that was included in this review. As shown in the following sections, the researcher was able to gain a good understanding of the discipline and academic work of the some of the top scholars' working with individuals with brain injuries in the field of vocational rehabilitation, including the settings where these studies took place.

6.3.2.2 Author's location

It was observed that the diverse authors had associations with institutions in eight countries representative of five of the world's continents. Some of the authors had only one association in a country, whereas most of the authors have more than one academic association in their country. Figure 6.2 presents the country of affiliation of the authors.

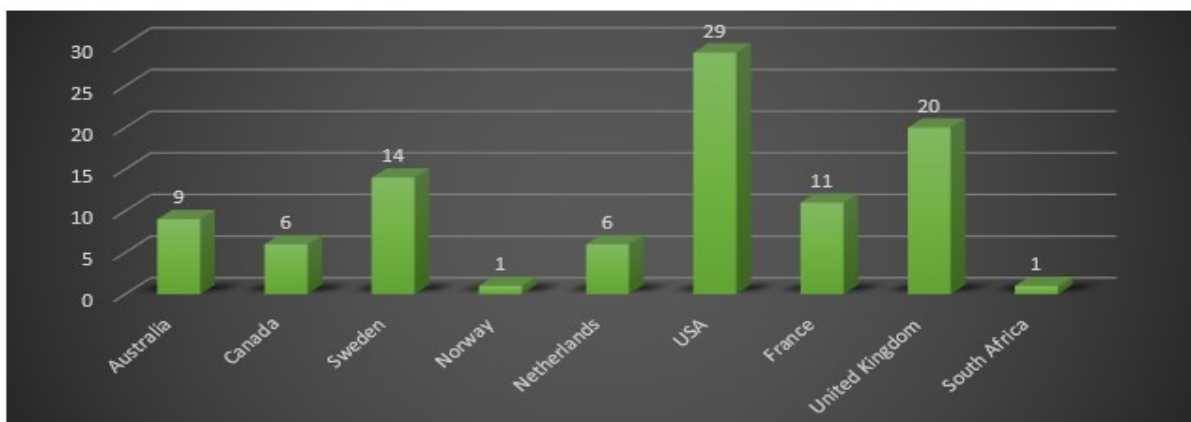


Figure 6.2: Country of affiliation of authors

6.3.2.3 Authors and journals where articles are published as an indication of discipline

The authors were associated with eleven academic disciplines through institutional and departmental affiliation. Figure 6.3 presents a summary of discipline and association. The academic backgrounds of the authors included physical medicine rehabilitation (15%), neurorehabilitation (23%) and occupational therapy (35%) with the latter presenting the largest portion of the authors' academic background.

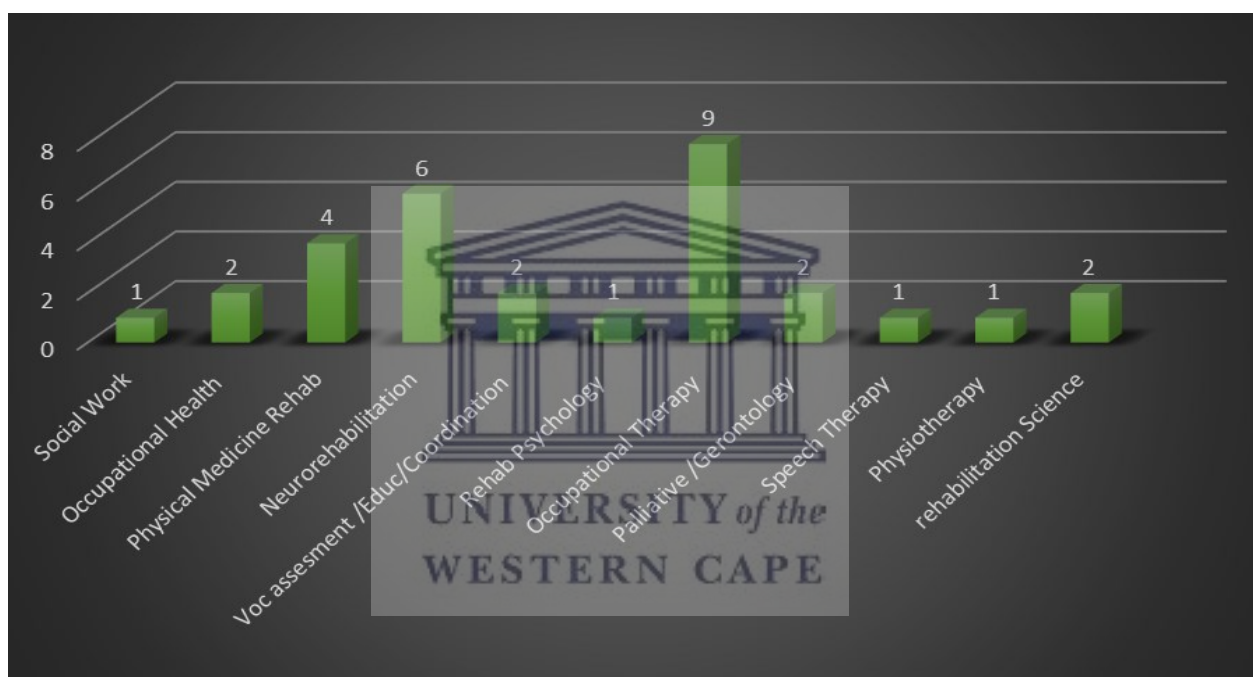


Figure 6.3: Academic disciplines of authors

Most of the studies ($n=6$, 23%) were published in the journal of Disability and Rehabilitation, followed by three articles in the journals of Brain Injury and Work, with two articles each published in the British Journal of Occupational Therapy and Journal of Occupational Rehabilitation. Furthermore, most of these journals publish research from a broad range of health disciplines, which is reflected among the included articles in this review. It also shows that it is suited for those that are interested in vocational rehabilitation, neurorehabilitation, occupational therapy, psychology, and the management and intervention of individuals with brain injuries. A summary of the journals that published the included articles is presented in Table 6.3

Table 6.2: Journals of publication of reviewed articles

Journal Name	Articles	%
Annals of Physical and Rehabilitation Medicine	1	3.8
Archives of Physical Medicine and Rehabilitation	1	3.8
BioMed Central	1	3.8
Brain Injury	3	11.5
British Journal of Occupational therapy	2	7.6
Disability and Rehabilitation	6	23
International Journal of Therapy and Rehabilitation	1	3.8
Journal of Occupational Rehabilitation	2	7.6
Journal of the Rehabilitation Medicines	1	3.8
Journal of Vocational Rehabilitation	2	7.6
Neuropsychological Rehabilitation	1	3.8
Neuro Rehabilitation	1	3.8
Scandinavian Journal of Occupational Therapy	1	3.8
Work: A Journal of Prevention, Assessment & Rehabilitation	3	11.5



6.3.2.4 Year of publication, time period of data collection, and study location

All of the articles that were included in this scoping review were published between the years 2007 and 2019. Four of the articles were published in 2007, 2010 and 2017. Three of the articles were published in 2016 and 2008, and two articles in 2018, while one article each was published in 2011, 2012, 2013, 2014, 2015 and 2019. None of the articles were published in 2009. Most of the included journal articles (n=14, 58%) indicated in which year data were collected. Among the articles that specified the dates for data collection, the time period extended from three to five years between the years 2002 and 2014. Articles in which data collection took place within a one-year time frame the years 2004, 2005, 2006, 2009 and 2017. The countries where data collection took place included: The United States of America (USA), which served as a study location for 7 of the studies, followed by 5 studies in the United Kingdom, 4 studies in Sweden, 3 studies in Australia, 2 studies each in Netherlands and France and 1 study each in Norway, Canada and South Africa.

6.3.2.5 Methodological design

Studies that were included in this review comprised 16 (61.5%) quantitative studies, whereas 6 (23%) studies employed qualitative approaches to describe return to work and meaningful occupations among individuals with ABI. One of the studies was a descriptive mixed method case study (3.8%). The rest of the studies that were included were review articles, with two being systematic reviews and another an abridged review (11.5%). The studies that utilised a quantitative approach were retrospective studies, descriptive and comparative cohort studies (12.5%), a randomised pre-and post-control group study, pre and post non-experimental intervention study (12,5%), and retrospective audit (6.2%) while one (6.2%) was a randomised controlled trial that was conducted in the USA.

6.3.2.6 Composition of the overall study population

Fourteen of the included studies discussed vocational intervention exclusively to brain injured individuals. For the rest of the articles the study population included brain injury and other neurological conditions (six studies), spinal cord, musculoskeletal, back injuries as well as Guillain-Barrè syndrome (three studies). In four of the study articles the study population

comprised rehabilitation specialists, vocational counsellors as well as mentors. The majority of the included studies (80.7%) indicated the gender ratio of its study participants, specifically the brain injury population. When comparing female and male participants as a whole to the whole of study population the percentage of male participants indicated 70.3% and female participants 23.6%. In terms of percentages, the ratio of males to female study participants was 70.3: 23.6. In one study, Hellgren, Samuelsson, Lundqvist, and Börsbo (2015), the gender difference and performance as part of the intervention outcome was discussed.

6.3.2.7 Measures and modalities addressing the vocational intervention concept

Different methods and strategies were utilised by individual studies in accordance with their selected methodological approaches. The range of methods that were used in the included articles provided the researcher with meticulous descriptions, comparisons and investigations of the different components of vocational interventions for individuals with ABI. The majority of the studies (n=17) utilised standardised tools to demonstrate quantitative evidence throughout vocational intervention with their study population. These measures, among others include the Disability Rating Scale, Montreal Cognitive Assessment (MoCA), Participation Index of Mayo-Portland Adaptability Inventory (M2PI), Community Integration Questionnaire (CIQ), Employability Rating Scale (ERS), and Vocational Integration Scale. Five of the qualitative studies used methods such as semi-structured and in-depth interviews as well as focus group discussions to determine the main influences and associations of returning to work, and its outcomes. Seventeen studies utilised quantitative tools of which 16 of these studies assessed RTW/vocational integration of their study population.

6.3.3 Intervention content

The TIDieR checklist and guide was initially used to outline and describe the intervention contents of the individual studies under the following headings of: Why, Who, How, Where and When (Hoffmann et al., 2014). This included: the theoretical underpinning and goals relating to the purpose of the study (why); the disciplines and professionals involved (who); the intervention activities that addressed vocational integration and work resumption (how); the number of times the intervention was delivered and over what period of time (how much/when); the intervention settings (where). A summary of the intervention contents of each included article is presented in Table 6.3

Table 6.3: Description of intervention contents and theoretical foundations of study

SN	Authors	Year	Purpose of study WHY/ THEORY	WHO provided	HOW	How much	Where	When	Tailoring
1	Douglas, Knox, De Maio, Bridge, Drummond & Whiteoak	2019	To demonstrate the effectiveness of communication-specific coping intervention for adults with TBI	Practicing speech pathologist	Face to face and group	Two session per week over 6-week period 1-hour individual /partner session	Participants home and local community	After brain injury Rehab	Individual tailored
2	Van Dongen, Goosens, Paulsen, van Zee, Verpoort, Vlieland & van Velzen	2018	To describe the short-term and long term outcomes of a vocational rehabilitation program for patients with acquired brain injury in the Netherlands	Rehabilitation specialists OT, Social worker Neuropsychologist	Face to face	4 months	Rehab Centre and training on the job	After standard Rehab	Individual tailored
3	Poncet, Swaine, Migeot, Lamoureux, Picq & Pradat	2018	To explore the effectiveness of a multidisciplinary rehabilitation program for persons with acquired brain injury and executive dysfunction	Clinical Psychologist OT, PT Speech Therapist Nurse Psychiatrist	Face to face	7 weeks	Physical medicine rehabilitation centre	After standard Rehab	Individual tailored
4	Soeker	2017	To determine whether individuals who sustained a traumatic brain injury	OT	Face to face	N/I	Occupational Therapy Department	After MDT BI Rehab	Individual tailored

			experienced improved cognitive functioning after participating in an intervention programme that utilizes the Model of Occupational Self-Efficacy (MOOSE)				and training on the job		
5	Howe et al.	2017	To combine cognitive and vocational rehabilitation and explore the efficacy of increased cross-sectoral collaboration between specialised health care services and the labour welfare system	N/A	N/A	N/A	N/A	N/A	N/A
6	Grigorovic, Stergiou-Kita, Damianaki, Le Dorze, Lemsky & Herbert	2017	To understand how employment services (ES) are provided to persons with brain injuries (PWBI) in Ontario Canada	N/A	N/A	N/A	N/A	N/A	N/A
7	Matérne, Lundqvist & Strandberg	2017	To explore the opportunities and barriers for successful return to work after acquired brain injury: A patient perspective	N/I	Face to face	N/A	N/A	After vocational rehabilitation	Individual tailored



8	Inge, Graham, Erickson, Sima, West & Cimera .	2016	Biopsychosocial theory Comparing the effectiveness of knowledge translation strategies to impact the use of evidence-based practices by vocational rehabilitation counsellors	N/A	N/A	N/A	N/A	N/A	N/A
9	Donker-Cools, Daams, Wind & Frings-Dresen	2016	To gather knowledge about effective return-to-work interventions after acquired brain injury: A systematic review	N/A	N/A	N/A	N/A	N/A	N/A
10	van Velzen, van Bennekom, van Dormolen, Sluiter & Frings-Dresen	2016	To demonstrate the feasibility of an early vocational rehabilitation (EVR) intervention for people with acquired brain injury	Rehabilitation physicians, OT, PT, neuropsychologists, social workers, VR specialists and speech therapists	Face to face	NI	In/Out-patient Hospital/ Work Rehab Centre	During Rehab	Individual tailored
11	Hellgren, Samuelsson, Lundqvist & Börso	2015	To investigate the effects of computerised training of working memory	OT Neuropsychologist	Group	Four to five days per week for five-seven weeks	Rehab Centre	N/I	Individual tailored



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			for Patients with acquired brain injury						
12	Foy C	2014	To determine the long term efficacy of an Integrated Neurological and Vocational Rehabilitation Programme for young adults with acquired brain injury	OT, PT, Speech therapist	Face to face	N/I	Residential intensive rehabilitation education centre	Post-acute Rehab	Individual tailored
13	Hamonet-Torny, Fayol, Faure, Cariere & Duumond	2013	To describe traumatic brain injury rehabilitation and the programs applied in the French evaluation, retraining, social and vocational orientation units (UEROS) Holistic Neuro-psychological approach	OT Neuropsychologist Social worker Occupational psychologist Medical consultant	Face to face Group	20 weeks	The Limousin-Brain Injury Unit-Hospital based	Post-acute Rehab	Individual tailored
14	Kolakowsky-Hayner, Wright, Sham, Medel & Duong	2012	To demonstrate an effective community-based mentoring program for RTW & school after brain & spinal cord injury	Rehabilitation psychologist Programme coordinator Vocational rehabilitation counsellor	Face to face	Not time-limited /individual timetable	Community	N/I	Individual tailored

15	Lindén, Lexell & Lund	2011	To investigate the improvements of task performance in daily life after ABI using commonly available everyday technology Individualised occupation-based intervention	OT	Face to face	N/I	Participants home and their local community	After in-patient and out-patient rehabilitation	Individual tailored
16	Niemeier, DeGrace, Farrar, Ketchum; Berman & Young	2010	To describe the effectiveness of a comprehensive, manualised intervention for improving productivity and employability following brain injury	Club house staff	Face to face	20 sessions	Work centred club houses	Post-acute Rehab	Individual tailored and groups
17	Owensworth	2010	To describe a metacognitive contextual approach for facilitating return to work following acquired brain injury: Metacognitive Contextual approach	Neuro-psychologist and OT	Group and later face to face	16 sessions of 3 hrs each	Home and community	3.5 -7 years after out-patient Rehab	Individual tailored
18	Macaden, Chandler, Chandler & Berry	2010	To explore the factors affecting sustaining employment after vocational rehabilitation in	N/I	N/A	N/A	After Voc Rehab	N/I	N/I



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			acquired brain injury. Bio-psychosocial Model						
19	Phillips, Drummond, Radford & Tyerman	2010	To describe return to work after traumatic brain injury: Recording , measuring and describing occupational therapy intervention: Occupational therapy and science theory	OT	Face to face	24 month	N/I	4 weeks post hospital discharge	Individual tailoring
20	Cicerone, Mott, Azulay, Sharlow-Galella, Ellmo, Paradise & Friel	2008	To evaluate the effectiveness of comprehensive holistic neuropsychological rehabilitation after TBI	N/I	Face to face and group	15 hours per week for 16 weeks	Post-acute rehabilitation centre within suburban rehabilitation hospital	Post-acute Rehab	Individual tailored and /or groups
21	Kissinger	2008	To review empirical data on traumatic brain injury and employment outcomes: Integration of the working alliance model Pan theoretical	N/A	N/A	N/A	N/A	N/A	N/A
22	Turner-Stokes	2008	To assimilate the evidence for the effectiveness of multi-	N/A	N/A	N/A"	N/A	N/A	N/I



			disciplinary rehabilitation following acquired brain injury						
23	Bisiker & Millinchip	2007	Developing a work Rehabilitation Project. Multi-agency guidelines	OT	Face to face	Ranges from 2 weeks to 1-2 years	City centre location	Varied from 2 months to 20 years post injury	Individual tailored
24	Rubenson Svensson, Linddahl & Björklund	2007	To explore experiences of returning to work after acquired brain injury. The viewpoint of people with acquired brain injury. Model of Human Occupation	N/I	N/I	N/A	N/A	N/A	N/A
25	DeSouza, Sycamore & Kriker	2007	The Papworth Early Rehabilitation Programme: Vocational outcomes: Papworth: (Papworth Trust vocational rehabilitation programme)	literacy tutor, OT & assistant, PT consultant in rehabilitation medicine, speech & language therapist	Face to face	3-9 months	Rehab Centre	After standard Rehab	Individual tailored
26	O'Brien	2007	To describe services used to facilitate participation in the workforce. Client centre practice theory	OT, PT, Speech pathologist, Neuropsychologist	Face to face	9 months intervention	Work Rehab Centre	7 months or more after injury	Individual and group tailored



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Keys:

NA: Not Applicable; NI: Not Indicated



6.3.3.1 Why (rationales, goals)

The conceptual and theoretical frameworks for the vocational interventions that were employed were described in 14 studies (53.8%), which varied (Table 6.4). Theories of occupational therapy were employed in seven studies: Soeker (2017); Lindén, Lexell, and Lund (2011); Phillips, Drummond, Radford, and Tyerman (2010); Ownsworth (2010); Rubenson, Svensson, Linddahl, and Björklund (2007); and O'Brien (2007). These included the model of occupational self-efficacy (MOOSE), individualised occupation based theory, dynamic comprehensive model of awareness, client centre practice theory and the model of human occupation (MOHO). Other studies included frameworks and models relating to cognitive behavioural theory (Douglas, et al, 2019), person-centred practice theory (Poncet et al., 2018); biopsychosocial theory (Matérne, Lundqvist, & Strandberg, 2017; Macaden, Chandler, Chandler, & Berry, 2010); and metacognitive contextual/learning theory (Howe et al., 2017; Ownsworth, 2010; O'Brien, 2007).

6.3.3.2 What (vocational intervention methods and strategies)

All the articles identified in this study described one or more interventions that focused on individuals with brain injury. Of the selected studies, 19.2% described individualised interventions that utilised varied frameworks and theories. This included holistic neuropsychological rehabilitation, metacognitive, and cognitive interventions that aimed at improving the clients with ABI's activity and participation outcomes (Douglas et al., 2019; Poncet et al., 2018; Soeker, 2017; Lindén, Lexell, & Lund, 2011; Hellgren et al., 2015). Two of the studies, Lindén, Lexell, and Lund (2011), and Hellgren et al. (2015), utilised computer-based and adaptive/assistive technology to improve the performance of daily life tasks performance of individuals with brain injury.

Of the remaining articles, 61.5% described several vocational interventions i.e., work skills and functional capacity evaluations (FCE), job analysis and work site assessments that is geared towards RTW and other gainful occupations. Of these studies, 23% were rooted in principles of programme-based vocational rehabilitation (Van Dongen et al., 2018; Grigorovich et al., 2017; Soeker, 2017; Hamonet-Torny et al., 2013; Niemeier et al., 2010; DeSouza et al., 2007).

The studies that utilised principles of the case co-ordination and mixed approach principles were: Kolakowsky-Hayner et al. (2012); Foy (2014); Ownsworth (2010); Macaden et al., (2010); Phillips et al. (2010); and O'Brien (2007). In Bisiker and Millinchip (2007), 'the place and train' strategy was utilised which is based on the supported employment philosophy and principles. The three articles that described the use of modulated and simulated work settings as part of the vocational interventions are: Soeker (2017); Hamonet-Torny et al. (2013); and Niemeier et al. (2010). A summary of the contents of vocational interventions of related articles is presented in Table 6.4.

6.3.3.3 How (mode of intervention and duration)

The delivery mode of interventions was described in 18 of the studies. The majority (72%) of interventions were delivered face-to-face/individually, while 22.2% of the studies indicated face-to-face in combination with group intervention. Correspondingly, 13 articles specified the duration of the vocational interventions. Intervention sessions ranged from 60 minutes (Douglas et al., 2019; Landa-Gonzalez, 2015) to three hours (Cicerone et al., 2008; Ownsworth, 2010) per session. The frequency of interventions that were provided ranged over a time period of 6 to 20 weeks (Douglas et al., 2019; Hamonet-Torny et al., 2013), and to 6 to 24 months (Phillips et al., 2010).

6.3.3.4 Who (provided intervention)

A total of 16 of the studies described the health professionals who administered the prescribed interventions in their studies. In most of the studies (62.5%), intervention was provided by a variety of healthcare professionals that included occupational, speech and physiotherapists, social workers, neuropsychologists, programme co-ordinators, vocational counsellors, rehabilitation specialists, nurses as well as medical consultants. In Ownsworth (2010), the occupational therapist and neuropsychologist delivered the intervention. In one study, Douglas et al. (2019), the speech pathologist provided the intervention, while 25% of the included studies indicated the vocational intervention was delivered only by occupational therapists (Soeker, 2017; Lindén, Lexell, & Lund, 2011; Phillips et al., 2010; Bisiker & Millinchip, 2007).

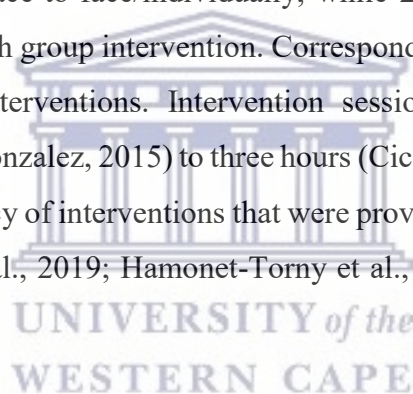


Table 6.4: Intervention contents with corresponding articles

	Intervention contents	Corresponding articles
Person-impairment	1. (Vocational) Assessment e.g., Clients functional abilities (using various standardised /non standardised methods); Identification of occupation/work-related goals; developing therapist /client rapport	3,4,5,6,7,8,9,11,1,13,14,15,16,20,25,26
	2. Self-awareness and self-regulation training (Confidence building, developing insight/self-awareness), self-reflection, self-regulation	1,3,11,14,4,16,17,18,23
	3. Stimulate activity interest, facilitation of internal motivation to enhance sustain participation /employment, explore leisure activities, encourage work and social life balance	3,5,6,7,9,16,19,21
	4. Personal counselling/ psychotherapy, emotional support, behaviour and anger management, adjusting to disability, impulsivity management, stress management, education on effects of disability	4,16,25,26
	5. Compensatory strategies, external and internal strategies i.e., diary, calendars, coping skills, visual imagery. Demonstrate adaptive /maladaptive of coping strategies post injury	3,4,5,9,14,15,17,19,26
	6. Cognitive retraining, relearn certain cognitive skills, problem solving, memory enhancing tasks through specially designed games, computerised working memory enhancing programmes, self-monitoring, knowledge transfer	1,3,4,5,8,9,12,13,14,16,25
	7. Fatigue management, stress management	19,20,25
	8. Address physical limitations. Enhance physical fitness (aiming to enhance self-esteem)	5,16
	9. Group sessions, enhance communication and social interaction, social skills training in varied contexts	14,4,5,16,18,26
	10. Caring and support from rehabilitation team	8,21,26
	11. Family involvement, education and support	11,16,18
Person-occupation	12. Vocational counselling, career planning and prevocational training. Job searching, CV writing, interview skills Set realistic employment, education and training goals with employment specialist, negotiating own goals, programme activities and pace of intervention	2,3,5,11,6,8,11,12,13,15,16,18,19,21,23,25,26

	13. Practical skills development; increase performance in ecological situations, job development, task management, development and improve work-related skills, work trails, vocational simulated settings, modulated work tasks according to individual needs. Repetition, reinforcement and error free learning using everyday technology; cell phones, computer	3,5,6,4,9,15,7,16,18,23,26
	14. Self-appraisal , group discussions , video-taped social interaction sessions and practice work sessions , self-efficacy , Awareness training –repetitive education , feedback , self-rating and prediction	3,8,14,17,18
	15. Accessing hidden job market and alternative job seeking skills e.g., use of network of friends, approaching employers	6,14,2
	16. Enhancing community mobility skills –travelling to work	2,12,19,23,25
Person-work environment	17. Approaching potential employers and stakeholders, liaising and reasonable accommodation, job carving, volunteer placements. Collaboration with other agencies, i.e., Placement agencies, training and education centres	2,3,4,6,10,16,9,20,23,25,26
	18. Place and train, supported employment; Case coordination, graded return to work, customize employee's needs, guidance and training. Mapping resources in work setting, strengths and limitations of client assessed in work place	2,3,4,10,14
	19. Assessment of work environment, job analysis, job matching	6,10,14,20,23
	20. Job coaching and support, work tasks planning, adaptive work methods, assistive technology, manage stress and fatigue, emotional support. Coaching regarding work behaviour; teamwork, punctuality, travelling	2,3,4,6,18
	21. Education of ABI to employers and staff, work place inclusion. Establish natural supports on the job; Peers/colleagues /mentors	2,6,16,19,20,26
	22. Ongoing support as needed, follow clients up at work place, follow up via telephone call. On/off job support to retain job	2,3,6,16,18,19,23,26
	23. Meetings with employers regarding worker progress , restricting of tasks, reducing or increasing work hours , Email and telephonic follow up with employers	2,4,6,16,18,23,26

6.3.3.5 When and where

Among the selected studies, 65.3% specified where the interventions in their study took place. Interventions were offered from a variety of settings that included in-patient and out-patient settings, the workplace, clients' homes, community settings, clubhouses and external rehabilitation centres. Of the interventions, 41% were offered after standard in-/out-patient rehabilitation and mainly took place at external rehabilitation centres. Post-acute injury vocational interventions (17.7%) occurred at settings with a residential milieu (Foy, 2014; Niemeier et al., 2010; De Grace, Farrar, Ketchum, Berman, & Young, 2010). Five studies indicated that intervention took place at their participants' homes and community settings (Douglas et al., 2019; Lindén, Lexell, & Lund, 2011; Kolakowsky-Hayner et al., 2012; Ownsworth, 2010; Bisiker & Millinchip, 2007). Two of the included studies' interventions that took place in the participants' homes and community were provided by occupational therapists and the theoretical underpinning of the intervention was based on occupational therapy theory.

6.3.4 Meta-synthesis of intervention to vocational integration

The current scoping review does not set out to assess of the quality of the primary studies, but to describe and summarise the contribution and presented interventions each article made to the knowledge base under the current topic of investigation. However, to ensure the quality of knowledge synthesis, a meticulous evaluation of the studies that provided the evidence was performed. This was done by mapping key concepts, types of evidence, selecting and synthesising existing knowledge as well as aiming to identify gaps in the literature pertaining to the study topic. Thereafter, the findings of the reviewed studies were thematically synthesised. Due to the various methodological approaches employed by selected studies, the researcher aimed to identify and collate findings into categories and then group the categories to accommodate all the selected types of studies to form a comprehensible consistent analysis. Three broad descriptive concepts represent the synthesis of significant findings namely, 1) Intervention components that interacts with the person, skills training, and occupational competence; 2) Work-directed intervention components and supports; 3) Trajectory of disability management and practices directed at ABI interventions. A summary of the description of the core components of vocational interventions for individuals with ABI is presented in Table 6.5.

6.3.4.1 Theme one: Intervention components that interacts with the person, skills development and occupational competence

Under this theme, eight key vocational intervention components emerged (Figure 6.4). One of the most prominent components listed is a preliminary comprehensive work ability assessment of the client. During this stage of the vocational rehabilitation (VR) process, assessments are not only geared towards core work skills components i.e., functional capacity evaluations, but also serve as a basis to establish a positive interpersonal relationship between the rehabilitation specialist/team and client. Social and environmental factors are also assessed to determine the influence on the resumption to work, subsequent work performances as well as work retention. Interventions addressing functional limitations that arose from injury to the brain are addressed according to the individual's symptoms and needs. Among others, these intervention components include cognitive remedial and compensatory strategies, counselling and education about the diagnosis, self-awareness training as well as addressing behavioural and emotional difficulties. Intervention under this theme also include educating family members on the impact of ABI on functional abilities as well as introducing strategies to cope and manage the individual with ABI's functional limitations within the home environment. Vocational counselling is provided together with interventions focusing on career planning, job searching, CV writing, interviewing skills as well as setting realistic employment, educational and training goals. The meta-synthesis also revealed that skills training is provided to develop or enhance the work skill set of individuals with ABI. Pre-vocational training tasks are inclusive to skills training where various methods of knowledge transfer and work skills are practised such as simulated and modulated work activities. As noted, skills training is integrated with strategies addressing cognitive difficulties, behavioural management, communication skills, task planning as well improving physical and psychological tolerance to occupational task demands. In addition, group work is also used to address and enhance skills such as self-awareness, self-appraisal as well as self-efficacy. Furthermore, the meta-synthesis revealed that interventions addressing independent community mobility and access to public transportation are inclusive to the vocational intervention components identified under the current theme.



Figure 6.4: Intervention components under theme one



6.3.4.2 Theme two: Work-directed intervention components, and supports

This theme (Figure 6.5) highlights that workplace interventions are effective for returning individuals with ABI to the labour force. The expertise of rehabilitation specialists is key in mediating and advocating on behalf of the worker to resume work or enter into a new employment position. Liaising with existing or potential employers as well as employment agencies are beneficial to successful work integration. Intervention strategies such as mediating for reasonable accommodation and graded return to work facilitates enhanced competitive employment outcomes of intervention recipients. Assessing the work environment, conducting thorough job analysis, job matching, and identifying resources in the work setting are essential interventions to ensure a smooth transition of the client into the work context. Intervention components such as job coaching, work task planning, adaptive work methods, stress and fatigue management as well as coaching regarding work behaviour are all essential RTW intervention components for the brain injured individual. Likewise, studies in the review showed that mentoring and peer support on the job yields positive job retention. Educating employers and staff is advantageous for disability desensitising as well as promoting an inclusive workplace environment. Furthermore, continuous on/off job support as well as regular communication with employers were found to be essential vocational intervention components in the current theme.



Figure 6.5: Intervention components under theme two

6.3.4.3 Theme three: Trajectory of disability management and practices directed at acquired brain injury RTW interventions

Under this theme (Figure 6.6), as part of the diverse elements described in vocational rehabilitation, the management and implementation of interventions are described as key RTW components for individuals with brain injury. The majority of the studies showed that either a multidisciplinary or interdisciplinary team approach offer vocational interventions, employing a holistic individually tailored approach towards vocational reintegration. In addition, studies reflected that with a team-based approach the use diverse methods and approaches yields positive results to the RTW process. Similarly, continuous on and off the job support to the worker as well as maintaining strong relationships with employers and organisations are significant in facilitating long-term work sustainability. Furthermore, an overarching goal of vocational rehabilitation is the facilitation of a successful return to work or meaningful occupations of individuals with brain injury, and thus considered as one of the main outcome measures of an effective vocational intervention process.

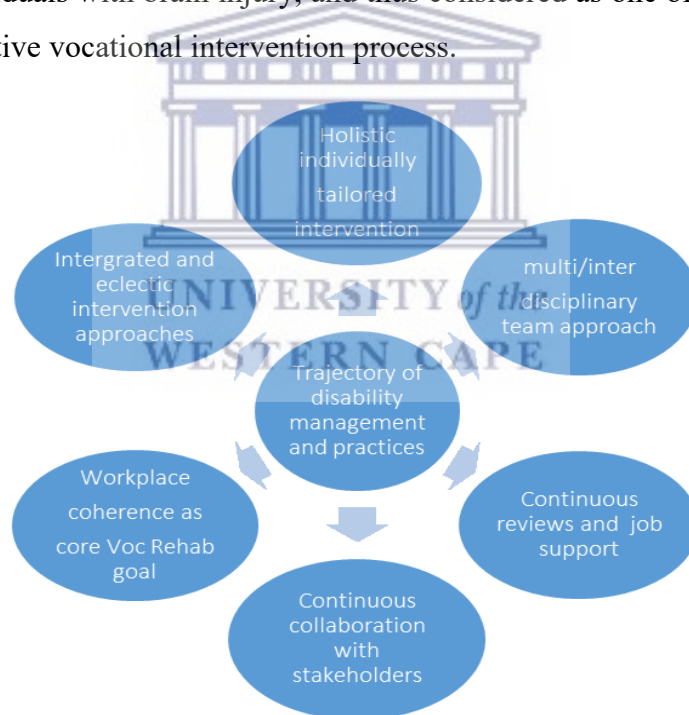


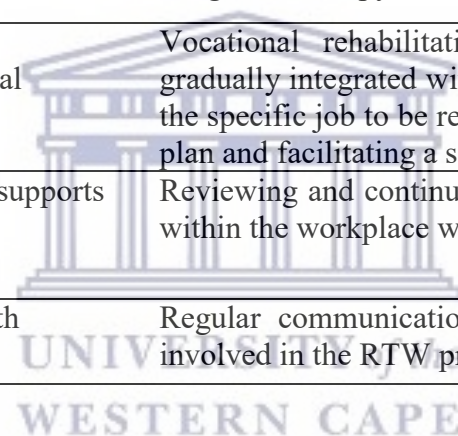
Figure 6.6: Intervention components under theme three

Table 6.5: Description of core components of vocational interventions for individuals with ABI

Theme	Intervention components	Basic description
Intervention components that interacts with the person, skills development and occupational competence	Comprehensive assessment of functional and work abilities	Evaluation of the functional capacity of brain injured individuals to determine disability factors and participation restrictions as well as facilitators to work resumption, by utilising various assessment tools.
	Behaviour management	Personal counselling or therapy offering emotional support, behaviour and anger management, adjusting to disability, impulsivity management, stress management, education on effects of disability.
	Supports in context	Facilitating support within the individual's social environment. Facilitating and fostering supportive relationships with rehabilitation specialists and the brain injured individual.
	Cognitive remediation and compensation	Cognitive retraining, relearn certain cognitive skills and compensatory strategies such as external and internal strategies i.e., diary, calendars, coping skills, visual imagery.
	Vocational counselling	Career planning job searching, CV writing, interview skills ,explore realistic employment possibilities, programme activities and pace of intervention.
	Skills training	Practical skills development: increase work performance in natural situations, planning and work tasks management, development and improve work-related skills e.g., facilitating error free learning using everyday technology such as cell phones and computers.
	Work preparation	Work trails, vocational simulated settings, modulated work tasks according to individual needs. Repetition, reinforcement and error free learning using progressively graded work activities. Facilitation of transferring previously learnt skills to different contexts.

	Community mobility and travel	Addressing issues with environmental barriers, accessibility to different modes of transport as well as independent commuting as part of work resumption goals.
	Liaise with potential/employers, stakeholders and agencies	Approaching potential employers and liaison with existing employer and the workplace by providing information on the work ability of and needed support of the brain injured individual for effective job performance to the employer. Advocating and promoting benefits of employing candidates with disabilities.
	Evaluation of work environments job analysis and job matching	Comprehensive assessment of all aspects and demands of the individual with brain injury's job through work site visits to ascertain work expectations and routine, ,equipment and tools used in the workplace, structural and ergonomic requirements as well as workplace infrastructure
Work-directed intervention components, and supports	Place and train, job coaching and supported employment principles	Providing intense support and training after the individual is placed in employment as well as receiving specialist intervention daily for a determined period of time.
	Mentoring and peer support on the job	Support from co-workers with feedback regarding work performance, work modification, graded return to work and use of assistive devices and technology for enhanced job performance.
	Educating employers and staff on brain injured worker	Promoting disability awareness and inclusion in the workplace through education and workshops with employers and staff.
	Ongoing support on/off site with employer involvement and follow-up	Follow-up of the brain injured individual until sustained RTW is achieved. Meetings with employers regarding worker progress, restricting of tasks, reducing or increasing work hours, Email and telephonic follow up with employers.

Trajectory of disability management and practices directed at acquired brain injury RTW interventions	Holistic individually tailored intervention	Tailored interventions to meet the RTW needs of the individual. Social and environmental factors that might influence interventions are also incorporated when necessary.
	Multi/ interdisciplinary team approach	The components of interventions is organised and delivered by using a team-based approach that could be multidisciplinary, inter-disciplinary, or integrated rehabilitation teams.
	Integrated and eclectic intervention approaches	Utilising varied vocational rehabilitation approaches in conjunction with integrated therapy.
	Workplace coherence a core Vocational Rehabilitation goal	Vocational rehabilitation goals and interventions are applied and gradually integrated within the individual's workplace. The would be on the specific job to be returned to. The use of a therapeutic return to work plan and facilitating a sense of workplace coherence.
	Continuous reviews and job supports	Reviewing and continuous re-assessment of the brain injured individual within the workplace when implementing interventions.
	Continuous collaboration with stakeholders	Regular communication and liaison among all relevant stakeholders involved in the RTW process of the individual with brain injury.



6.4 DISCUSSION

A total of 26 articles were reviewed that described the interventions for RTW and meaningful occupations for individuals with ABI. The majority of the reviewed studies included both men and women in their study samples. The total sample population yielded a 70.3% of male participants and 23.6% female participants when comparing the female and male participants as a whole of the included studies' population. Only two of the articles included in this review focused on the intervention outcome based on gender difference (Foy, 2014; Hellgren et al., 2015). This is not unexpected as within most studies on adults with brain injury, women represented less than 30% of the study population (Corrigan et. al., 2007; Colantonio, 2016). In a systematic review by Cancelliere et al. (2016), with gender as an indicator of prognosis after mild TBI, the study's outcomes found that in fact only 7% of >200 of the studies that were reviewed provided data stratified by gender. Moreover, Stergiou-Kita et al. (2016) found that even though RTW barriers and facilitators after mild traumatic brain injury have been investigated qualitatively, the concept of gender and how it interconnects with work reintegration processes has not been examined. It could be proposed that regarding the current body of research on brain injury there is still limited research that considers how the interrelatedness between sex and gender can affect health for women. In this regard future research is encouraged to employ datasets of suitable size or samples that are balanced to allow women to be addressed in investigative approaches.

More than 30% of the diverse authors who collectively contributed to the reviewed studies were operating from the USA, which is the most compared to the rest of the reviewed studies. However, given the higher rates of self-employment for individuals with disabilities outside the VR system in the USA, none of the current review's studies defined self-employment as part of work. According to Yamamoto and Alverson (2013), successful self-employment vocational rehabilitation case closure continues to remain extremely rare and have only shown a two to three percent increase annually in the USA since the late 1980s. The authors note that the low VR closure rate on self-employment has remained unchanged over many years and could be explained by bureaucratic inertia or other factors within the VR system. The authors further recommend that in spite of the limited empirical studies on the topic, and the possible personal and economic impacts of the choice of employment of clients, an essential focus of future research should be to establish why self-employment through vocational rehabilitation remains relatively rare.

Further findings of this study revealed that most of the reviewed articles indicated the significance of comprehensively evaluating the individual with ABI's capacity to resume or enter the work force. The initial evaluation on factors impacting on occupational participation and return to work proved to be essential in the vocational rehabilitation process as it serves as a directive in ascertaining the barriers imposed on work performance. This supports the notion of Fadyl et al. (2015), that one of the reasons the 'addressing barriers' approach during vocational rehabilitation is so common is because of its focus on retaining a person's current worker and employee value.

The duration of the evaluation period differed among the reviewed studies. In Hamonet-Torny et al. (2013) the evaluation phase lasted for four weeks. DeSouza et al. (2007) indicted a two-week assessment period. In Van Velzen et al. (2016), the first two stages of an early vocational rehabilitation (EVR) protocol for individuals with ABI, were structured to assess the barriers between patients' abilities and work abilities. Similarly, in Bisiker and Millinchip (2007), as part of their work rehabilitation project, the first of the project's three stages encompassed in-depth work skills assessments. Also, amid the reviewed studies' content, the assessments of matters that are considered to affect work functioning but are not to do with the job were evident, for example family responsibilities and overall emotional well-being. Therefore, the holistic insight on the barriers and facilitators towards vocational reintegration is considered central in establishing and justifying the most effective vocational rehabilitation approach for ABI management.

This study revealed three fundamental elements described in the literature as being important for facilitating vocational reintegration and participation for individuals with ABI. This includes the intervention element that focuses on the individual i.e., addressing the impact of impairment on holistic functional performance and developing the necessary person skills to enhance competence and occupational performance. This concurs with the notion of Cronin et al. (2013), that the performance of work is interdependent on the resources of the person, the workplace and contextual demands, including psychosocial environments. These intervention components typically focus on facilitating and developing a supportive therapeutic environment in conjunction with employing remedial and compensatory measures to address cognitive, behavioural and emotional limitations. In addition, involving and educating family and caregivers on ABI residual functional difficulties and the management thereof, further supports a holistic client-centred approach. The studies of O'Brien (2007), Rubenson et al.

(2007), Kissinger (2008), Ownsworth (2010), Hamonet-Torny et al. (2013), Matérne et al. (2017), Van Velzen et al. (2016), Poncet et al. (2018), and Soeker (2017), showed that ensuring client-centred practice and a strong therapeutic alliance with the individual with ABI proved vital in improving motivation and efficacy to pursue vocational goals.

Self-development through education, vocational counselling, pre-vocational skills training and simulated work tasks is shown to enhance resumption to work. In Foy (2014), voluntary work and vocation-related education was classified as having a positive vocational outcome. Yet, in terms of vocational goal setting and employment skills development none of the reviewed articles utilised self-employment or entrepreneurship as an alternative means for vocational integration. This could relate to a statement in Fadyl et al. (2015), noting the important ideas in current vocational rehabilitation discourses is that the individual's specific skills, abilities and characteristics create value that is traded in a job market, and also that this value is associated with considering the person as employable in this regard. The authors further noted that there are several approaches to vocational rehabilitation in terms of the actions that are taken, the people who are involved in the process and the specific goals that are being pursued. However, certain approaches to vocational rehabilitation could only be categorised according to how worker/employee value is defined and represented in theory and practice (Fadyl et al., 2015), and therefore the possible reason for the noticeable absence of self-employment or entrepreneurship interventions as observed in the current review. However, considering the situation for individuals with ABI who cannot easily overcome their RTW barriers due to significant changes in abilities, or those where the work situation was too challenging to return to, then dominant discourses about the establishment of a new self through formal labour work roles is likely to create a threat to self-identity or self-worth, and might become a new barrier for future employment for individuals with ABI (Fadyl et al., 2015; Fadyl & McPherson, 2009; Van Velzen et al., 2009).

From this scoping review the second fundamental element found to be essential for facilitating vocational reintegration includes the intervention components that facilitate the establishment and maintenance of a conducive and supportive work environment. The findings of the review revealed that the expertise of the rehabilitation specialists is important in mediating and advocating on behalf of the worker to resume work or enter into new employment. This corresponds with Stergiou-Kita, Moll, Walsh and Gewurtz (2010) on the importance of having knowledge that is relevant to advocacy in the RTW process.

The interventions within this theme include job coaching, on the job work tasks planning, adaptive work methods, stress and fatigue management, as well as coaching regarding work ethic and behaviour. Also, the education of employers and staff is deemed beneficial for disability desensitising as well as for promoting an inclusive workplace environment. These integrative workplace interventions were described by Van Dongen et al. (2018) and Soeker (2017) with an 86% RTW rate for ABI clients and 70% RTW rate for TBI clients respectively. In Foy (2014), DeSouza et al. (2007), and O'Brien (2007), the vocational interventions included a strong supported employment component and resulted in a 50% RTW rate as part of the latter study's outcomes. This correlates with the notion on supported employment practices by Fadyl et al. (2015), stating it is important to facilitate returning an individual into a work environment and work role quickly, as it enhances the client's chances of success and a sense of empowerment.

The third fundamental element that emerged from the meta-synthesis of this review is the trajectory of disability management and specific RTW intervention approaches. A common approach used in vocational interventions with ABI clients is an individually tailored intervention approach in combination with multidisciplinary and interdisciplinary approaches. The individualised approach aims to support the individual in his or her work and everyday life balance that include addressing physical, cognitive and other functional limitations as well as providing individual support for gaining and sustaining employment. Interventions that are individualised to the abilities of an individual have been affirmed to show better outcomes than standardised interventions. Individualised interventions result in better adherence and improved health outcomes as well as being more cost-effective (Beck et al., 2010).

The composition of the rehabilitation professionals that are involved in implementing the vocational interventions among the reviewed the studies varied. In Van Dongen et al. (2018), Hamonet-Torny et al. (2013) and DeSouza (2007), the multidisciplinary team comprised diverse disciplines that included among others, rehabilitation specialists, occupational therapists (OTs) and assistants (OTAs), social workers (SWs), neuropsychologists, vocational rehabilitation specialists, literacy tutors, speech and language therapists (SLTs) as well as consultants in rehabilitation medicine. In Van Velzen et al. (2016), Foy (2014) and Ownsworth (2010), integrated vocational directed interventions were delivered by the interdisciplinary team consisting of occupational therapists, speech and language therapists, physiotherapists (PTs), and psychologists. In Soeker (2017), Phillips et al. (2010) and Bisiker (2007), occupational therapists adopted an eclectic approach in the vocational directed interventions.

The composition of the varied team members is an indication that the specialist expertise during vocational rehabilitation for people with ABI is essential yet of a flexible nature to be deliberated when implementing interventions as described in this scoping review.

In addition, the review showed that the principles of three different approaches were commonly adopted among the reviewed studies during vocational rehabilitation for individuals with ABI namely, the supported employment (SE) approach, programme-based vocational rehabilitation and vocational case coordination (VCC). Conclusions regarding the strength of the evidence for these different types of vocational rehabilitation programmes have been discussed and contended in various research studies. However, in this review the approaches that were discussed aimed to facilitate and enhance occupational participation in the formal employment market instead of work positions specifically earmarked for disabled people. Thus, the review reflects studies using diverse and inclusive RTW approaches that are currently dominant in the rehabilitation and disability practices (Fadyl et al., 2015).

At the same time a recurring element emerged from the vocational interventions from the reviewed studies that emphasised the importance of supporting the individuals with ABI within the context of their social as well as work environments. In Van Velzen et al. (2016) the case coordination model was adopted where the vocational coordinators managed the RTW process for ABI clients and served as a liaison between the workplace, healthcare team, insurance and benefits agencies as well as other stakeholders involved in the vocational rehabilitation process. Similarly, in DeSouza (2007) and Ownsworth (2010), where case managers and disability support officers managed the transition to work for the individual with ABI, the ongoing support on the job proved vital for job retention. Furthermore, in Foy (2014) and O'Brien (2007) the OTs, SLTs and PTs were involved in the ongoing consultation with the client on and off the job, liaising with employers and stakeholders and establishing natural support systems within the social and work context. Lastly the duration of support to the individual with ABI is observed to be an important factor in the success of vocational goals and work sustainability. In O'Brien (2007), a minimum of 3 months' post placement support is recommended, whereas Foy (2014), Matérne et al. (2017), and Van Velzen et al. (2016) suggests long-term support and gradually decreasing the external support as the natural support systems becomes sustained within the social and work environment.

6.5 CONCLUSION

The results of this review depicted that quantitative methodologies were predominately employed in studies on vocational rehabilitation and RTW interventions for individuals with ABI, with the majority originating from the United States of America and United Kingdom. A methodological search of eight databases revealed only 26 studies that met the inclusion criteria after screening. Three core elements on RTW and management of ABI emerged from the identified studies that include, 1) intervention components that interact with the person, skills development and occupational competence; 2) work-directed intervention components and supports; and 3) trajectory of disability management and practices directed at ABI return to work intervention. These fundamental elements of interventions would serve as an important guideline during the development of a model to enhance the entrepreneurial skills of women with ABI.

6.6 LIMITATIONS

One of the review's limitations was the inclusion of studies with a population sample that included both men and women since finding and separating interventions that was strictly for females with ABI was impracticable. In addition, in spite of the limitation in the literature on self-employment and entrepreneurial interventions within the context of vocational rehabilitation, the studies of the current review continue to hold considerable value with robust empirical guidelines on RTW intervention approaches proposed for individuals with ABI. Thus, findings of this review holds significant value to the current research study and demonstrates paramount evidence-based practices that could be deliberated and applied in a model to enhance the entrepreneurial skills of women with ABI. In addition, the current scoping review did not set to critically appraise the content of the included studies but rather aimed to provide an overview and mapping of the existing evidence in the field. Therefore, the methodological rigour and rating of evidence of the included studies were not conducted. A further limitation is that only sources that were found in specific databases were included therefore the results cannot be generalised to other databases. Lastly, the review was limited to a 11-year time frame.

CHAPTER 7

A DELPHI STUDY: THE DEVELOPMENT OF A MODEL TO ENHANCE THE ENTREPRENEURIAL SKILLS OF WOMEN WITH ACQUIRED BRAIN INJURY

7.1 INTRODUCTION

The third phase of this study utilised a Delphi study to develop an appropriate model that would enhance the entrepreneurial skills of women with ABI. This chapter commences with a summary of the background on which the study was designed. Thereafter, the methodology that was utilised to achieve the fifth objective of this study is described i.e., to develop the components of a model that enhance entrepreneurship skills of women with ABI. The results describing the responses of the expert participants to the first round of the Delphi survey is presented as well as the conceptualisation and initial draft of the proposed occupational therapy practice model is discussed.



7.2 BACKGROUND

The low return to work rate after sustaining an ABI has been well documented and supported in various bodies of brain injury literature. However, in spite of one of the most important objectives of maximising the ABI survivor's level of reintegration into the community and return to productive work activities, the interplay between injury-related factors, occupational demands, and available support structures can influence employment reintegration post injury. This corresponds with some international research findings showing that less than half of the individuals with an ABI return to work within 2 years after injury. For women with ABI, several risks factors for RTW or premature exit from the job market have been acknowledged. There is vast consensus that prolonged work absence due to ill health/sickness can inflict holistic negative outcomes on the individual's well-being. There is support from several empirical research studies as well as the acknowledgement and concerns of international and national policies that women and those with disabilities continue to remain vulnerable with lower sustainable economic participation than men. Women with ABI and disability are markedly more at risk of experiencing poverty, poor health, and compromised well-being. Although defined processes for vocational reintegration are well documented for conditions such as musculoskeletal conditions, mental health, and traumatic brain injury, the economic

and work opportunities for individuals with disabilities in South Africa still remains low especially for women. Supportive legislation, policies and efforts of various governmental sectors in South Africa are in effect to enhance the economic stance of women in general. Even though entrepreneurship and self-employment is recognised as measures to enhance financial sustenance and poverty alleviation for vulnerable groups of people in South Africa, entrepreneurship opportunities for women and those with disabilities remains underutilised. Within the vocational rehabilitation context, entrepreneurship and self-employment have been recommended as means to enhance occupational performance and participation in the absence of job availability. However, it has been observed that there is limited empirical evidence that describes vocational rehabilitation interventions to successfully facilitate entrepreneurial skills and economic participation for women with ABI and individuals with disabilities. More specifically, in the Western Cape, South Africa, which served as the current study context, there is a gap with regards to vocational rehabilitation strategies to facilitate entrepreneurship for women with ABI. Therefore, this research project also aspired to bridge this gap. The current chapter aims to address the latter challenge by achieving reliable consensus among a group of experts on the components for developing a model that would enhance the entrepreneurial skills of women with ABI.

As stated in Jorm (2015), the Delphi method has been used to determine expert consensus on a topic of enquiry and is a fundamental underpinning of science. The Delphi method has been used to gain consensus on topic of inquiries such as determining which grant applications will get funded, which manuscripts will get published, and who will be admitted to learned societies of experts. The origins of the Delphi method can be traced back to “Project DELPHI,” a Cold War study initiated by the RAND Corporation to identify potential American industrial targets and their vulnerability to Soviet munitions (Dalkey & Helmer, 1963). The Delphi technique was described by one of its originators as a method of eliciting and refining group judgments (Dalkey, 1969) and provides a method of gaining consensus from individuals about matters where few or no conclusive evidence is available.

7.3 METHODOLOGY

In the current study, a modified e-Delphi was used for an organised engagement of all participating experts simultaneously. This is to establish individual insights as well as group consensus on the components of the proposed model of the current study. The e-Delphi uses

an internet-based platform for organising, controlling and facilitating communication between the researcher and expert panel. The e-Delphi offers the convenience of time and it is cost effective, as well as holding data management advantages (Donohoe et al., 2012). Consequently, experts in the field of vocational rehabilitation and neurorehabilitation who are involved in the management and vocational integration of individuals with ABI, were selected from public/private health specialty and academia. The responses from the first Delphi round were integrated with the findings that emerged from the previous study phases. This enabled the researcher to conceptualise and draft the proposed practice model that allowed for further organised comments in the subsequent second and third Delphi rounds. An outline of the Delphi survey's methodological process is presented in Figure 7.1.

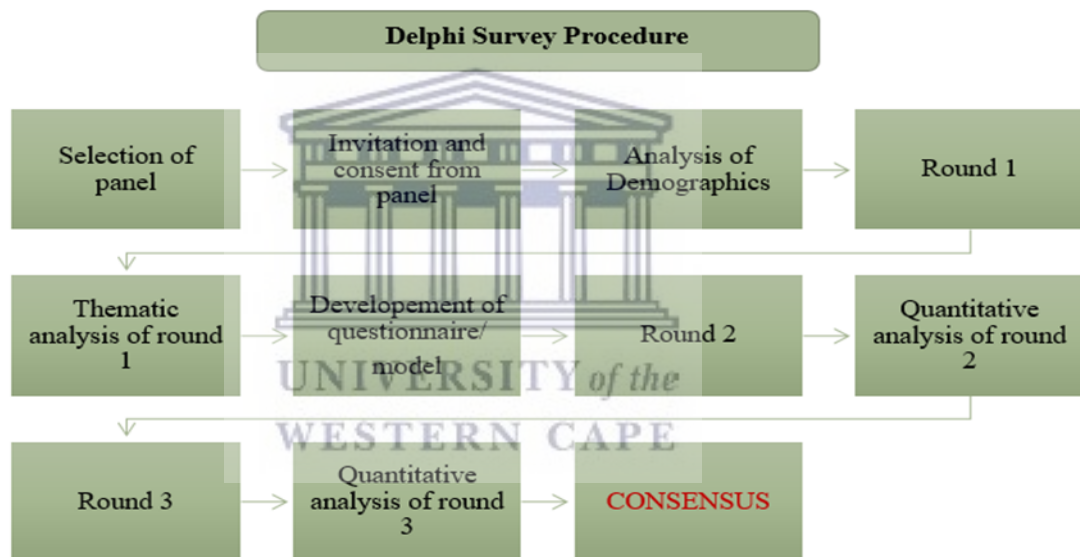


Figure 7.1: The Delphi survey procedure

7.3.1 Selection of experts

As suggested in Lilja, Laakso, and Palomaki (2011), an expert fit for a Delphi panel requires the individual to be at the top of his/her field of technical knowledge, interested in a wide range of knowledge not only in his/her own field but everything around it. The selection procedure outlined by Okoli and Pawlowski (2004), was adopted to purposively select 35 experts for this Delphi study. As proposed by the above authors, the researcher followed four iterative steps that included: 1) preparing a knowledge resource nomination work sheet (KRNW) in which applicable disciplines, academics and practitioners were identified; 2) gathering the details and area of expertise of designated experts; 3) classifying the experts based on their area of expertise; 4) inviting the identified experts to participate in the Delphi survey. The panel of experts included occupational therapists, clinical psychologists, social scientists and academic researchers. Most of the experts were acquainted with the South African context whereas those experts without prior knowledge of the study context were provided with the relevant information to assist them in their judgement regarding the Delphi study.

7.3.2 Procedure/Process

An invitation to participate in the Delphi survey was individually sent to the 35 selected experts via e-mail, which also included an information sheet regarding the study (Appendix 7.1) and a consent form (Appendix 7.2). Although there is difference in opinions regarding the optimal size of an expert panel with reference to the literature recommending expert panel sizes of between 10 and 1,685 (Powell, 2003), other research projects have consulted a panel of fewer than 10 experts (Jerosch-Herold, 2011). However, under typical circumstances the panel is usually between 10 and 30 experts (De Haes & Van Grembergen, 2009; Baldwin & Trinkle, 2011). Fifteen of the experts consented to participate and this amount was thus considered to be of an appropriate size for the current study. From those experts who declined participation, no reasons were provided. Afterwards, Google forms were used to gather the demographic information of the panel of experts through online links. The subsequent questionnaires that were distributed during the different rounds of the Delphi survey followed the same electronic process.

7.3.3 Delphi rounds

In the current study, the e-Delphi survey consisted of three rounds that took place over a 10-month period. Consensus was reached at the end of the third round of the e-Delphi. For each round, the panel was given four to six weeks to complete the survey with occasional reminders by email in an attempt to optimise response rates.

First Delphi round

The participating experts were asked to provide their opinion on three broad open-ended questions regarding the interventions needed to facilitate reintegration to work and entrepreneurial skills development for women with ABI. After eight weeks, a total of thirteen experts responded to these questions. Thereafter, the results of the initial responses were thematically analysed and integrated with the findings from the earlier phases of the study into a concept map. The concept map was then converted into a draft practice model and presented to the panel of experts during the second Delphi round.

Second Delphi round

During the second Delphi round the experts were requested to rate the degree of agreement on intervention components that were proposed in the initial draft practice model using a rating scale of agree; indifferent; and disagree. The level of consensus is usually set prior to the study and is influenced by the objectives of the study and the suggestions for practice (Keeney, Hasson, & McKenna, 2006). In the current study the agreement level was set at 70% on individual survey items. A higher number ($\geq 70\%$) showed the level of importance and applicability of the intervention component in the entrepreneurial skills model. Furthermore, the experts were requested to provide comments on the intervention contents as well as any additional information they felt were important to consider/include in the proposed model.

Third Delphi round

During the third Delphi round those survey items with less than 70% agreement level obtained in the second Delphi round, were revised based on the feedback from experts and combined into another questionnaire and sent back. A “Yes” or “No” response was requested from the experts as an indication to the appropriateness of the adjustments made to the intervention contents of the proposed model. Similarly, as with the second Delphi round consensus was set at 70%.

7.3.4 Data analysis

The researcher employed both quantitative and qualitative data analysis for this study that involved measures of central tendency and thematic content analysis. From the first round of the Delphi survey an inductive approach to data analysis was undertaken in the form of content and thematic analysis that allowed pertinent themes to emerge. Consultation with the research supervisor was regularly undertaken to ensure that the emerging themes and interpretations conformed to the data. From the second and third Delphi rounds, the quantitative responses from the experts were analysed descriptively using means of central tendency (mean and mode). The following sub-sections describes the results from the Delphi rounds and the procedures that were followed to design the draft practice model for the second round Delphi.

7.4 RESULTS

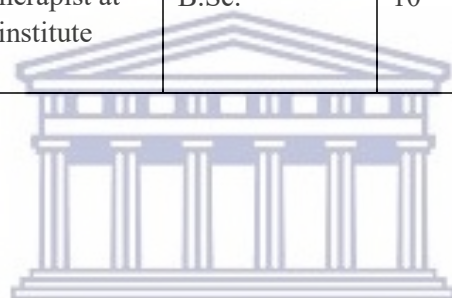
7.4.1 Demographic characteristics of the Delphi panellists (n=13)

Among the experts the mean age was 44.38 ± 10.27 years. The majority of the experts were female (84.6%). The mean duration of practice and the years of experience in ABI vocational rehabilitation among the experts was 20.23 ± 11.55 years and 11.92 ± 8.19 , respectively. Nine (69.2%) of the experts were from South Africa, while one expert each was from the USA, Germany, Netherlands, and Sweden. The majority of the experts were occupational therapists (69.2%), followed by clinical practitioners (15.3%) and academic researchers (15.3%). A summary of the demographic characteristics of the panel of experts is presented in Table 7.1.

Table 7.1: Demographic characteristics of Delphi panellists

ID	Age	Sex	Country of Practice	Current Occupation/ position	Highest Qualification	Years of Experience	Years of experience in ABI /VR	Roles in ABI management and VR of individuals with ABI
1	34	Female	South Africa	Occupational therapist at tertiary health institute	B.Sc.	13	7	Assessment, Intervention, Monitoring, Case management
2	64	Male	United States of America	Clinical psychologist at vocational rehabilitation agency	Ph.D.	41	30	Assessment, Intervention, and Monitoring/Follow-up, case management, research
3	62	Female	South Africa	Occupational therapist in private practice	B.Sc.	41	19	Assessment
4	37	Male	Germany	Social scientist/lecturer academic institution	M.Sc.	3	0	Academia/Research
5	39	Female	Netherlands	Senior researcher and health care counsellor at occupational health institute	Ph.D.	13	0	Academia/Research
6	54	Female	South Africa	Occupational therapist at academic institution	Ph.D.	33	18	Academia/Research
7	40	Female	South Africa	Occupational therapist in private practice	B.Sc./PGD	18	12	Assessment, Intervention, Monitoring, Case management
8	40	Female	South Africa	Occupational therapist in private practice	M.Sc.	18	12	Assessment, Intervention, and Case management
9	52	Female	Sweden	Social scientist practitioner/ lecturer at academic institution	Ph.D..	20	10	Assessment, Intervention, Case management, Research

10	39	Female	South Africa	Occupational therapist in private practice	M.Sc.	18	11	Assessment/medico legal
11	37	Female	South Africa	Occupational therapist in private practice	M.Sc.	13	7	Assessment, Intervention, and Case management, Corporate education
12	45	Female	South Africa	Occupational therapist in private practice	Ph.D.	22	19	Assessment, Intervention, Case management, Job coaching
13	34	Female	South Africa	Occupational therapist at tertiary health institute	B.Sc.	10	10	Assessment, Intervention, Monitoring, Case management



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7.4.2 Results of the first Delphi round

During the first Delphi round, 13 (n=13/15) experts among those who consented responded to the three open-ended questions (Appendix 7.3), showing a response rate of 86%. From these responses three themes emerged namely, 1) Intervention components aimed at addressing functional, work and entrepreneurial skills of women with ABI, 2) Strategies for implementation of the intervention, and 3) Elements for enhancing entrepreneurial self-efficacy and innovation. A depiction of the emerging themes is presented in Figure 7.2.

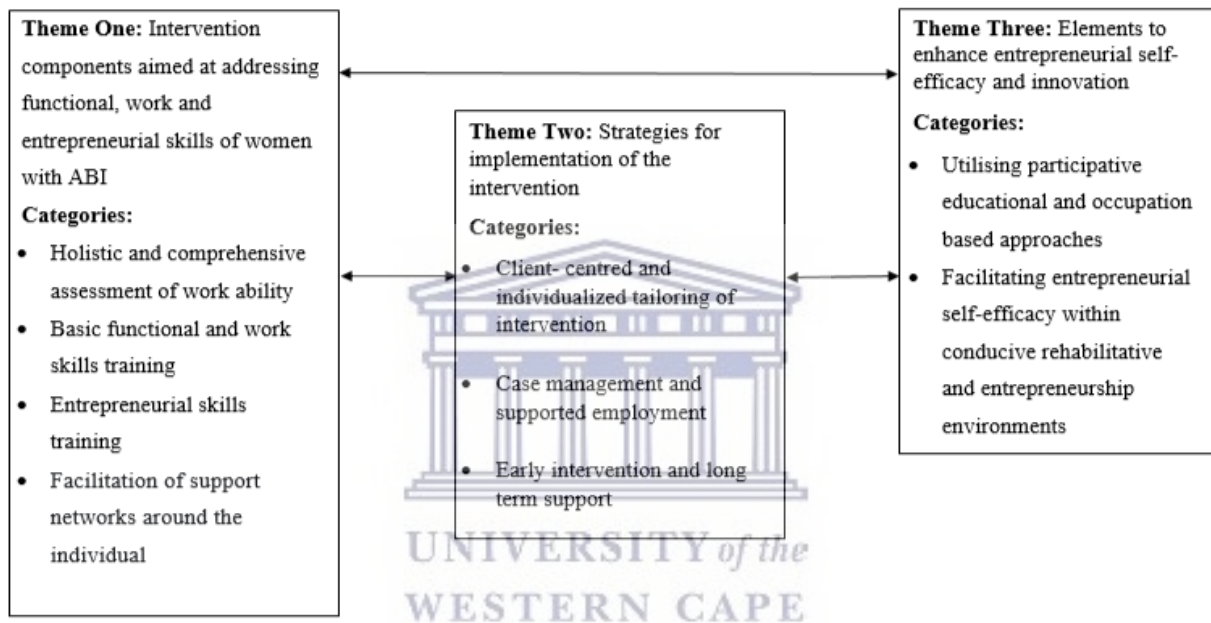


Figure 7.2: Themes from the first round Delphi survey

7.4.2.1 Theme one: Intervention components aimed at addressing functional, work and entrepreneurial skills of women with ABI

The panel of experts proposed various interventions that would address the work and entrepreneurial skills limitations caused by ABI in women. The intervention components are described under four categories namely, Holistic and comprehensive assessment of work ability; Basic functional and work skills training; Entrepreneurial skills training; Facilitation of support networks around the individual.

- **Holistic and comprehensive assessment of work ability**

The majority of the experts mentioned that a holistic assessment component was essential in order to determine and address functional limitations and work-related impairments as part of an entrepreneurial skills development model after ABI. The following excerpts were captured:

“Holistic assessment to determine current level of functioning and ability to return to work should be assessed” (Expert 3)

“Assessment of baseline functioning in physical, cognitive, sensory and emotional components” (emotional also done through interviews with family members) (Expert 11)

Apart from recommending standardised and non-standardised assessments, informal and specific work role assessments was also opined by experts as being equally important. The following excerpts were captured:

“Assessment of work ability within actual work role” (Expert 10)

“Assessment should be structured but not all standardised. Assessment for work rehabilitation as well as assessments for entrepreneurship to be considered” (Expert 8)

“Assessing the gap between abilities and work requirements, following structured way of assessing work requirements and a structured way of assessing women’s abilities” (Expert 5)

The experts suggested that, for alternative work options such as self-employment and entrepreneurship, assessments should be conducted accordingly. One expert described this in the excerpt below:

“Assessing deficits that would hinder upskilling for business planning, money management etc.” (Expert 1)

- **Basic functional and work skills training**

The experts suggested that retraining lost skills as well as exploring and training new skills are necessary for RTW and enhancing entrepreneurial skills. One expert’s statement captured the following:

“Working both on impairment and also strengthening residual skills to maximise ability. Developing insight to use internal and external strategies and compensatory techniques for impairments and coping strategies” (Expert 10)

Another expert suggested that training should suit the functional and work goals of the ABI individual, by stating:

“Intervention would really depend on where they are in their return to work journey and degree of their impairments” (Expert 11)

In addition, experts suggested the following intervention components be considered:

“Not all standardised testing is needed, simulation, locus of control, cognitive rehabilitation programmes via face-to-face or online, progressive goal attainment sessions as needed to start with activity participation as a first step” (Expert 8)

“Development of structured timetabling and goal setting” (Expert 11)

“Self-determination should be realised as much as possible. Furthermore, the design of such interventions should especially be open to individualisations, tailored to specific and individual needs” (Expert 4)

Some of the work skills training intervention recommended by experts included, pre-vocational and basic work skills training, job coaching and pre-employment conditioning such as graded exposure to tasks and work trials.

The experts mentioned that employer involvement and promoting an accommodative work environment is an essential aspect to facilitate a seamless work reintegration process when the vocational goal is to return to the formal open labour market. The following excerpts were captured:

“Workplace/ergonomic assessments and possible work adjustments” (Expert 11)

“Liaison and negotiation with employers; implementation of adaptations at work and reasonable accommodation measures; education and sensitisation of co-workers and managers is necessary” (Expert 12)

- **Entrepreneurial and self-employment skills training**

Most experts mentioned specific entrepreneurial skills training should be considered in a model to enhance entrepreneurial skills in women with ABI. This is described in the excerpts below:

“With self-employment as a choice then they need to learn more about their skills, strengths and interest to pursue small business ideas” (Expert 2)

“Techniques will be individualised sessions to address specific problems, with using a group setting to share information and principles specific to entrepreneurship and self-employment” (Expert 3)

In the event when self-employment is established as a return to work goal, the experts suggested the following:

“Establish new strategies using approaches that support upskilling in line with entrepreneurial activities” (Expert 1)

“Facilitating acquisition of knowledge and skills in business venturing” (Expert 12)

- **Facilitation of support networks around the individual**

The experts indicated that the establishment of support networks during entrepreneurial skills training is necessary. One expert’s statement is presented below:

“The development of support networks around the individual such [as] tax consultants, family members etc.” (Expert 11)

Another expert suggested the education and facilitation of insight of family members are needed to enhance the social support network. The expert stated:

“Combination of education to client, case managers and family on the rehabilitation /intervention as well as providing home programmes” (Expert 10)

7.4.2.2 Theme two: Strategies for intervention implementation

This theme presents the experts’ opinions and recommendations on the various strategies that could be used when implementing entrepreneurial skills interventions. The majority of the experts recommended that the interventions should be highly individualised emergent from a client-centred approach. This is captured in the excerpt below:

“From my point of view such interventions in general need to be to be orientated towards the individual needs and featuring a universal design” (Expert 4)

The experts suggested that entrepreneurial skills interventions should be implemented after objective assessments and basic functional skills training has been completed. This is reflected in the extract below:

“Taking into account the women’s ideas and wishes; the training should be adapted according [to] the women’s abilities” (Expert 5)

Some of the experts recommended the use specific vocational rehabilitation approaches as part of the intervention implementation. These are captured in the following excerpts:

“Whilst screening is good, seeing how someone functions in a role is good as sometimes ABI survivors performs better in known environments and routine and tasks, thereafter the vocational rehabilitation of components, followed by a gradual return to work and case management” (Expert 10)

“Supported employment is in my opinion essential – because practice experience and research shows it to be the most effective technique” (Expert 6)

The panel provided their opinions regarding the period for when to commence RTW interventions for women with ABI. Their opinions are shown in the excerpts below:

“Optimal acute care and rehabilitation and then functional capacity type screening to determine education, work history and current level of functioning with specific focus on return to work” (Expert 3)

“Early intervention and long-term support provided by a professional who has knowledge on ABI and vocational rehabilitation is recommended” (Expert 5)

7.4.2.3 Theme three: Elements for enhancing entrepreneurial self-efficacy and innovation

This theme presents the opinions of experts on specific entrepreneurship education and skills development that are deemed appropriate in a model to enhance entrepreneurial self-efficacy in women with ABI. It is represented and discussed with the following categories: Utilising participative educational and occupation-based approaches; Facilitating entrepreneurial self-efficacy within conducive rehabilitative and entrepreneurship environments.

- **Utilising participative educational and occupation-based approaches**

The experts were of the opinion that the individual with ABI should actively participate in the identification of needs of their own learning of work and entrepreneurial activities. One expert stated:

“Taking the women’s ideas and wishes concerning desired work into account”
(Expert 5)

The experts further emphasised the importance of entrepreneurship education in order to facilitate entrepreneurial self-efficacy. The experts indicated that incorporating an educational approach and principles is important in the model’s design. Statements of experts are captured below:

“They need to learn about developing a business plan and how to apply for funding” (Expert 2)

“Education and facilitation of access to appropriate funding for self-employment endeavours” (Expert 12)

“Facilitating acquisition of knowledge and skills in business venturing”
(Expert 13)

In addition, the experts indicated the importance of experiential learning and facilitating self-advocacy in women with ABI to actively access and utilise various support networks. One expert’s suggestion is captured below:

“Understanding the supports and services they need to pursue and how to get them as needed. They also need to learn about the supports they can get from vocational rehabilitation and be willing to advocate and fight for their rights”
(Expert 2)

Furthermore, experts were of the opinion that simulation of entrepreneurial activities as well as participation in actual entrepreneurial tasks should be included as part of interventions to develop and enhance entrepreneurial skills and efficacy.

- **Facilitating entrepreneurial self-efficacy within conducive rehabilitative and entrepreneurship training environments**

This category describes the experts' view on the importance of facilitating and establishing conducive environments to bring about change and manifestation of the individual with ABI's beliefs and confidence toward their entrepreneurial competence and behaviours (self-efficacy).

One expert stated:

“Intervention implementation should be open participative and flexible (responsive), especially a flexible and mindful speed and spontaneous iteration should be considered” (Expert 4)

The experts indicated that rehabilitation professionals should facilitate entrepreneurship practice opportunities by identifying relevant business organisations that could further support and maintain the commitment of the individual with ABI to progress and sustain self-employment ventures. An expert stated:

“Conduct surveys and assessment of business environments/sectors and assessment of policy and legislative contexts” (Expert 12)

The experts also suggested the facilitation of ongoing interaction with relevant business stakeholders that offer mentoring programmes for venture development. This would further enhance the individual with ABI's abilities and competencies in activities central to entrepreneurship. One of the experts revealed this in the excerpt below:

“There may be a need to connect with local agencies or business incubators to get help to complete the paperwork and develop proposals” (Expert 2)

7.4.3 Concept mapping and drafting of the entrepreneurial skills model

This section describes the designing of an occupational therapy practice based model to enhance the entrepreneurial skills of women with ABI and will be used to obtain comments on its feasibility during the second round of the Delphi survey. The draft model was designed and developed by merging the evidence obtained from the previous phases 1 and 2 of this study.

7.4.3.1 Merging the evidence (point of integration)

The qualitative findings that emerged from the first round of the Delphi survey was triangulated with the findings from phase 1 and phase 2 of the study and integrated into a preliminary concept map (Figure 7.3). The concept map guided the researcher to develop a framework outlining the association among the concepts that emerged during the triangulation process. This enabled the researcher to classify the main areas to be considered in designing the model.

During Phase 1 (chapter 4), it was found that work resumption for women with ABI is influenced by personal and environmental factors. Analysis indicated patterns across age, educational level as well as environmental supports that are associated with women with ABI's ability to return to work. This also includes the availability of RTW resources that may be influenced by policy and practices in various governmental or private sectors (chapter 4). It was also shown that returning to work and entrepreneurial skills development for women with ABI was influenced by communication barriers during the rehabilitation process. This subsequently impacted on their personal drive and motivation throughout the rehabilitation process. Moreover, the impact of ABI sequelae influenced the functional abilities of women with ABI, thus contributing to their lack of perceived control, disempowerment and subsequent participation restrictions. The qualitative findings (chapter 5), further showed that entrepreneurial skills development could mitigate future financial hardship for women with ABI. This could be achieved by means of facilitating the necessary entrepreneurship education and skills, promoting supportive entrepreneurial contexts as well as collaborating with women with ABI to independently pursue self-employment activities. Enhancing entrepreneurial skills would therefore facilitate and promote the financial inclusion and economic empowerment of women with ABI and disability, as well as to some degree alleviate poverty and inequality within the current study's research setting.

It could be reasoned that by having an understanding of the person and environmental related factors, the barriers and facilitators to entrepreneurial skills development as well as vocational rehabilitation intervention strategies, it would be possible to facilitate the resumption of a worker role through entrepreneurship skills development and sustainable self-employment opportunities for women with ABI.

7.4.3.2 Components and structure of the practice model to be considered

Five key factors were identified and depicted through a concept map. The key factors include the following: the intervention structure of the practice model, overarching theories, participants, context and intervention foci. These key factors enabled the researcher to design a coherent occupational therapy practice based model to enhance the entrepreneurial skills of women with ABI. The succeeding sub-sections describe the key factors depicted in the concept map.

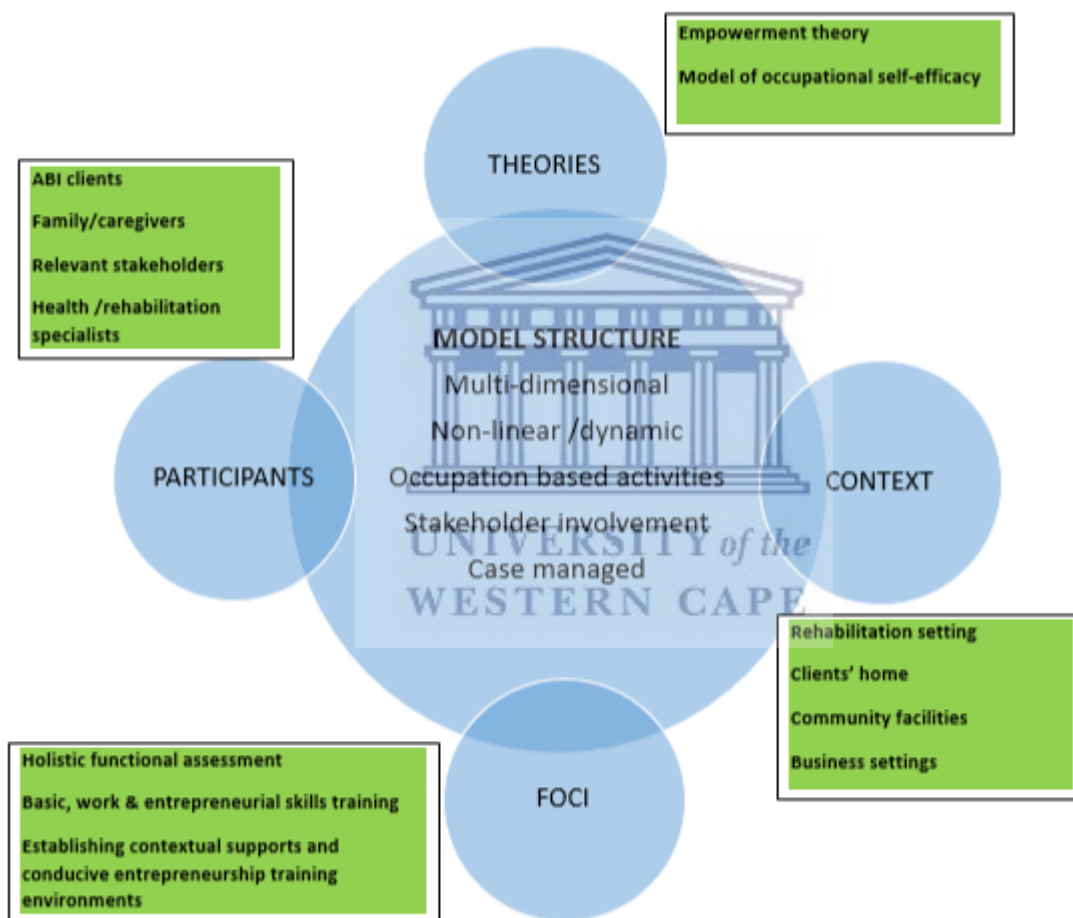


Figure 7.3: Concept map and drafting of an entrepreneurial skills model

Intervention structure of the practice model

This section provides an overview of key factors that emerged from the current study's findings that consequently serves as a basis of the intervention structure of the model. These main concepts guiding the structure of the practice model include, a multidimensional and dynamic

process using occupation-based activities, as well as the involvement of relevant stakeholders and adopting a case managed approach.

Given the literature and traditional vocational rehabilitation practices and discourses on entrepreneurial and self-employment as a vocational outcome (chapters 5 and 6); the model structure would require a dynamic and eclectic process for the implementation of key intervention components. The information assimilated from the in-depth interviews (chapter 5), the scoping review literature (chapter 6) as well as the first round Delphi uncovered the components that are to be included in the proposed model. Interventions that are individually tailored and facilitating awareness of personal and environmental factors influencing activity performance and occupational engagements are considered essential to the model.

The findings in the scoping review (chapter 6) revealed limited intervention components that are specifically directed at entrepreneurial or self-employment skills, with most intervention programmes geared towards return to work under the directive of an employer within the formal open labour market. However, vocational rehabilitation interventions aim to facilitate and enhance functional abilities and work-related skills that can be transferred and utilised in various employment settings including that of entrepreneurial and self-employment ventures. The scoping review's findings showed interventions may include vocational counselling, career planning and pre-vocational skills training. Upskilling and education on specific entrepreneurial skills (chapter 5) were identified as an essential intervention component to be included in the design of the model. This was also supported by the suggestions of rehabilitation experts in the first round Delphi (chapter 7).

Furthermore, to ensure a context-specific and population-specific practice model of enhancing entrepreneurial skills for women with ABI, the researcher obtained valuable insight through the exploration of the perceptions and experiences (facilitators and barriers) to RTW and entrepreneurial skills development of women with ABI (chapter 5). Likewise, findings on the rate of employment and work availability, the economic and political dynamics of the study setting (chapter 4) as well as obtaining the opinions of rehabilitation experts (chapter 7), provided an overall understanding about the context of employment/self-employment for women with ABI.

Moreover, intervention strategies to be deliberated in the practice model were suggested by the Delphi experts namely, an individualised treatment strategy and use of a client-centred approach, case management, supported employment as well as the use of team-based approach

(which could either be an interdisciplinary, multidisciplinary or multi-sectoral approach). Likewise, a multi-dimensional and dynamic structure of the anticipated model would enable an eclectic operation of guiding principles by the occupational therapist, whilst ensuring the preservation of the premise and goals of the entrepreneurial skills model.

Participants

All the participants involved in the proposed model are considered as relevant stakeholders, and not solely the individual with ABI and the occupational therapist. The family members, caregivers, community contacts, business mentors as well as rehabilitation professionals are all important participants as part of the intervention process. In the scoping review (chapter 6), the involvement of relevant stakeholders was identified to enhance resumption of work and long-term sustainability of employment. The information assimilated from the in-depth interviews (chapter 5), pointed out that strengthening the necessary support systems within the social and work environment this is necessary component. Furthermore, as suggested from experts in the Delphi study (chapter 7), some of the participants such as family members, caregivers, other health team members and potential business mentors may require instruction on the intervention process of the model.



Theories

This study offers a contribution to the knowledge base and rehabilitation strategies to enhance entrepreneurial skills and the economic empowerment of individuals with ABI within the South African context. Findings of the scoping review (chapter 6) identified diverse theoretical constructs in vocational rehabilitation interventions specifically for individuals with ABI. The use of appropriate theories to conceptualise intervention programmes, were also emphasised (Penuel, Fishman, Cheng, & Sabelli, 2016). In the current study a single theory might be inadequate for designing and implementing a client-centred entrepreneurial skills model due to the holistic negative impact on the resumption to work post-ABI (Escorpizo et al., 2011). It was deemed necessary for an overarching framework that is not only integrative but also dynamic and interactive with other models and approaches. Thus, the empowerment theory was employed as an overarching conceptual guide during the design of the entrepreneurial skills development model. Likewise, the Model of Occupational Self-Efficacy (MOOSE) was used as a conceptual framework to provide guidelines to the structure and operationalisation of

specific intervention components. The entrepreneurial skills development model is envisioned to adopt an eclectic approach to intervention implementation as suggested in Soeker et al. (2014).

Context

The occupational therapy practice based model, will be used in settings other than medical and rehabilitation facilities and could also be used in the clients' homes, community facilities and the designated business contexts. Assessments and goal planning will be performed by the occupational therapist at the vocational rehabilitation unit or an occupational therapy practice setting. Subsequent intervention stages proposed within the model could be carried out within the above-mentioned settings as deemed necessary.

Central foci

Three key areas of focus for the proposed practice model were identified from experts in the first Delphi survey. These focus areas include holistic functional assessment, work and entrepreneurial skills training, stakeholder involvement and partnership. The experts indicated that an initial assessment on the ABI individuals' pre-morbid and current level of functioning, followed by assessing specific work limitations would uncover the barriers and assets that influence vocational integration post-ABI. As emphasised by Cronin et al. (2013), the performance of work is interdependent on the resources of the person, the workplace and contextual demands, including psychosocial environments. Therefore, it is vital to obtain a holistic understanding of the functional and work impairments of women with ABI, which will enable the establishment of a thorough clinical foundation to guide intervention implementation. In addition, the active participation of the individual with ABI is deemed essential from the onset of the vocational rehabilitation process. Client involvement as primary decision makers and as active participants rather than passive recipients of services has long been recognised as a primary ideology in vocational rehabilitation practices. Thus, through active client participation, self-empowerment is facilitated throughout the intervention process (Van Hal et al., 2012).

In the first Delphi round, work skills training was identified as an important component to be included in the model of enhancing entrepreneurial skills. Similarly, the meta-synthesis of the scoping review (chapter 6) showed that skills training is used to develop and enhance the work

skills set of individuals with ABI. Work skills training aids in building self-confidence and work competence, as well as facilitate improved self-appraisal of personal and work abilities following ABI. It further contributes to increased motivation and self-efficacy and the ability to employ coping and adaptive strategies and the willingness to pursue employment goals (Ownsworth, 2010).

Similarly, entrepreneurial skills training was suggested as necessary by the experts in the first round Delphi, recommending the development of new skills, entrepreneurship education and coaching as well as active entrepreneurial activity engagement. The experts proposed establishing new strategies using models and approaches that support upskilling in line with entrepreneurial activities.

Furthermore, facilitating and establishing supports in the social and work environment was deemed essential by the experts in the Delphi study. For the individual with ABI in the current study, being able cope with the demands within a self-employment context as well as identify and draw from supports structures within their respective environments would feature as a positive outcome measure for enhanced occupational performance and participation. Therefore, given the complexity of recovery and response from ABI, it becomes apparent that rehabilitation professionals need to facilitate the involvement and support from multi-stakeholders, such as family members, possible business incubators and relevant SMME government/private sector representatives. The enhanced competence of the individual with ABI to engage in an entrepreneurial worker role would serve as a reflection of the environment's accessibility and the supports available for the individual to function and perform effectively (Balcazar et al., 2014).

Even though continuous collaboration with relevant stakeholders were emphasised during vocational rehabilitation programmes (chapter 6), in the current study's context it was found that communication problems occur between related governmental sectors impacting on designated services and necessary supports to employment reintegration for people with disabilities (chapter 4). Strong family and social support of women with ABI was also found to enhance motivation and drive to pursue occupational opportunities (chapter 5). Consequently, an essential prerequisite for the developed practice model, is to facilitate active communication between women with ABI and designated stakeholders through advocacy, mediation and client self-advocacy.

7.4.4 Goals and objectives of the practice model

The occupational therapy based practice model aims to enhance the entrepreneurial skills in women with ABI. The model is envisaged to empower and expedite the development of an individual who is capable and able to participate in an entrepreneurial worker role with the necessary competencies. This model will serve as a guideline to occupational therapists to address the barriers that hinder the resumption of the worker role of women with ABI, by employing a holistic occupation based approach and facilitating the process of entrepreneurial skills empowerment and occupational participation.

7.4.4.1 Stages of the practice model

The practice model comprises four stages that are interlinked with one another, thus the client can fluctuate between these stages based on her progression of development from the intervention received. A combination of preparatory, meaningful and occupation-based activities could be utilised to facilitate the client to move through the stages of the model. Intervention sessions are planned to be tapered accordingly, which will allow the client to move through the stages based on her unique level of efficacy and occupational engagement until minimal or no assistance is required from the occupational therapist.



The developed occupational therapy practice model will be known as *The Entrepreneurial Skills Empowerment Model (ESEM)*.

Table 7.2 presents the proposed model's key intervention stages and structure.

The ESEM comprises four interconnected stages of intervention namely, Stage one (reflective process), Stage two (theory enhancement), Stage three (occupational performance/doing), and Stage four (Competency to participate in the entrepreneurial worker role). These stages will be guided by the individual/personal empowerment (PE) level of analysis of the empowerment process namely, the intrapersonal, interactional and behavioural components. The Entrepreneurial Skills Empowerment Model (ESEM) will be guided by the actions of empowerment and the conceptual guidelines of the MOOSE during the facilitation of domain specific self-efficacy, the establishment of entrepreneurial skills and competencies as well as the necessary coping behaviours for maximum independence during occupational

participation. The dynamic structure of the ESEM will allow the client to revert back to previous stages should a disruption in performance occur (Soeker et al., 2012).

The intervention process will commence once the client is medically stable and is receiving out-patient rehabilitation at hospital or community based/clinic rehabilitation centres. The inclusion criteria also require the client to be functioning on a cognitive Level VIII of the Ranchos Los Amigos Scale also known as the Level of Cognitive Functioning Scale (LCFS). The client will thus function with intact orientation, purposeful and appropriate responses to the environment, but might function with decreased abstract reasoning abilities relative to premorbid levels.

During *Stage one (reflective process)*, the occupational therapist (OT) will gain a holistic understanding of the functional and employment implications of the client post-ABI. This stage will focus on facilitating a sense of individual perceived control, motivation and self-efficacy. During this stage, the OT will facilitate a collaborative and trusting relationship with the client as well as involve and educate family members on the client's functional limitations, abilities as well as her functional goals. Through the therapeutic use of self, the OT will provide consistent support and a firm expression of belief that the client can make changes to her life as well as facilitate self-awareness and individualism during the rehabilitation process. The process of reflection will be initiated by the OT who will encourage the client to reflect and perform introspection on the ABI incident and her current situation, the difficulties she experiences and how her life and occupational engagements has changed since the ABI incident. The process of reflection will be facilitated using the steps of reflection of Gibbs (1998) as proposed in the MOOSE. The client will be encouraged to journal her feelings, fears, losses and expectations for her future self as well as identify personal strategies on how to overcome difficulties pertaining to her functional limitations post-ABI. Once the client gains a better understanding of her post-ABI situation, she will be able to start formulating realistic functional goals which is part of enhancing a positive self-efficacy (Soeker et al., 2012). As the client starts to demonstrate greater self-acceptance and internal motivation to overcome her functional limitations, the OT will encourage the client to reflect on her pre-and post-ABI work abilities and work goals and evaluate and reflect on her ability to pursue a self-employed worker role. Stage one is envisaged to comprise 5-10 sessions of 60-90 minutes per session. The client's progress and development throughout Stage one will be closely monitored and considered before moving to the next stage.

Stage two (theory enhancement) will commence once the client is experiencing a stronger sense of self-efficacy, internal motivation and enhanced autonomy to participate in occupational activities of choice such as daily activities, and leisure pursuits. This stage will focus on facilitating the development of self-trust. The client will be encouraged to actively participate and engage in meaningful activities to enhance functional skills, coping skills and employ compensatory behaviour strategies during activity engagement. The OT will continue fostering a collaborative relationship with the client to further enhance independent activity participation i.e., the therapist will together with the client make contact with relevant health team members should there be a need to address residual impairment related restrictions.

During this stage the client will start to demonstrate greater commitment to participate in her vocational goal setting process and will be encouraged to explore her own innovative ideas for self-employment ventures. The OT will facilitate collaborative planning and evaluation of the client's entrepreneurial skills needs and entrepreneurial performance outcomes. Structured informal entrepreneurial skills education opportunities will be facilitated i.e., organising basic venture planning workshops as well as accredited entrepreneurship programmes based on the client's academic level and requirements. During the process of entrepreneurship education, adult learning principles will be employed that reflect the theory of andragogy (Knowles, Holton, & Swanson, 1998). At this stage, in collaboration with the client, the OT will facilitate the exploration and identification of entrepreneurial practice-based activities for potential participation within the client's community or other relevant business opportunities. Once the client starts to actively engage in entrepreneurial practice-based activities, she will be encouraged to reflect on what she has learnt from the previous stage and entrepreneurial educational programmes. The client will be encouraged to monitor and appraise her practice-based entrepreneurial activity engagement and will start to employ the necessary skills and adaptive coping strategies to overcome challenges during entrepreneurial tasks engagement. The OT will facilitate a continuous process of reflection and introspection to encourage the client to identify personal strengths, skills needs as well as potential hinderances to entrepreneurial engagement. Once the client becomes more motivated and confident in her ability to take charge of her own situation, she will be ready to move onto the next Stage three of the model. Stage two is anticipated to take place over 10-20 intervention sessions of 60 minutes per session. The client's progress and development throughout this stage will be closely monitored and considered before moving to the next stage. Interventions during Stage two onward will be deliverable within a rehabilitation unit, the clients' homes, or community facilities.

Stage three (occupational performance/doing) will focus on the establishment of occupational competence through active occupational participation. This stage aims to enhance and integrate the client's knowledge base and specific entrepreneurial skills during hands-on entrepreneurial projects. In combination with adult learning principles, the cycle of experiential learning as advocated by Kolb (1984), will be used to facilitate integration of skills and knowledge to further enhance the client's entrepreneurial self-efficacy. At this stage the involvement of designated stakeholders will occur whereby the OT will take on the role as advocate and mediator for entrepreneurial test placements at businesses and organisations that supports economic empowerment through venture creation. Once the client is actively involved in a start-up initiative she will be encouraged to reflect on her entrepreneurial performances using Kolb's four stage experiential learning cycle i.e., concrete learning, reflective observation, abstract conceptualisation, and active experimentation. The client will be able to draw from the entrepreneurial education and skills learnt in the previous two stages and pursue her vocational endeavour with greater inner strength, motivation and self-efficacy. The OT will continue encouraging the client to self-advocate and strive to utilise the available resources within her entrepreneurial environment. The client will demonstrate a stronger sense of entrepreneurship efficacy and possess an enhanced ability to employ adaptive behaviour in the face of challenging situations. The client will therefore be ready to move to the final stage (i.e., Stage four) of the model. The intervention duration during Stage three is envisioned to comprise a minimum of 6-12 sessions over a six-month period (60 minutes each), also considering the client's progress and development throughout this stage.

The final **Stage four (competency to participate in the entrepreneurial worker role)** envisions the client to demonstrate the competencies to overcome entrepreneurship/self-employment participation barriers. During this stage the client will be encouraged to reflect on her experiences during the previous three stages and her current ability to participate in a self-employed work role. It is envisaged that the client will possess an enhanced sense of personal control, and the necessary skills and competence to independently manage constraints and opportunities in her entrepreneurial environment. During the final stage, the client will be able to plan and formulate a small business proposal with maximum independence. The client will be able to identify and source funding opportunities with minimal support and draw up a financial budget plan for a small business with maximum independence. The client will continue self-reflection and introspection, monitor task performances and successfully employ

strategies learnt from the previous stages to overcome entrepreneurial participation challenges. The intervention duration during this stage is anticipated to be tapered according to the client's pace of development. The occupational therapist's contact is limited to 1-2 contact sessions per month over a 12-month period (60 minutes per session). The occupational therapy involvement will gradually decrease as the client's entrepreneurial self-efficacy is optimally enhanced and maximum independence is achieved.



Table 7.2: Draft Entrepreneurial Skills Empowerment Model (ESEM)

STAGE	Description	Components	Frequency /Duration
<p>STAGE ONE: Overcoming the negative perceptions of functional abilities (REFLECTION)</p>	<p>To gain a holistic understanding of the functional difficulties and employment implications of the individual after ABI. To facilitate self-acceptance and courage, internal motivation and self-efficacy in order to promote active participation in pursuing vocational goals</p>	<ul style="list-style-type: none"> • Through therapist/client collaboration a holistic understanding of the current level of functioning and ability to return to work will be determined • Use of standardised and non-standardised assessment methods • Facilitating insight and knowledge on diagnosis and implications on occupational functioning to individual with ABI • Facilitating the process of introspection and reflection in order to come to terms and move forward after ABI • Education of family and caregiver on diagnosis and facilitate involvement to encourage a supportive social environment • Collaboratively facilitate functional goal planning with the individual with ABI and family 	<ul style="list-style-type: none"> • 3-5 sessions of 60- 90 minutes per session. OR • 5-10 sessions of 60-90 minutes per session OR • Intervention frequency is individualised of 60-90 minutes per session

		<ul style="list-style-type: none"> • Facilitation of inner strength and sense of efficacy to pursue and overcome difficulties in occupational areas by use of reflexive journaling • Facilitate reflection on entrepreneurship and self-employment, facilitating motivation and drive to overcome challenges to participate in self-employment initiatives 	
<p>STAGE TWO</p> <p>Building trust in functional ability</p> <p>(THEORY ENHANCEMENT)</p>	<p>This stage will focus on facilitating the development of trust and confidence in the ABI individual's functional abilities. The individual with ABI will be encouraged to actively participate and engage in meaningful and functional activities during this stage</p>	<ul style="list-style-type: none"> • The OT will facilitate engagement in meaningful activities, to encourage the individual with ABI to evaluate strengths and difficulties and enhance self-appraisal of personal abilities and improve motivation and self-efficacy • Facilitate active client participation in identifying specific needs arising during the process of the practice model • Facilitate collaborative involvement of client, family, therapist and relevant health team members in addressing residual component deficits identified by the individual with ABI 	<ul style="list-style-type: none"> • 10-15 sessions of 60 minutes per session OR • 10-20 sessions 60 minutes per session OR • Intervention frequency is individualised of 60 minutes per session

		<ul style="list-style-type: none"> • Facilitation of awareness and insight through education of relevant resources to enhance health, well-being and employment opportunities within health systems, community resources, governmental and private support structures • Reflection and introspection into the individual's entrepreneurial skills needs and how to overcome challenges to meet those needs will be facilitated by the OT/ vocational rehabilitation specialist. • Facilitating structured informal entrepreneurial skills education within the rehabilitation setting i.e., venture planning, financial management • Facilitate coping skills, cognitive compensatory strategies, learning skills, social and communication strategies • Facilitating accredited/formal entrepreneurial education opportunities via business/governmental programmes, private educational organisations , internships, business coaching and mentorship workshops 	
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<p>STAGE THREE</p> <p>Becoming competent through doing</p> <p>(OCCUPATIONAL PERFORMANCE/ DOING)</p>	<p>This stage will focus on the establishment of occupational competence, through active occupational engagement in entrepreneurial related tasks</p>	<ul style="list-style-type: none"> • Facilitate entrepreneurial practical skills training, through simulation of venture practice trials, role play, practical training sessions on how to apply for funding, writing proposals and formulating budget plans • Identify and facilitate stakeholder partnerships, community resources, business support resources • Advocate and mediate for entrepreneurial test placements at relevant businesses and organisations • Continue with facilitating reflection and introspection on entrepreneurial goals and activities, encourage utilisation of strategies learnt from previous stages to improve confidence and motivation during entrepreneurial skills training • Facilitate and encourage the ABI individual to continue self –monitoring of occupational performances, entrepreneurial activity evaluation, identification of challenges and employ skills and strategies learnt from previous stages to overcome challenges 	<ul style="list-style-type: none"> • Minimum of 4 sessions over a month period (60 minutes per session) • Minimum of 8 sessions over a two-month period (60 minutes per session) • Minimum of 12 sessions over a three-month period (60 minutes per session) • Intervention frequency is individualised of 60 minutes per session
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		<ul style="list-style-type: none"> • Facilitating independence and self-directed action through self-advocacy and self-determination • Facilitate the individual with ABI to utilize available support, resources and stakeholders as identified throughout the stages of the model 	
<p>STAGE FOUR</p> <p>The empowered being</p> <p>(COMPETENCY TO PARTICIPATE IN THE ENTREPRENEURIAL WORKER ROLE)</p>	<p>This is the final phase of the entrepreneurial skills intervention process where the individual with ABI has the necessary competencies to pursue and engage in entrepreneurial /self – employment ventures of choice</p>	<ul style="list-style-type: none"> • The individual with ABI will demonstrate with the competencies of overcoming barriers to participation in an entrepreneurial or self-employment work role. • The individual with ABI will be able to plan and formulate a small business proposal with maximum independence • The individual with ABI will be able to draw up a financial budget plan for a small business with maximum independence • The individual with ABI will be able to identify and source funding opportunities with minimal support • The individual with ABI will continue with reflection and introspection, continue self-monitoring, appraising performances and utilize strategies learnt in previous stages to adapt, compensate and overcome entrepreneurial participation challenges 	<ul style="list-style-type: none"> • A three-month duration of 3-5 contact sessions (60 minutes each) • A six-month duration of 6-9 contact sessions (60 minutes each) • A 12-month duration of 6 contact sessions (60 minutes each) • No time-line linked; this is based on individual progression. However, the occupational therapist contact is limited to 1- 2 contact sessions per month over a 12 month period

		<ul style="list-style-type: none"> • The individual with ABI will have a strong sense of occupational and entrepreneurial efficacy and would be able to employ the necessary coping behaviours to successfully cope with the demands imposed within their respective entrepreneurial environments • The occupational therapy involvement will be gradually decreased as the ABI individual's entrepreneurial self-efficacy is enhanced and maximum independence is achieved 	(personally or telephonically)
Strategies during implementation of the ESEM	The recommended strategies by which the different stages of the model are to be operationalised are described	<p>Strategies to be implemented:</p> <ul style="list-style-type: none"> • Holistic client-centred approach (active client participation throughout the intervention process) • Individually tailored interventions • Use of a case manager to co-ordinate intervention process • Use of transdisciplinary approach • Use of supported employment principles • Use of adult learning educational principles 	

		<p>Guiding principles to ensure readiness that the individual with ABI is successful in completing the stages of the model</p> <ul style="list-style-type: none"> • During out-patient rehabilitation, or community/clinic based intervention • Client must have cognitive status level VIII on Ranchos Los Amigos Scale • When client is independent in performing basic activities of daily living tasks (self-care) as well as most aspects of instrumental activities of basic living (shopping, community mobility, child rearing) • Client is able to engage in selected leisure pursuits • Client has achieved successful community integration after injury i.e., community level interaction such as school events, neighbourhood and social group events) 	
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7.5 CONCLUSION

In this chapter the methods of data collection employed during the Delphi study was described. The findings of the first round Delphi survey was discussed followed by the conceptualisation of the initial draft of the Entrepreneurial Skills Empowerment Model (ESEM). The subsequent chapter will present the results and analysis of the second and third rounds of the Delphi survey. In addition, the amendments of the final version of the ESEM will be discussed in the following chapter.



CHAPTER 8

FINAL DESCRIPTION OF THE ENTREPRENEURIAL SKILLS EMPOWERMENT MODEL

8.1 INTRODUCTION

This chapter presents the results of the second and third rounds of the Delphi survey detailing the responses of participants. It further describes the amendments made to the initial draft of the ESEM that materialised after integrating the opinions of the experts drawn from the first round of the Delphi survey. Furthermore, summary guidelines for the operationalisation of empowerment during each of the respective stages of the entrepreneurial skills empowerment model is presented.

8.1.1 Results of the second Delphi round

The results of the second round Delphi survey are summarised using charts and percentages to report on the experts' ratings on the structure, intervention components, strategies for implementation of the intervention as well as the duration of the developed Entrepreneurial Skills Empowerment Model (ESEM). The developed model was converted into an electronic questionnaire (Appendix 8.1) using Google forms and sent to participants via online links. The questionnaire consisted of 53 response options that used a three-point Likert scale of: Agree; Indifferent; and Disagree. Additional sections for comments were added to the questionnaire for the experts to give input and suggestions regarding the content and overall structure of the model. The second round Delphi yielded a response rate of 77% after three of the panellists who participated in the first Delphi round did not respond for reasons unknown. For a response option to be eligible for inclusion in the designed entrepreneurial skills model it must have achieved a consensus of seven experts ($\approx 70\%$), (Keeney et al., 2006). Survey items with an agreement score of less than seven and a disagreement score that was less than four were reviewed and adjusted based on the opinions provided by the experts. These survey items were subsequently considered for re-evaluation during the third and final Delphi round. The results of the second Delphi round are collated and presented in the following graphs and tables.

Table 8.1: Stage one: Structure and components of the entrepreneurial skills empowerment model

STAGE ONE: Holistic assessment and reflection	Agree n (%)	Indiffere nt n (%)	Disagree n (%)	Comments/ Opinions
• Holistic understanding of the current level of functional ability	10(100)	0(00)	0(00)	Contact with previous employer if possible, to determine the patients baseline function at work
• Use of standardised and non-standardised assessment methods	10(100)	0(00)	0(00)	
• Education and involvement of family and caregiver	9(90)	1(10)	0(00)	
• Facilitating the process of reflection and introspection by means of reflexive journaling and coming to terms with ABI	5(50)	3(30)	2(20)	Needs to be done in conjunction with a counsellor/psychologist
• Facilitate inner-strength and motivation to overcome difficulties in occupational areas	8(80)	2(20)	0(00)	
• Facilitate the process of reflection on self-employment and entrepreneurship	7(70)	3(30)	0(00)	
• Facilitating motivation and drive to explore and pursue self-employment initiatives	9(90)	0(00)	1(10)	

Concerning the structure and components of *stage one* of the **Entrepreneurial Skills Empowerment Model**, the experts were in agreement on the majority of the items listed under the initial intervention stage of the model (Table 8.1). Panellists advised as part of gaining a holistic understanding of the clients' functioning; to make contact with previous (if available) employers regarding the clients' baseline work functioning. The panellists recommended that during the initial stage of the model it should become clear what the client wants concerning work i.e., facilitation of vocational goal setting. In addition, panellists advised it is very

important to help women with ABI to understand their post-injury situation and enhance their awareness on the prospects for self-employment. Only half of the experts (n=5, 50%) agreed that ‘facilitating the process of reflection and introspection by means of reflexive journaling and coming to terms with ABI’, to be included in stage one of the developed model, thus no consensus was reached. Panellists advised that reflective journaling may not be appropriate or what a client may be comfortable with. The panellists further added, "Coming to terms with ABI" may not necessarily be appropriate for some as it could be a concept rather large on its own and might need to be done in conjunction with a counsellor/psychologist.

With regards to the duration and frequency of stage one, the majority (n=8, 80%) of experts agreed on the intervention frequency to be individualised of 60-90 minutes per session (Figure 8.1). The panellist suggested that the duration of intervention during stage one highly depends on each individual and should be as flexible as possible.

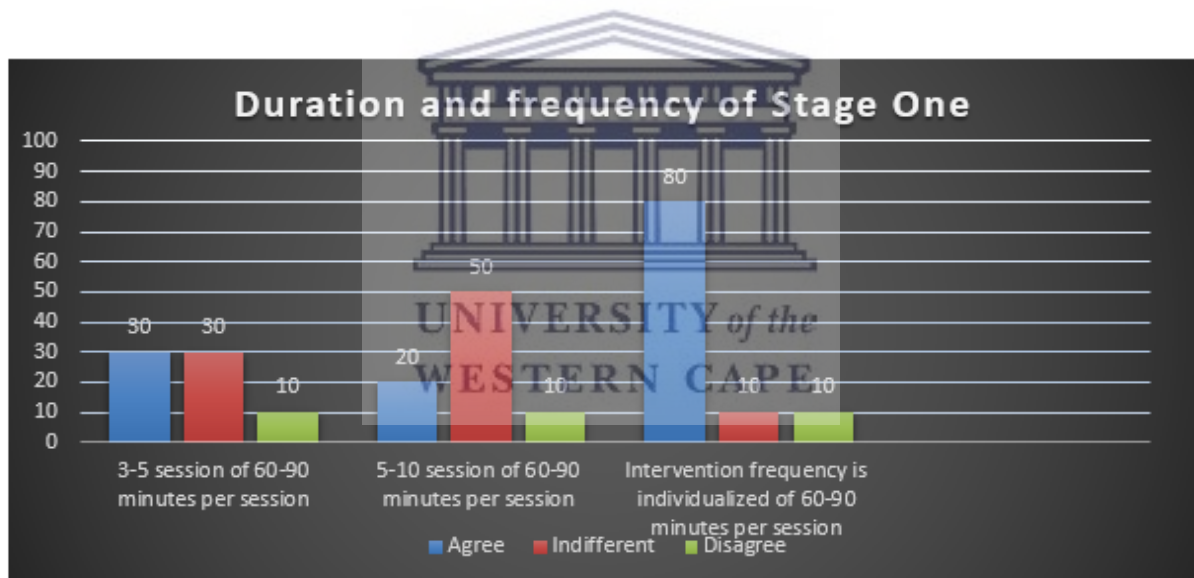


Figure 8.1: Duration/frequency of stage one

Table 8.2: Stage two: structure and components of the entrepreneurial skills empowerment model

STAGE TWO: Active participation in functional and meaningful activities	Agree n (%)	Indifferent n (%)	Disagree n (%)	Comments/ Opinions
• Engagement in functional meaningful activities	8(80)	2(20)	0(00)	
• Client identification of specific needs arising during intervention process	10(100)	0(00)	0(00)	
• Involvement of relevant health team members in addressing residual component deficits identified by the client	8(80)	2(20)	0(00)	
• Education on relevant resources within health departments, community, governmental and private support structures	10(100)	0(00)	0(00)	
• Facilitating structured entrepreneurial skills education within the rehabilitation setting i.e., venture planning, business management, communication skills, financial management, funding applications	8(80)	2(20)	0(00)	
• Facilitate coping skills, cognitive compensatory strategies, learning skills, social and communication strategies, to enhance entrepreneurial skills and participation	10(100)	0(00)	0(00)	
• Facilitating formal entrepreneurial qualification opportunities	7(70)	3(30)	0(00)	

Regarding the structure and components of *stage two* of the developed model, most of the experts concurred on all of the items included within this stage with percentages ranging from 70 to 100% as summarised in Table 8.2. Experts advised that during stage two it would be important not to bound interventions to a rehabilitation facility. Furthermore, agreement was

reached on the duration and frequency of intervention during stage two of the model (Figure 8.2).

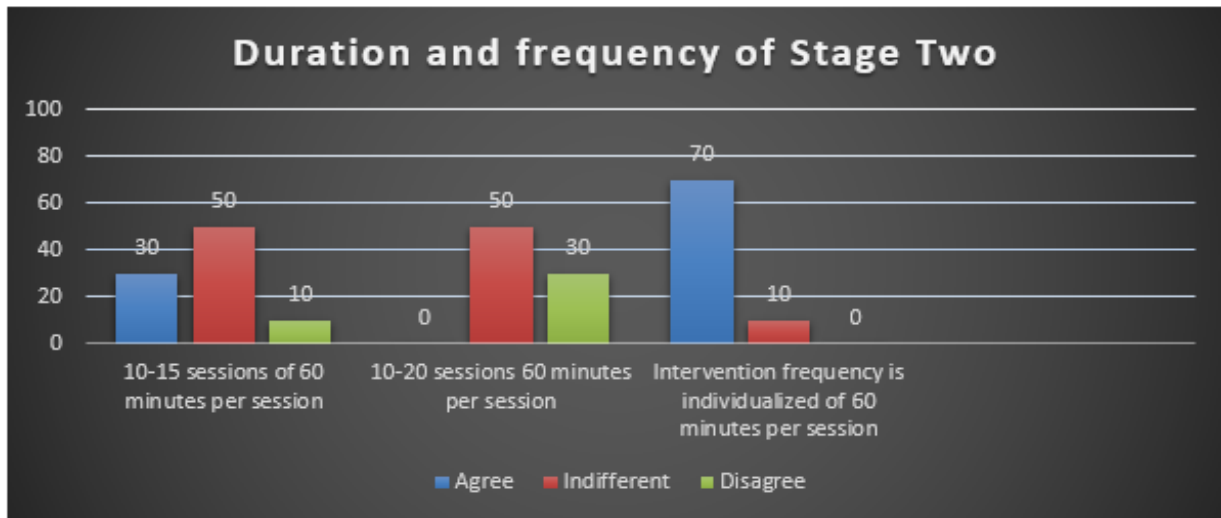
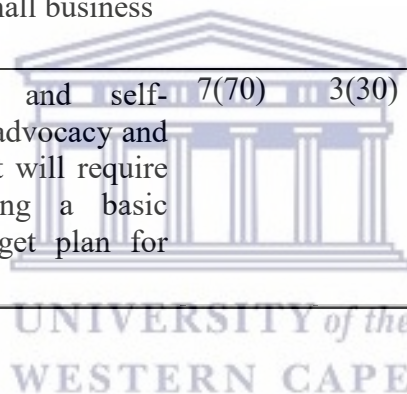


Figure 8.2: Duration/frequency of stage two

Table 8.3: Stage three: structure and components of the entrepreneurial skills empowerment model

STAGE THREE: The establishment of occupational competence, through active occupational engagement in entrepreneurial tasks	Agree n (%)	Indifferent n (%)	Disagree n (%)	Comments/Opinions
• Facilitate entrepreneurial practical skills training, through simulation of venture practice trials, role play, practical training sessions	8(80)	0(00)	2(20)	Rather to embark on real short term projects that generate feedback and learning in real time.
• Identify and facilitate stakeholder partnerships, community resources, business support resources i.e., use of online searches, social or formal media, community support organisations	10(100)	0(00)	0(00)	

• Advocate and mediate for entrepreneurial test placements at relevant businesses and organisations i.e., potential business incubators	10(100)	0(00)	0(00)
• Facilitate utilisation of strategies learnt from previous stages to improve confidence and motivation during entrepreneurial skills training i.e., more structured task planning, able to employ adaptive or compensatory strategies to handle and overcome challenges	8(80)	2(20)	0(00)
• Facilitate the ABI client to utilize available support resources and relevant stakeholders as identified throughout the practice model stages i.e., client easier communicate needs, source and make use of opportunities to initiate small business ventures	8(80)	2(20)	0(00)
• Facilitating independence and self-directed action through self-advocacy and self-determination i.e., client will require minimal support in writing a basic business proposal and budget plan for possible funding applications	7(70)	3(30)	0(00)



The agreement level of experts on the structure and components of *stage three* is presented in Table 8.3. The majority of the experts were in agreement with all of the survey items proposed in this stage with percentages ranging from 70 to 100%. Experts suggested that instead of facilitating entrepreneurial practical skills training through simulation, to rather embark on real short term projects that generate feedback and learning in real time. Consensus regarding the intervention duration and frequency of the model's third stage was not reached (Figure 8.3).

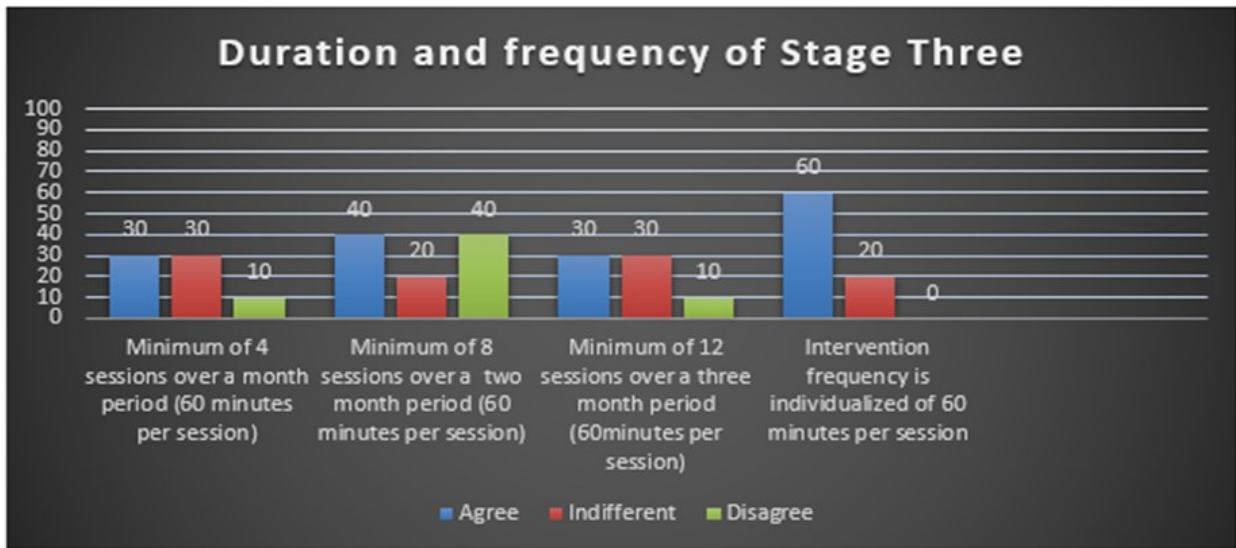


Figure 8.3: Duration/frequency of stage three

Table 8.4: Stage four: structure and components of the entrepreneurial skills empowerment model

STAGE FOUR: The client will demonstrate with the competencies to participate in an entrepreneurial/self-employment work role	Agree n (%)	Indifferent n (%)	Disagree n (%)	Comments/Opinions
• The individual with ABI will be able to plan and formulate a small business proposal with maximum independence	6(60)	1(10)	3(30)	Maybe it is more important that clients are able to find help for that instead of being able to do it by themselves.
• The individual with ABI will be able to draw up a financial budget plan for a small business with maximum independence	5(50)	2(20)	3(30)	They will require ongoing support , albeit be this minimal
• The individual with ABI will be able to identify and source funding opportunities with minimal support	6(60)	1(10)	3(30)	

• The individual with ABI will continue with reflection and introspection, continue self-monitoring, appraising performances and utilize strategies learnt in previous stages to adapt, compensate and overcome entrepreneurial participation challenges	9(90)	0(00)	1(10)
• The ABI client will have a strong sense of occupational and entrepreneurial efficacy and would be able to employ the necessary coping behaviours to successfully exert control over the demands imposed within their respective entrepreneurial environments	8(80)	1(10)	1(10)
• The occupational therapists' involvement will be gradually decreased as the ABI individual's entrepreneurial self-efficacy is enhanced and maximum independence is achieved	9(90)	0(00)	1(10)

With regards to the items listed under *stage four* of the entrepreneurial skills model (Table 8.4), the majority of the experts agreed on the inclusion of: 'The individual with ABI will continue with reflection and introspection, continue self-monitoring, appraising performances and utilize strategies learnt in previous stages to adapt, compensate and overcome entrepreneurial participation challenges' (n=9, 90%); 'The ABI client will have a strong sense of occupational and entrepreneurial efficacy and would be able to employ the necessary coping behaviours to successfully exert control over the demands imposed within their respective entrepreneurial environments' (n=8, 80%); 'The occupational therapists' involvement will be gradually decreased as the ABI individual's entrepreneurial self-efficacy is enhanced and maximum independence is achieved' (n=9, 90%). The panel of experts advised that medium to long term support should be made available from the OT although support should be continued to be tailored as per the need of the client. In addition, experts stated that expertise is needed to be able to make a business plan or a financial budget plan, therefore it is more important that clients are able to identify and seek the necessary assistance instead of being able to do it by themselves. Consensus was thus not reached on the inclusion of: 'The individual with ABI will be able to plan and formulate a small business proposal with maximum independence' (n=6, 60%); 'The individual with ABI will be able to draw up a financial budget plan for a small

business with maximum independence’ (n=5, 50%); ‘The individual with ABI will be able to identify and source funding opportunities with minimal support’ (n=6, 60%).

Consensus was reached on the duration and frequency of intervention during stage four of the model (Figure 8.4).

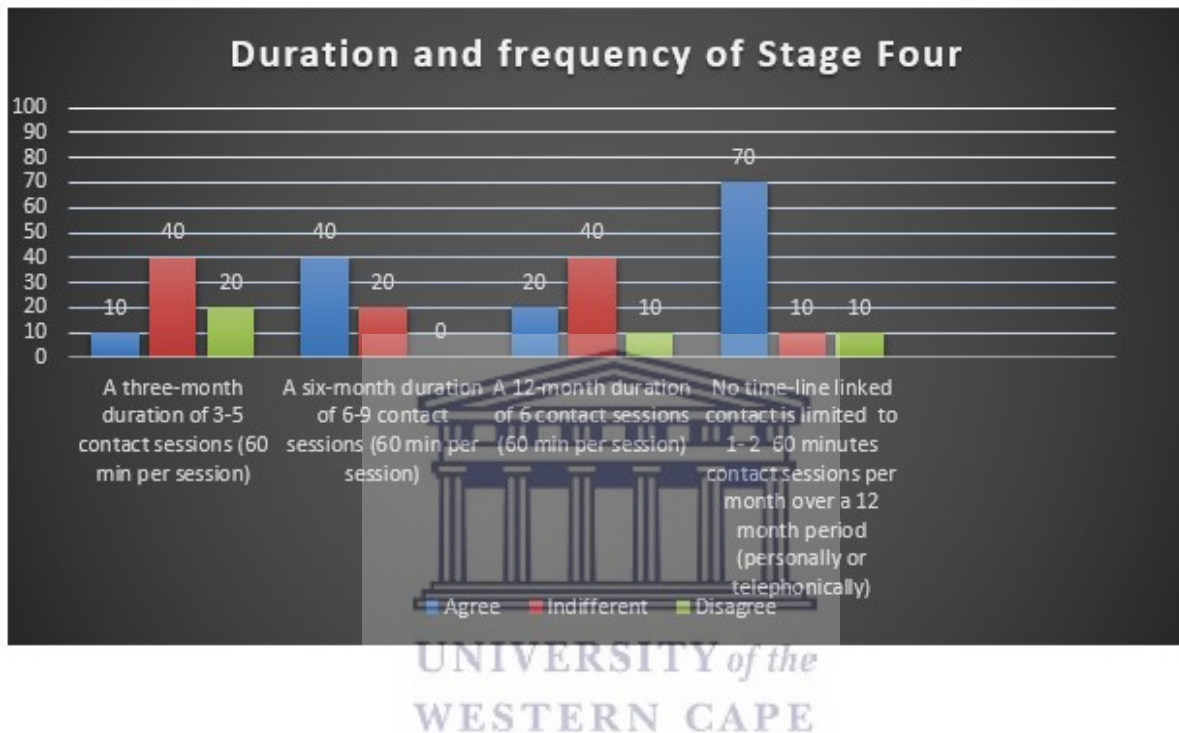


Figure 8.4: Duration/frequency of stage four

With regards to the strategies for implementing the respective intervention stages of the model, the majority of the experts were in agreement on all of the five suggested strategies with percentages ranging from 70 to 100% (Table 8.5). There was no agreement reached by experts regarding the commencement of the model during the period of the rehabilitation process after ABI as well as the subsequent recovery process (functional ability) of the ABI client (Table 8.5). The experts made various comments regarding the period of commencing the entrepreneurial skills model and suggested that intervention should commence at the earliest possible time depending upon the client’s need and/or motivation. Whereas, some experts advised that the process should not be rushed, clients have to be able and capable to engage in the process which may take time depending on the severity of the injury.

Table 8.5: Strategies for implementation and commencement period for the entrepreneurial skills empowerment model

Item	Agree n (%)	Indifferent n (%)	Disagree n (%)
Strategies for implementation of the model			
• Holistic client-centred approach (active client participation throughout the intervention process)	10(100)	0(00)	0(00)
• Individually tailored interventions	9(90)	1(10)	0(00)
• Use of a case manager to co-ordinate intervention process	7(70)	3(30)	0(00)
• Use of transdisciplinary approach	7(70)	3(30)	0(00)
• Use of supported employment principles	10(100)	0(00)	0(00)
When during rehabilitation should the intervention stages of the model commence?			
• During in-patient rehabilitation	4(40)	2(20)	2(20)
• During out-patient rehabilitation	5(50)	1(10)	2(20)
• After completion of medical intervention by physician	4(40)	3(30)	1(10)
• After out-patient rehabilitation	3(30)	1(10)	4(40)
When should the stages of the model based on the recovery process after ABI commence?			
• Client must have cognitive status level VIII on Ranchos Los Amigos Scale	4(40)	4(40)	1(10)
• When client is independent in performing basic activities and most instrumental activities of daily living tasks (self-care, shopping, community mobility)	4(40)	4(40)	1(10)
• Client is able to engage in selected leisure pursuits	4(40)	3(30)	3(30)
• Client has achieved successful community integration after injury i.e., community level interaction such as school and social group events)	6(60)	1(10)	3(30)

8.1.2 Results of the third Delphi round

The third Delphi round consisted of some survey items of the developed model on which consensus was not reached during the second Delphi round. These proposed items included a level of agreement of less than seven and a level of disagreement of less than four. Consensus was not reached on one item listed under stage one (Holistic assessment and reflection stage)

of the model. Based on the experts' opinions, individuals with ABI might need the expertise of a psychologist regarding coming to terms with their circumstances post-ABI. Consensus was also not reached on the duration and frequency of intervention within stage three of the model. The experts were also divided on the items listed under stage four of the model. Experts opined that the individual with ABI would best benefit by being able to identify and seek the necessary support in planning and managing a small business initiative, hence on-going support from relevant stakeholders would be advisable in this regard. Additionally, the experts did not concede on when to commence the implementation of the stages of the model as well as the most appropriate time when the individual with ABI would be ready to participate in the first stage of the model. Based on the opinions of the experts, the item listed under stage one; "Facilitating the process of reflection and introspection by means of reflexive journaling and coming to terms with ABI" was thus pulled back into the third Delphi round and adjusted to "Facilitation of reflection and introspection regarding functional strengths and limitations after ABI", with a response option of "relevant or not relevant". Likewise, the duration and frequency of intervention in stage three, the three intervention components listed under stage four as well as when to commence the stages of the model were revised and pulled back into the third round of the Delphi survey. The response options to the third round questions were limited to a Yes or No answer (Appendix 8.2).

At the end of the third round, and after sending three reminders and a fourth personal email to participants, two of the experts were unavailable for participation for reasons unknown. Among the participating panellists, consensus was reached on the final items of the ESEM. Regarding the item listed under stage one, the majority (n=7, 87.5%) of the experts agreed on the relevancy of the intervention component, "Facilitation of reflection and introspection regarding functional strengths and limitations after ABI". The experts reached consensus (n=6, 75%) on the duration and frequency of intervention in stage three i.e., "Intervention frequency to be individualised of 60 minutes per session". Concerning the three intervention components listed in stage four, the experts reached a consensus on, "With minimal facilitation, the individual with ABI will be able to seek the necessary support from external stakeholders to plan and formulate a small business proposal" (n=6, 75%) and, "The individual with ABI will be able to identify and source funding opportunities with minimal to moderate support" (n=7, 87.5%). Consensus were not reached on, "With minimal facilitation, the individual with ABI will be able to seek the necessary support from external stakeholders to draw up a monthly budget to improve income/ expenditure for a small business" (n=3, 37.5%). Most of experts (n=7, 75%)

agreed that the model should be initiated during out-patient rehabilitation. Consensus was not reached by the experts for the model to commence during in-patient rehabilitation (n=3, 37.5%), and after the completion of medical intervention by a physician (n=3, 37.5%). Lastly, the experts reached consensus on two of the items listed under the most appropriate time when the individual with ABI would be ready to participate in the first stage of the model. They were in agreement (n=6, 75%) for the individual with ABI to have a cognitive status level VIII on the Ranchos Los Amigos Scale and, to be independent in performing basic activities and most instrumental activities of daily living tasks before commencing the model (n=7, 87.5%). The majority of the experts (n=6, 75%) disagreed on the statement indicating that the individual with ABI would be able to engage in selected leisure pursuits and, to have achieved successful community integration after injury before commencing the first stage of the model (n=5, 62.5%).

A summary of the results of the third round of the Delphi survey is presented in Table 8.6.

Thereafter the participants were informed of the completion of the final round of the Delphi study and provided with a copy of the developed Entrepreneurial Skills Empowerment Model.

Table 8.6: Results of third round of Delphi survey

Items	n	%	Comments
Relevance of intervention components within Stage One: Holistic Assessment and reflection			
<i>Facilitation of reflection and introspection regarding functional strengths and limitations after ABI</i>			
• Relevant	7	87.5%	
• Not relevant	1	12.5%	
Duration and frequency of Stage Three: The establishment of occupational competence, through active occupational engagement in entrepreneurial tasks			
<i>How many 60 minute sessions over a prescribed period?</i>			
• Minimum of 4 sessions over a month period	0	0.0	
• Minimum of 12 sessions over a three month period	2	25%	
• Intervention frequency is individualised of 60 minutes per session	6	75%	Individualising would allow the client to go through the stage at their pace, thus allowing it to be client centred

Intervention components to be included within Stage Four: Competency to participate in the entrepreneurial worker role

With minimal facilitation, the individual with ABI will be able to seek the necessary support from external stakeholders to plan and formulate a small business proposal

- Yes 6 75%
- No 2 25%

With minimal facilitation, the individual with ABI will be able to seek the necessary support from external stakeholders to draw up a monthly budget to improve income/ expenditure for a small business

- Yes 3 37.5%
- No 5 62.5%

The individual with ABI will be able to identify and source funding opportunities with minimal to moderate support

- Yes 7 87.5%
- No 1 12.5%

When to commence with the implementation of the stages of the model

During in-patient rehabilitation

- Yes 3 37.5% Start as soon as possible after acquiring brain injury. If possible, start during rehabilitation.
- No 5 62.5%

During out-patient rehabilitation

- Yes 6 75% Medical stability would be important as a baseline before commencing with the model.
- No 2 25%

After the completion of medical intervention by physician

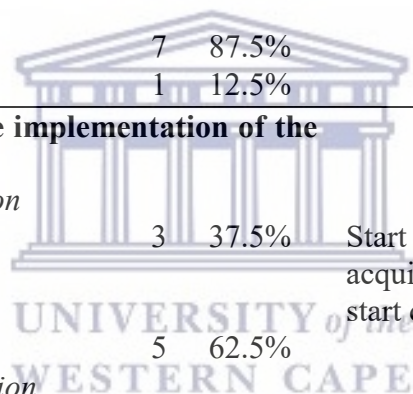
- Yes 3 37.5%
- No 5 62%

The most appropriate time when the individual with ABI would be ready to participate in the first stage of the model

Individual with ABI must have cognitive status level VIII on Ranchos Los Amigos Scale

- Yes 6 75% As soon as the client is possible to talk and think about work, return to work should be mentioned.
- No 2 25%

When the individual with ABI is independent in performing basic activities and most instrumental activities of daily living tasks



- Yes 7 87.5%
- No 1 12.5%

Client is able to engage in selected leisure pursuits

- Yes 2 25%
- No 6 75%

Optimal level of functioning is not necessarily required in other spheres of life for someone to commence their participation in the model.

Client has achieved successful community integration after injury

- Yes 3 37.5%
 - No 5 62.5%
-

8.2 AMENDMENTS TO THE DESIGNED ENTREPRENEURIAL SKILLS EMPOWERMENT MODEL

Upon completion of the Delphi study, a few adjustments were made to the initial designed Entrepreneurial Skills Empowerment Model. These adjustments were applied on one intervention component listed in Stage one; the frequency and duration of intervention of Stage three; three intervention components listed in Stage four as well as the commencement of the model during the rehabilitation continuum of the individual with ABI. To start with, the intervention component in Stage one i.e., “Facilitating the process of reflection and introspection by means of reflexive journaling and coming to terms with ABI” was re-phrased to “Facilitation of reflection and introspection regarding functional strengths and limitations after ABI”. Facilitating the process of self-awareness of post-injury functional strengths and limitations utilising an occupation based approach would enable the individual with ABI to self-monitor and self-regulate behaviour during task performances. It would further enhance the ability to reflect and self-appraise personal capabilities as well as increase self-efficacy and motivation throughout the various stages of the model. Accurate self-appraisal of personal abilities following ABI contributes to motivation for rehabilitation and within the vocational rehabilitation context improves their ability to set realistic employment goals (Ownsworth, 2010). Also, based on the suggestions by experts, the duration and frequency of intervention during Stage three was set to an individualised frequency of intervention with a duration of 60 minutes per session. The experts suggested that individualisation would allow the client to go through the stages at their own pace, thus allowing it to be client-centred. This stance is similar to statements by Soeker (2017) and Lindén et al. (2011), that a client-centred and occupation-based approach to assessments and interventions enables the individual who sustained an injury

or disability to strive in achieving their own context specific goals as well as develop meaning in the work related occupations that they may be engaging in.

Furthermore, adjustment to the intervention components in Stage four occurred after consensus was reached on the inclusion of the following two components: “With minimal facilitation, the individual with ABI will be able to seek the necessary support from external stakeholders to plan and formulate a small business proposal” and, “The individual with ABI will be able to identify and source funding opportunities with minimal to moderate support”. Long-term support to individuals with ABI is observed to be an important factor in the success of vocational goals and work sustainability with subsequent gradual withdrawal of external support (Velzen et al., 2015; Matérne et al., 2017; Foy, 2014). Hence, the suggestions from the panel of experts that it would be more important that clients are able to seek the necessary assistance in this regard instead of being able to do it by themselves as ongoing support might be necessary, albeit it be minimal. That said, consensus was not reached by experts on the intervention component; “With minimal facilitation, the individual with ABI will be able to seek the necessary support from external stakeholders to draw up a monthly budget to improve income/ expenditure for a small business” and was thus excluded from Stage four of the model. Regarding when to commence the implementation of the stages of the model, “After medical intervention from a physician” was excluded from the model as experts reached consensus in this regard. The experts were of the opinion to initiate the model as soon as possible after ABI however, consensus was not reached for the model to be implemented during in-patient rehabilitation, and thus excluded from the model. Early vocational rehabilitation intervention for individuals with ABI are regarded as essential to RTW (Van Velzen et al., 2016; Niemeier et al., 2010; O’Brien, 2007). However, the panel of experts stressed that medical stability would be an important baseline before commencing with the model. Consequently, consensus among the experts were reached to commence with the implementation of the stages of the model during out-patient rehabilitation.

The panel of experts reached consensus on the most appropriate time for when the individual with ABI would be ready to participate in the first stage of the model. Thus, adjustment to the model was made to include the items, “The individual with ABI must have cognitive status level VIII on Ranchos Los Amigos Scale” and “When the individual with ABI is independent in performing basic activities and most instrumental activities of daily living tasks”. Based on the suggestions of the experts, optimal level of functioning is not necessarily required in other spheres of life for someone to commence their participation in the model, thus the items,

“Client is able to engage in selected leisure pursuits” and “Client has achieved successful community integration after injury”, were excluded from the model after consensus was reached by the panel of experts.

In addition, based on the experts’ recommendations during the second round of the Delphi, adjustment was made to the first intervention component in Stage three. Furthermore, the duration and frequency of all of the model’s stages were adjusted i.e., Stage one: intervention frequency should be individualised (60-90 minutes per session); Stages two and three: intervention frequency should be individualised (60 minutes per session); Stage four: no time-line linked, this is based on individual progression, however, the occupational therapist contact is limited to 1-2 contact sessions per month over a 12 months (60 minutes per session). On average the programme is estimated to run for an overall duration of 4 to 12 months.

The final draft of the developed Entrepreneurial Skills Empowerment Model (ESEM) is presented in Table 8.7. Lastly, summary guidelines for the operationalisation of entrepreneurial skills empowerment is presented.



Table 8.7: The developed Entrepreneurial Skills Empowerment Model (ESEM)

Stage	Description	Component	Intervention frequency	Duration of sessions
<p>STAGE ONE: Overcoming the negative perceptions of functional abilities (REFLECTION)</p>	<p>This stage aims to gain a holistic understanding of the functional difficulties and employment implications of the individual after ABI. To facilitate self-acceptance and courage, internal motivation and self-efficacy in order to promote active participation in pursuing vocational goals</p>	<ul style="list-style-type: none"> • Through therapist /client collaboration a holistic understanding of the current level of functioning and ability to return to work will be determined • Use of standardised and non-standardised assessment methods • Facilitating insight and knowledge on diagnosis and implications on occupational functioning to individual with ABI • Facilitation of reflection and introspection regarding functional strengths and limitations after ABI • Education of family and caregiver on diagnosis and facilitate involvement to encourage a supportive social environment • Collaboratively facilitate functional goal planning with the individual with ABI and family 	<p>Intervention frequency is individualised</p>	<p>60-90 minutes per session</p>

		<ul style="list-style-type: none"> Facilitate reflection on entrepreneurship and self-employment, facilitating motivation and drive to overcome challenges to participate in self-employment initiatives 		
STAGE TWO Building trust in functional ability (THEORY ENHANCEMENT)	<p>This stage will focus on facilitating the development of trust and confidence in the individual with ABI 's functional abilities. The individual with ABI will be encouraged to actively participate and engage in meaningful and functional activities during this stage</p>	<ul style="list-style-type: none"> The OT will facilitate engagement in meaning full activities, to encourage the individual with ABI to evaluate strengths and difficulties, to enhance self-appraisal of personal abilities and improve motivation and self-efficacy Facilitate active client participation in identifying specific needs Facilitate collaborative involvement of client, family, therapist and relevant health team members in addressing residual component deficits identified by the individual with ABI Facilitation of awareness and insight through education of relevant resources to enhance health, well-being and employment opportunities within health systems, community resources, governmental and private support structures 	<p>Intervention frequency is individualised</p>	<p>60 minutes per session</p>

		<ul style="list-style-type: none"> • Reflection and introspection into the individual's entrepreneurial skills needs and how to overcome challenges to meet those needs will be facilitated by the OT • Facilitating structured entrepreneurial skills education within the rehabilitation setting i.e., venture planning, business management, communication skills, financial management, funding applications • Facilitate coping skills, cognitive compensatory strategies, learning skills, social and communication strategies, to enhance entrepreneurial skills and participation • Facilitating accredited/formal entrepreneurial education opportunities via business/governmental programmes, private educational organisations, internships, business coaching and mentorship workshops 		
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<p>STAGE THREE</p> <p>Becoming competent through doing</p> <p>(OCCUPATIONAL PERFORMANCE/ DOING)</p>	<p>This stage will focus on the establishment of occupational competence, through active occupational engagement in entrepreneurial related tasks</p>	<ul style="list-style-type: none"> • Facilitate entrepreneurial practical skills training through real short term projects that generate feedback and learning in real time. • Identify and facilitate stakeholder partnerships, community resources, business support resources • Advocate and mediate for entrepreneurial test placements at relevant businesses and organisations • Continue with facilitating reflection and introspection on entrepreneurial goals and activities, encourage utilisation of strategies learnt from previous stages to improve confidence and motivation during entrepreneurial skills training • Facilitate and encourage the individual with ABI to continue self –monitoring of occupational performances, entrepreneurial activity evaluation, identification of challenges and employ skills and strategies learnt from previous stages to overcome challenges 	<p>Intervention frequency is individualised</p>	<p>60 minutes per session</p>
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		<ul style="list-style-type: none"> Facilitating independence and self-directed action through self-advocacy and self-determination, to facilitate the individual with ABI to draw from the entrepreneurial education sessions and skills learnt. Facilitate the individual with ABI to utilize available support, resources and stakeholders as identified throughout the practice model stages 		
<p>STAGE FOUR</p> <p>The empowered being (COMPETENCY TO PARTICIPATE IN THE ENTREPRENEURIAL WORKER ROLE)</p>	<p>This is the final phase of the entrepreneurial skills intervention process where the individual with ABI has the necessary competencies to pursue and engage in entrepreneurial /self – employment ventures of choice</p>	<ul style="list-style-type: none"> With minimal facilitation, the individual with ABI will be able to seek the necessary support from external stakeholders to plan and formulate a small business proposal The individual with ABI will be able to identify and source funding opportunities with minimal to moderate support The individual with ABI will continue with reflection and introspection, continue self-monitoring, appraising performances and utilize strategies learnt in previous stages to adapt, 	<p>No time-line linked; this is based on individual progression. However, the occupational therapist contact is limited to 1- 2 contact sessions per</p>	<p>60 minutes per session</p>

		compensate and overcome entrepreneurial participation challenges <ul style="list-style-type: none"> • The individual with ABI will have a strong sense of occupational and entrepreneurial efficacy and would be able to employ the necessary coping behaviours to successfully cope with the demands imposed within their respective entrepreneurial environments • The occupational therapy involvement will be gradually decreased as the individual with ABI entrepreneurial self-efficacy is enhanced and maximum independence is achieved 	month over a 12 month period (personally or telephonically)	
Strategies during implementation of the ESEM				
The recommended strategies by which the different stages of the model are to be operationalised	Strategies to be implemented: <ul style="list-style-type: none"> • Holistic client-centred approach (active client participation throughout the intervention process) • Individually tailored interventions • Use of a case manager to co-ordinate intervention process • Use of transdisciplinary approach • Use of supported employment principles • Use of adult learning and experiential learning principles 			
Commencement of the ESEM				

When to commence with the implementation of the stages of the model	<ul style="list-style-type: none"> • During out-patient rehabilitation, or community/clinic based intervention
When the individual with ABI would be ready to participate in the first stage of the model	<ul style="list-style-type: none"> • Client must have cognitive status level VIII on Ranchos Los Amigos Scale • When client is independent in performing basic activities of daily living tasks (self-care) as well as most aspects of instrumental activities of basic living



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8.2.1 Guidelines for the operationalisation of Entrepreneurial Skills Empowerment: An occupational therapy practice model to enhance entrepreneurial skills in women with acquired brain injury

To facilitate overcoming the negative perceptions of functional abilities

The following guidelines should be employed to facilitate the process of empowerment and achieving the above objective of Stage One:

- The occupational therapist should have specialist expertise in vocational rehabilitation and or rehabilitation of individuals with acquired brain injury.
- The occupational therapist should have thorough knowledge of relevant employment policies, practices and legislations on the promotion of sustainable economic participation for individuals with disabilities.
- The occupational therapist should have a comprehensive and holistic understanding of the individual with ABI's context and environment, performance patterns and performance skills in order to facilitate the process of reflection and introspection.
- The occupational therapist should foster a strong therapeutic alliance with the individual with ABI and adopt a collaborative approach with the individual and family to encourage active client participation throughout the model's intervention implementation.
- The occupational therapist should employ the therapeutic use of self to facilitate and maintain a supportive and therapeutic environment and provide strategic and firm external motivation to the individual with ABI.
- The occupational therapist should facilitate the process of reflection using the steps in Gibbs (1998), as projected in the Model of Occupational Self-Efficacy (Soeker, 2010).

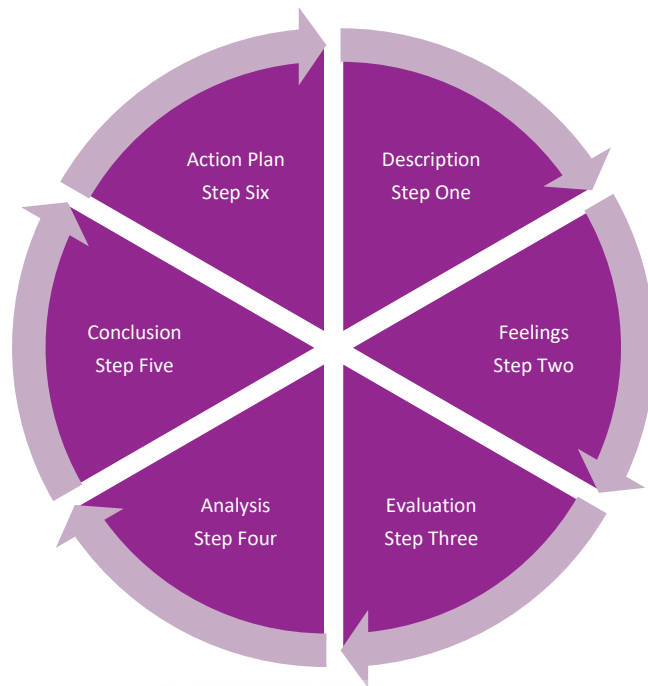


Figure 8.5: Steps of reflection (Gibbs, 1988)

Using these six steps should enable the individual with ABI to identify strengths and areas for development and actions that can be implemented to enhance a sense of inner strength, motivation and efficacy to start taking control over their current situation. Steps one to three relate to the ABI event and what happened during this experience. Steps four to six focus on how the individuals with ABI could improve on their experience and measures to enhance occupational engagement and future employment outcomes.

To encourage the building of trust in functional ability

The following guidelines should be employed to facilitate the process of empowerment and achieving the above objective of Stage Two:

- The occupational therapist will continue facilitation of introspection and in collaboration with the individual with ABI encourage explorative occupational engagement in non-demanding yet personally meaningful occupational activities i.e., resuming and/or redefining interests, values and meaning, and re-establishing habits and roles that support belonging and contributing to their daily lives.
- The occupational therapist should continue with consistent support and a firm expression of belief that the individual with ABI can make changes in their lives.

- The therapist should continuously monitor objective and subjective levels of motivation and self-efficacy through ongoing evaluation of the individual with ABI's performances in order to formulate and apply relevant strategies and adaptation throughout the rehabilitation programme.
- The occupational therapist should additionally adopt the role of a case manager to facilitate and ensure the individual with ABI becomes aware of resources and supports structures to improve their well-being as well as encourage the individual to make informed decisions about health needs as well as employment or self-employment skills development needs.
- The occupational therapist should facilitate the introduction and engagement in appropriate entrepreneurship educational opportunities and encourage the individual with ABI to become active decisions makers regarding their learning process.

Becoming competent through doing

The following guidelines should be employed to facilitate the process of empowerment and achieving the above objective of Stage Three:

- The occupational therapist will continue facilitating and collaborating with the individual with ABI to start engaging in entrepreneurial activities of choice in order to develop entrepreneurial skills and competence.
- The occupational therapist should be familiar and have insight on the perspectives of relevant stakeholders that could support individuals with disabilities in start-up ventures, this would position the occupational therapist in an advantageous position as case manager to advocate and mediate for entrepreneurship test placements, mentorship or business incubators.
- The Kolb's experiential learning cycle (Kolb, 1984) will be utilised to facilitate the individuals with ABI's ability to review and reflect on performances during the practical entrepreneurial learning and skills acquisition process. This will further enhance their ability to self-appraise and make adaptations to their entrepreneurial engagements, encouraging higher levels of motivation and self –efficacy towards independence in an entrepreneurial worker role.
- During this process the occupational therapist in collaboration with the individual with ABI may identify further needs that is required to enhance entrepreneurial engagement,

such as compensatory techniques, adaptive equipment, community mobility or transportation accessibility.

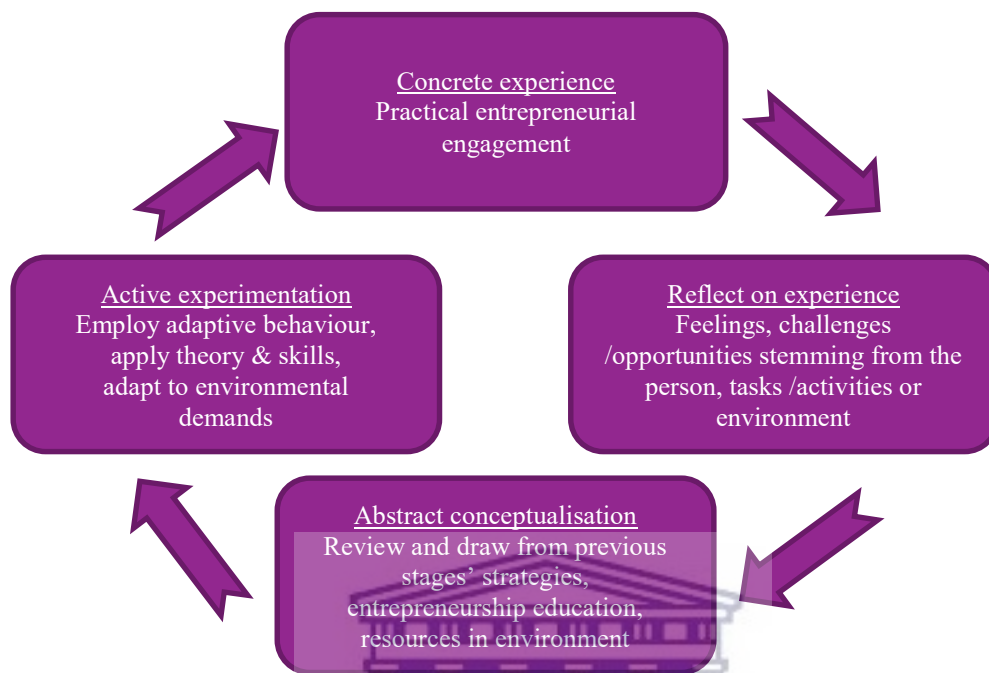


Figure 8.6: The experiential learning cycle (Kolb, 1984)

The individual with ABI can enter the experiential learning cycle from any point provided the sequence is completed to facilitate successful integration of the entrepreneurial learning experience. The occupational therapist should employ sound clinical reasoning to ensure a client-centred and individualised approach to facilitate occupational engagement during this stage. The occupational therapist should facilitate a holistic and integrated learning process grounded in the experiences that involves transactions between the individual with ABI, the entrepreneurial activities and the environment.

Becoming the empowered being

The following guidelines should be employed to facilitate the process of empowerment and achieving the above objective of Stage Four:

- The individual with ABI will be encouraged to continue self-reflection, monitor and appraise their performance during entrepreneurial related tasks.
- The occupational therapist should continue with positive interactions with the individual with ABI, family members and relevant stakeholders, and encourage sustained participation in an entrepreneurial worker role.

- Facilitation will gradually be reduced as the individual with ABI increasingly take action to exert control to actively participate in entrepreneurship activities.
- The final goal is for the individual with ABI to exhibit the potential to make choices about desired actions as a unique individual who has manifested the competence to participate in an entrepreneurial worker role.

8.3 CONCLUSION

Through the Delphi method, it was possible to obtain expert input to the design and development of an occupational therapy practice model that could ultimately enhance the entrepreneurial skills of women with ABI. This phase revealed that the Delphi method is a suitable foretelling instrument that is valuable when expert opinion and guidance of high importance on a topic of inquiry is required. Three of the participants who took part in the first Delphi round did not respond during the second round. Subsequently during the third Delphi round another two participants were also lost to follow-up in spite of several personal reminders. Given the current Covid-19 global pandemic, the researcher extended the waiting period for experts' responses between the Delphi rounds as well as sent out several reminders to participating experts to enhance the response rate. Fortunately, consensus was reached from among the remaining participants on all of the contents that formed part of the ESEM.

In recognition of the current chapter's findings, it offered valuable contributions and integrity to the development of the ESEM. With that said, the subsequent chapter (chapter 9) offers a presentation of the summary of the study phases, the study conclusion as well as the limitations and recommendations pertaining to the current study.

CHAPTER 9

STUDY SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

9.1 INTRODUCTION

The main aim of this study was to design a model to enhance entrepreneurial skills in women with ABI. The empowerment theory at the individual level of analysis and practice guidelines of the Model of Occupational Self-Efficacy (MOOSE) served as a framework to conceptualise the Entrepreneurial Skills Empowerment Model (ESEM). The study utilised a multi-phase procedure, thus the methodological framework comprised three distinct phases that served as a guide for the current study's data collection process. This chapter provides a summary of the different phases outlined in the preceding chapters, followed by a graphical description of the developed entrepreneurial skills empowerment model. Finally, concluding remarks, the study recommendations and limitations are presented.

9.2 SUMMARY OF THE STUDY PHASES

Phase 1 of the study served to identify and gain insight into the problem by means of a baseline assessment on the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work, in conjunction with an exploration of the barriers and facilitators to entrepreneurial skills development for women with ABI. Phase 2 comprised a scoping review to identify theory-based methods and strategies of the current literature. Phase 3 employed a Delphi study that enabled the development of the entrepreneurial skills development model through opinions and consensus from a panel of experts that are skilled in acquired brain injury rehabilitation and vocational rehabilitation. The three phases are graphically presented in Figure 9.1.



Figure 9.1: Phases of the study

9.2.1 Phase 1: Identification of the problem

During phase one the researcher sought to gain insight into the problem by (1) determining the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work (2) exploration of the barriers to entrepreneurial skills development for women with ABI, (3) exploration of the facilitators to entrepreneurial skills development of women with ABI. In order to meet the first, second and third objectives of the current study, both quantitative and qualitative methods were planned and executed in parallel in two convergent stages.

9.2.1.1 Stage 1: Quantitative baseline data

The objective of this stage was to determine the impact of impairment-related restrictions, socio-demographic and environmental factors on women with ABI's ability to return to work post injury. According to the findings of this study, among the women with ABI who participated in this stage, yielded a RTW rate of 61.2%. This rate of employment is almost identical to the general labour force participation of females (62.7%) as reported in the City of Cape Town's Socio Economic Profile of 2017. With an expected decrease in the formal employment sector (Stats SA, Quarterly labour force survey, quarter 2, 2019), it could be inferred that for women in general, formal employment participation in the Cape Metropolitan has not shown much growth over the past four years.

The majority of this study's participants (86,4%), experienced limitation in performing certain daily tasks and activities as a result of residual cognitive, physical, perceptual, and emotional difficulties. While 75% of participants received medical or therapeutic intervention more than half (57.1%) did not receive any form of vocational rehabilitation. Women with ABI and disabilities may also well be at greater risk of unemployment as a result of the expected downward trend in job availability in the formal employment sector. In addition, post injury activity limitations places women with ABI at a greater disadvantaged position as they would most likely not be the applicants of choice when competing for a job with other, probably younger, able-bodied applicants in the formal labour market.

Results from the regression analysis revealed that women with ABI that are older (40-50 years) were found to have a higher likelihood of not returning to work post injury. Therefore, it would be important for the entrepreneurial skills development model to adopt an intervention approach that recognises the needs and addresses factors related to the age and stage, as well as patterns across activity and occupational participation of women with ABI. In addition, the regression analysis showed patterns across level of education and association with RTW, thus in terms of entrepreneurship education, the intervention should be inclusive to individuals with different levels of education while entrepreneurship theory and skills transfer should be individually tailored during the rehabilitation process. Results revealed the support from family and friends post injury failed to predict RTW, in retrospect participants in this study who received support from managers or supervisors in their workplaces were about five times more likely to RTW. Ownsworth (2010) advocated approaches that jointly target metacognitive and contextual factors including creating supportive and enabling environments both within the home and work context. Therefore, involving family, friends and significant others would strengthen the natural support systems and would be essential in facilitating women with ABI's competency to participate in a self-employment worker role. Moreover, the type of vocational rehabilitation received failed to predict RTW. It is important to identify the gaps in vocational rehabilitation approaches related to the return to gainful employment of women with ABI. In addition, advocacy and collaboration with relevant stakeholders on cohesive and inter-sectoral cooperation would further promote a multi-dimensional approach to improve the economic sustainability of women with ABI.

9.2.1.2 Stage 2: Qualitative findings

An exploratory and descriptive methodological approach was employed to gain insight and understanding as to the experiences of women with ABI during their rehabilitation process, their resumption to work, and entrepreneurial skills development. In order to meet the second and third study objective, the researcher sought to uncover how and why women with ABI's health problems impact on their daily function, their post-injury behaviour, participation restrictions as well the influence of environmental factors on their occupational performance and participation. From the findings of this stage, three themes emerged. An interrelated concept map was produced and suggests that a lack of engagement and exchange between the patient and the rehabilitation professionals (communication oversights during rehabilitation), hinders a client-centred approach and deters optimal vocational integration and future employment prospects (difficulty coping returning to work). The second theme represents the impact of ABI sequelae on functional ability and occupational engagement which subsequently inflicts financial hardship due to prolonged unemployment. The social environment enhances activity participation as well as enhances the entrepreneurial engagement of women with ABI. The third theme signifies that entrepreneurial skills development is a viable and needed strategy to facilitate vocational integration for women with ABI. The following sections provides a brief overview of the perceptions and experiences of the barriers and facilitators to entrepreneurial skills development of women with ABI.

Barriers within the rehabilitation process

Research places emphasis on the importance of employing a patient participation strategy to facilitate a client-centred approach and patient empowerment during the rehabilitation process of individuals with disabilities (Ruzenski, 2019; Castro et al., 2016; Wade, 2015). The findings of the theme revealed that the participants of the current study perceived their rehabilitation process as a barrier to their vocational outcome. This is highlighted in the first category, “communication oversights during rehabilitation” when participants did not experience an open and approachable relationship with the health and rehabilitation professionals, and were not provided with sufficient opportunities to be actively involved during their RTW planning. In fact, in the absence of a patient-centred approach to vocational goal planning and shared decision making as depicted under category one, patient disempowerment occurred (Melin, 2018; Van Hal et al., 2012). Subsequently, in the second category “difficulty coping during return to work”, arose when the study participants experienced difficulties meeting work demands, and experienced premature job loss as a result of impairment related restrictions and

unaccommodating work environments. Within the vocational rehabilitation context entrepreneurial skills development is viewed as a facilitator to work and an enabler to create self-employment opportunities if a job in the formal labour market is unattainable (Goyri et al., 2019; Soeker et al., 2014). However, as found in the current study, entrepreneurial skills development remains an underutilised strategy to vocational integration and financial sustainability for women with ABI.

ABI causes loss of a sense of self and financial strain

The current literature reports that persons with a brain injury can experience both short-term and long-term cognitive, emotional, physical and behavioural changes that can make community reintegration and resumption to work more challenging regardless of injury severity (Grigorovich et al., 2017; Soeker et al., 2014; Saltychev et al., 2013). This theme highlights the participants' awareness of not being the same person as before their brain injury, as revealed in the category, "diminished trust in the self". The participants in this study experienced decreased motivation and poor self-efficacy that emanated from an array of cognitive, psychological and functional limitations post injury. The participants reported experiencing problems with their memory, emotional irregularity as well as difficulty focusing on occupational tasks and activities post injury. This in turn led to difficulty relating to their previous worker identities and to actively pursue vocational goals. Subsequently, the second category "the burdensome time gap between ABI and RTW", presented the impact and effects of prolonged unemployment on the participants' livelihood needs bringing about a debilitating sense of life satisfaction and well-being. For the participants in the current study, entrepreneurship could be a viable strategy to gain self-sufficiency by taking advantage of identified self-employment opportunities to increase income and enhance their quality of life post injury (Halabisky, 2014). Furthermore, the category "welcomed support from family and the community", depicts that the social support network enhances the motivation to gain functional independence and to pursue vocational goals. Apart from receiving support with fulfilling roles and activities that included self-care and home management tasks, the family and community members serves as a source of motivation to the study participants who engage in entrepreneurial activities post-ABI. During this category it became evident that family and community support played a significant role in the lives of women with ABI including their self-employment start-up efforts (Renko, Parker Harris, and Caldwell, 2016). Thus, as part of the approach to enhance the entrepreneurial skills of women with ABI, the family and

significant others should be included during the intervention process to facilitate and enhance a strong social support network and an enabling environment (Soeker et al., 2014).

Entrepreneurship and education a strategy to empowerment

This theme revealed that self-employment would be an empowering occupation to enhance financial sustenance and facilitate well-being for women with ABI. The category “a need for information and mentorship”, represents the current study participants’ need for entrepreneurial education and skills that would aid in resuming their worker roles and take charge of their own welfare. This coincides with the notion of Beyt-Saeed and Parandeh (2013), that self-empowerment is to increase self-control over life to promote health. There are varied opinions among researchers on the best approach on entrepreneurial education and skills development, which include strategies such as educational programmes, entrepreneurial practical skills training programmes, simulated and actual daily trade projects (Hamburg & David, 2017; O’Brien & Delaney, 2017; Hamburg & Buksch, 2015; Coleman & Robb, 2012). However, Vanevenhoven (2013), emphasised that entrepreneurship education with persons with disabilities needs to employ the best possible form of individual tailoring. Apart from needing entrepreneurial skills, participants of this study regarded a lack of finance as an obstacle in pursuing entrepreneurial goals. The category “it is difficult to start entrepreneurial ventures without funds”, corresponds with various empirical studies that found that a lack of finance is one of the biggest barriers to self-employment for people with disabilities (Maziriri & Madinga, 2016; Torun, 2016; Renko et al., 2016; Maritz & Laferriere, 2016; Chinomona & Maziriri, 2015). Therefore, as part of a model to enhance entrepreneurial skills in women with ABI, a holistic client-centred rehabilitative approach should be adopted to facilitate enhanced occupational performance by addressing barriers stemming from the person, environment as well as designated economic legislative and policy development.

Lastly, the first phase of this study played a vital part in revealing essential insights to be deliberated as part of the entrepreneurial skills model.

9.2.2 Phase 2: Methods and strategies

In this phase the researcher employed a scoping review methodology to explore the literature on vocational rehabilitation approaches, strategies as well as models and programmes that are distinctive to return to work and entrepreneurial skills development for women with ABI. From the scoping review, a moderately low number of female compared to male study participants

were noted in the reviewed studies' sample population, demonstrating a typical small representation of women in the literature on RTW interventions and management of ABI. The scoping review additionally revealed a dearth of entrepreneurship and self-employment vocational interventions for individuals with ABI. Findings of the meta-analysis uncovered three fundamental elements on the management and vocational integration of individuals with ABI: 1) intervention components that interacts with the person, skills development and occupational competence, 2) work-directed intervention components and supports, and 3) trajectory of disability management and practices directed at acquired brain injury RTW interventions. Intervention components that interrelate with the person, skills development and occupational competence include the holistic assessment of functional and work abilities, behaviour management, strengthening social support networks, cognitive rehabilitation, vocational counselling, work skills and work preparation training. While the work-directed intervention components and supports include liaising with potential employers and stakeholders, assessment of the work environment, job analysis and job matching, employing supported employment principles, educating employers and staff on the brain injured worker's functional and work abilities, ongoing interaction with employers and relevant stakeholders. The trajectory of disability management and practices directed at acquired brain injury RTW interventions are guided by strategies that include adopting a holistic individually tailored intervention approach, employing a multi/interdisciplinary team approach, and adopting integrated and eclectic intervention approaches.

These elements on the management and vocational integration of individuals with ABI are interventions of significant empirical value and contribution to the design and development of an effective entrepreneurial skills development model for women with ABI.

9.2.3 Phase 3: Model development

A modified e-Delphi study was conducted, utilising a three round Delphi survey that offered an anonymised and controlled method to obtain expert input on the design and development of an occupational therapy practice model that could enhance the entrepreneurial skills of women with ABI. During the first Delphi round, experts provided their opinions on three open-ended questions regarding the interventions needed to facilitate reintegration to work and entrepreneurial skills development of women with ABI. The responses obtained from experts during the first round were triangulated and synthesised with the findings from the previous

two phases of the study to draft the initial Entrepreneurial Skills Empowerment Model (ESEM). This coincides with Guest (2013), on the notion of the point of integration in mixed method research, defining it as any point in a study where two or more research components are mixed or linked together in some way and determined as the process of “instrument development”. The drafted ESEM was presented to the panel of experts in the second Delphi round to ascertain the feasibility of the model. The third and final Delphi round required agreement on survey items that did not achieve a 70% and above consensus in the previous round. For response options to be eligible for inclusion in the developed ESEM it must have achieved a consensus of 70%, in both the second and third Delphi rounds. Consequently, the results of this phase demonstrated that the drafted ESEM was satisfactory with the recommendations and agreement on its intervention contents and the overall structure of intervention stages.

9.3 THE DEVELOPED ENTREPRENEURIAL SKILLS EMPOWERMENT MODEL

The ESEM comprises four inter-linked spheres which shows that the model is dynamic and intervention stages are not linear. Stage one will commence when the client presents with a cognitive status level VIII on the Ranchos Los Amigos Scale and is independent in performing basic activities of daily living tasks (self-care) as well as most aspects of instrumental activities of basic living. Intervention will be delivered at an out-patient rehabilitation unit and will encompass gaining a holistic understanding of the client’s functional difficulties and employment implications. The process of reflection will be facilitated enabling the client to overcome the negative perceptions of functional abilities, enhance self-acceptance, self-efficacy and motivation. Once the client experiences a stronger sense of self-efficacy, stage two will commence that will focus on facilitating the process of building trust in functional ability through participation in functional and meaningful activities. The individual client will then be able to actively start engaging in vocational goal planning. Interventions during this stage onward will be deliverable within a rehabilitation unit, the clients’ homes, or community facilities. Once the client starts to display greater determination to engage in vocational pursuits she will be ready to move onto stage three. During stage three, becoming competent through doing, will be achieved by facilitating the establishment of occupational competence through active occupational engagement in entrepreneurial activities. During the final stage four of the model, the client is envisioned as an empowered being, having the competency to participate

in an entrepreneurial worker role. A graphical description of the ESEM is presented in Figure 9.2.

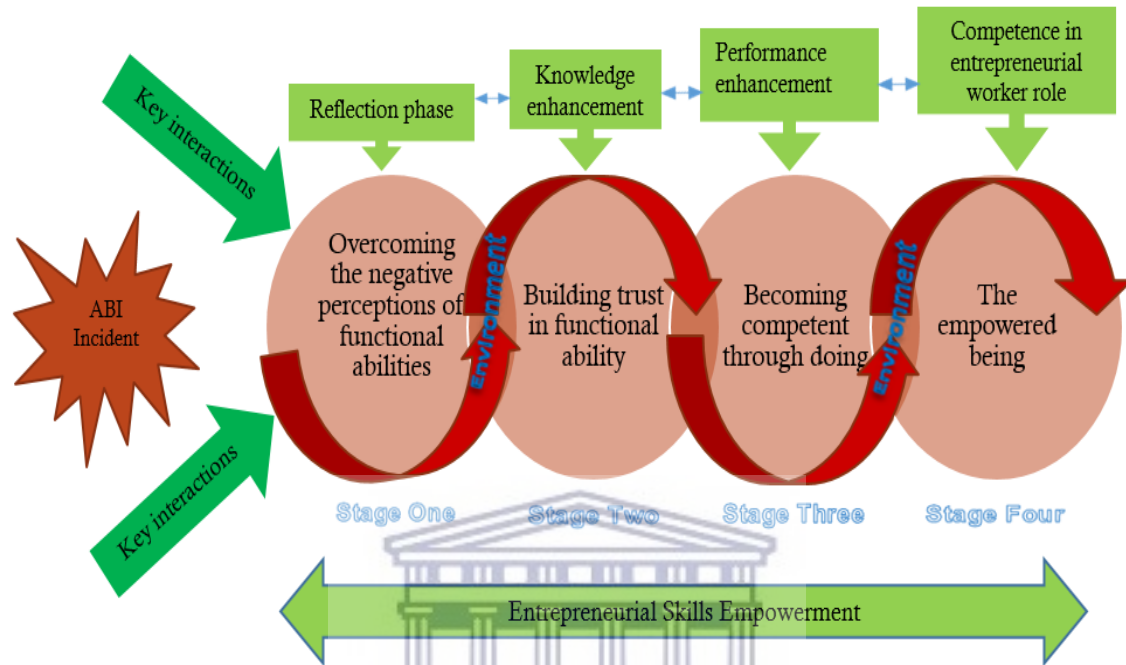


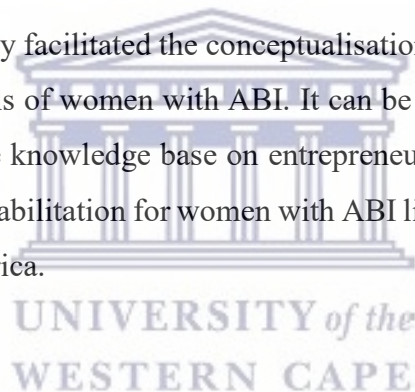
Figure 9.2: The Entrepreneurial Skills Empowerment Model (ESEM): An occupational therapy practice model to facilitate and enhance entrepreneurial skills of women with acquired brain injury

Within each sphere the objectives to entrepreneurial skills empowerment are facilitated by utilising key intervention components and strategies that are depicted in the down arrow call-outs above each sphere. A holistic client-centred approach will be adopted to interventions that are individually tailored. The occupational therapist will take on the role as case manager who could be part of a transdisciplinary team during the intervention processes. The connection between each intervention stage allows the client to revert back and forth, and to draw from skills, coping strategies and behaviours learnt from previous stages. This will allow the client to successfully move through each stage as their level of self and entrepreneurial efficacy is enhanced. The flow arrows surrounding each sphere represents the environment and the influence on the client’s occupational engagement throughout the model. From the perspective of the current study the environment could include friends, family and community members, health settings, educational settings, external organisations and entrepreneurial contexts. The environment could also pose various hindrances and opportunities towards occupational

participation throughout the stages of the model. Therefore, an iterative process would allow the client to move back and forth through the system, for example, reverting from stage three to stage two based on her response to the intervention and skills development. During the course of entrepreneurial skills development and empowerment, the client will encounter key interactions that will function as activation stimuli that activate the process of occupational engagement, participation and empowerment. These interactions include the occupational therapist who will facilitate the initial stage and subsequent stages of the model. Other key interactions among others may comprise family and friends, health professionals, brain injury or community support groups, business mentors, entrepreneurial skills educators and relevant stakeholders. The key interactions are envisioned to occur throughout the stages of the ESEM.

9.4 CONCLUSION

The findings of the current study facilitated the conceptualisation and development of a model to enhance entrepreneurial skills of women with ABI. It can be reasoned that the study offers valuable insight concerning the knowledge base on entrepreneurship and self-employment as a strategy during vocational rehabilitation for women with ABI living in the Cape Metropolitan in the Western Cape, South Africa.



The following conclusions were drawn from this study:

- The RTW rate among women with ABI is 61.2%. While 86.4% experienced limitation in performing certain daily tasks and activities as a result of residual cognitive, physical, perceptual, and emotional difficulties, more than half (57.1%) did not receive any form of vocational rehabilitation.
- Women with ABI who are older (40-50 years) are at greater risk of not securing formal employment, since an increase in age decreases successful RTW. Strengthening the social support network is shown to be an important element to enhance occupational engagements.
- There are shortfalls in vocational rehabilitation approaches related to the return to gainful employment of women with ABI within the context of the current study. This could be a result of resource limitations and/or irregular integration of services among

the relevant governmental and private sectors that addresses the economic sustainability and empowerment of women with ABI.

- Women with ABI perceive the initial rehabilitation process as a negative influence on their vocational integration process and employment outcomes. This was due to communication difficulties with health and rehabilitation professionals as well as limited active involvement during their rehabilitation and RTW process.
- The experience of women living with ABI, shows difficulty coping with functional limitations, loss of self-efficacy and well-being, as well as enduring financial hardship post injury. A strong social support network facilitates motivation and drive to regain functional independence and aids occupational engagement.
- Entrepreneurship is a needed strategy to enhance occupational participation and economic empowerment; hence, women with ABI will benefit from individually tailored entrepreneurship education and skills development as well as financial resources that would enhance competence and efficacy to participate in an entrepreneurial worker role.
- The management and vocational integration of individuals with ABI include three fundamental constituents: 1) intervention components that interact with the person, skills development and occupational competence; 2) work-directed intervention components and supports; and 3) trajectory of disability management and practices directed at acquired brain injury RTW interventions.
- A small representation of women in the literature on RTW and vocational interventions and management of ABI has been observed. Furthermore, a paucity on clinical research on brain injury that examines the construct of sex and gender and its connection with the health and work reintegration of women, was noted.
- There is a dearth of literature on entrepreneurial skills development and entrepreneurship interventions for individuals with ABI within current vocational rehabilitation practices and discourses.
- Grounded on the ESEM's process of empowerment, a successful vocational outcome for women with ABI can be achieved that will facilitate occupational participation in a way that is unique to their health, person-related and environmental situations.

- The dynamic and interrelated four stages of the ESEM include Stage one (overcoming the negative perceptions of functional abilities); Stage two (building trust in functional ability); Stage three (becoming competent through doing) and Stage four (the empowered being). The model allows the individual with ABI to fluctuate between stages based on their level of efficacy and occupational engagement.

The subsequent sub-sections discuss the recommendations and study limitations concerning the overall findings of this study.

9.5 RECOMMENDATIONS

Pertaining to the findings of the current study suggestions for practice came to light. Therefore, the following recommendations will be made for occupational therapy practice, occupational therapy research, health professionals, National Department of Health, Department of Women, Youth and Persons with Disabilities, Sector Education and Training Authorities (SETAs) and institutions in the Department of Labour.

9.5.1 Occupational therapy practice

- The input of occupational therapy within the whole rehabilitation programme is to advocate that for diverse groups of patients, the importance of vocational integration is increasing both for personal and societal reasons, placing emphasis on the patient's intrinsic sense of productivity rather than just open labour market employment.
- Occupational therapists need to adapt vocational rehabilitation services to the demographic and socio-economic context in which they work, especially with regard to the labour participation challenges for women with ABI and those with disabilities within South Africa. Thus, innovative occupational therapy practices such as entrepreneurial skills development is encouraged.
- Occupational therapists who engage in the facilitation of entrepreneurship/self-employment should deliver evidence-based services to ensure quality of the input occupational therapy offers within the whole rehabilitation programme. The evidence supporting the effectiveness of occupational therapy interventions in terms of entrepreneurial skills development would be particularly useful, as it can be used to

develop specific programmes targeting self-employment for women with ABI and individuals with disabilities.

- Occupational therapists in the vocational rehabilitation field should adopt a system of long-term follow-up and support, through the development of a continuation of care protocol among the different levels of health service institutions, labour and social development institutions as well as private sector organisations.
- A statement on scope of practice on the role of occupational therapy within the context of entrepreneurship/self-employment would facilitate guidance to occupational therapists involved with individuals with disabilities who could benefit from venture creation, in fact it could increase the level of self-employment facilitation among occupational therapists within the vocational rehabilitation context.
- With regard to the occupational therapy education and training spectrum, more emphasis should be placed on entrepreneurship/self-employment as a vocational option for individuals with disabilities, and this needs to be fostered among undergraduates and postgraduates for more research in the field.

9.5.2 Occupational therapy research

- The Entrepreneurial Skills Empowerment model should be evaluated by implementing it in practice in both public and private health and rehabilitation institutions. Record keeping and recommendations on the success rate or shortfalls encountered whilst utilising the ESEM could be useful to improve the model.
- The exploration of the experiences of women with ABI who have received vocational rehabilitation using the ESEM should be undertaken utilising a qualitative research approach.
- Occupational therapists should investigate and report on the factors influencing the availability and access of identified intervention services that women with ABI may require when utilising the ESEM, especially with regard to essential stakeholder involvement during intervention implementation. Gaining empirical insight on potential barriers and facilitators in this regard could aid in enhancing the efficacy of the model.

9.5.3 Health professionals

- Women with ABI would benefit from being educated about their diagnosis and the possible functional consequences post injury in preparation on what changes they might experience. Thus, transparent and open communication between women with ABI, the family members and the healthcare professionals can be beneficial during the rehabilitation process.
- Healthcare professionals should strengthen the implementation of patient-centred practice by employing effective communication strategies, drawing from insights on gender sensitivity, and embracing the diversity of women and their roles in order to stimulate greater insight and understanding of female patients.

9.5.4 National Department of Health

- In the current study findings revealed women with ABI encountered financial instability post injury that influences their attendance to rehabilitation services. The National Health Insurance (NHI) Bill of the South African government is designed to pool funds to provide access to quality and affordable personal health services for all citizens based on their health needs, regardless of their socio-economic status, and to ultimately achieve Universal Health Coverage (UHC). In line with the auspicious principles of the NHI, the health department should advocate to expedite the process of access and ease to health resources that would lead to the health and well-being of patients. A fund for the duration of prescribed rehabilitation post injury should be made available to individuals with ABI to enhance continuation of care services across the different levels of health.

9.5.5 Department of Women, Youth and Persons with Disabilities

- The Department of Women, Youth and Persons with Disabilities is situated in the most favourable position to advocate and facilitate the process of identifying service gaps especially among the Departments of Labour and Social Development. To seek measures to close those gaps to improve the economic empowerment of women and those with disabilities. Based on the current study's findings, for women with ABI and

disabilities it remains critical that there is continued raising of awareness of their differential situations in society and challenges faced in the labour market. Therefore, legislative policy and practice reform should amplify more robust support for access to finance and entrepreneurship opportunities for women with ABI and disabilities for them to participate meaningfully in all areas of the economy.

9.5.6 Sector Education and Training Authorities (SETAs) and Department of Labour

- The main role of the Sector Education and Training Authorities (SETAs) is to construct a framework in which all South Africans employed or unemployed can develop their existing skills, learn new skills, acquire qualifications, and contribute to the country's economy. There are currently 21 SETAs, each with the responsibility of assessing and accrediting training providers in every sector of the South African industry. However, there are limited SETA programmes designed for entrepreneurship and start-up ventures for individuals with disabilities. Entrepreneurship and self-employment is recognised as a strategy to economic participation in South Africa and is recognised under the Skills Development Act, 1998. It is therefore recommended that the Department of Labour facilitate and assist SETAs with the development of more programmes and learnerships designed to enhance entrepreneurial skills for individuals with disabilities.

9.6 STUDY LIMITATIONS

The limitations of the current study are discussed in relation to each of its phases as well as the overall limitation of the study as a whole.

9.6.1 Limitations pertaining to the study phases

- During the quantitative stage of this study, the researcher aspired to complete the majority of the cross-sectional surveys when participants attended the work assessment units and out-patient clinics at the Tygerberg and Groote Schuur hospitals. However, due to the low number of female attendance on the specified out-patient clinic dates, telephonic interviews were additionally conducted in order to remain within the data collection time frame as agreed with the heads and managers of the designated health

institutions. Telephonic interviews were costly and limited the response time, which could have had an effect on the qualitative response options from the survey respondents.

- With regards to the participants who participated in the qualitative stage of the study, no other race other than Coloured and White females took part in the semi-structured interviews. Data obtained from women with ABI from different race or cultures might have been richer in content if there were more equal representation in this regard.
- With regard the scoping review one of the limitations was the inclusion of studies with a population sample that included both males and females since finding and separating interventions that was strictly for females with ABI was impracticable. In addition, there was limited research evidence on self-employment and entrepreneurial development interventions in the vocational rehabilitation literature. The studies of the current review mainly contained intervention components focusing on open labour market employment and volunteering as RTW outcomes. With the lack of empirical entrepreneurial skills development evidence from this scoping review, the richness of the meta-analysis and contents might have been impacted on. Another limitation from the scoping review is that only studies that were found in specific databases were included, whereas articles that required payment were excluded. Therefore, the results cannot be generalised to other databases. Lastly the review was limited to a 11-year time frame.
- During the Delphi survey, the data collection occurred during the global Covid-19 lockdown restrictions that took place within the respective countries where the participating experts were situated. Response time from among the initial 13 experts were prolonged between the three Delphi rounds, consequently three experts were lost after the first round as well as two experts who could not be reached after the second Delphi round. However, consensus was achieved on items in all the Delphi rounds.

9.6.2 Limitations pertaining to the overall study

- Regarding the current study's literature review a dearth of prior research on the area of entrepreneurship for women with ABI within a vocational rehabilitation context imposed limitations on identifying study findings that have been done so far in the

research area. Hence, the findings of this current study serves as a contribution to the knowledge of the existing vocational rehabilitation literature.

- Regarding the nature of the study, the current findings cannot be generalised to the larger population of individuals with ABI, due to the sample inclusion of only females. However, cognisance should be taken of the fact that the main aim of the study to was not to generalise but develop a thorough understanding of the topic of inquiry.
- An additional limitation of this study includes the lack of practical implementation of the model. Since the model was developed theoretically the subsequent step in this research project would be to gain pragmatic data through practical implementation in order to evaluate and substantiate the efficacy of the ESEM.



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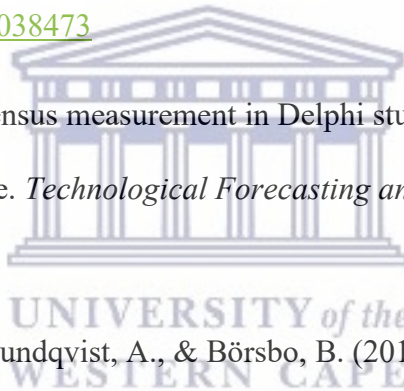
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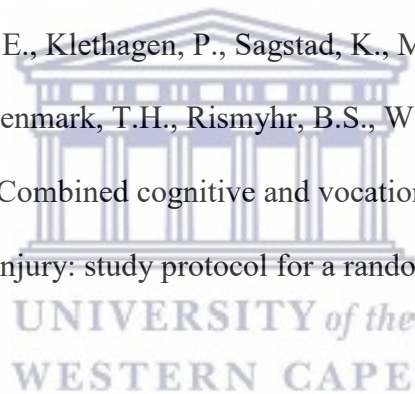
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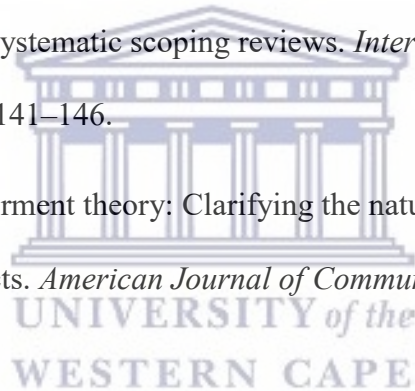
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APPENDICES

APPENDIX 3.1: ETHICS CERTIFICATE FROM HIGHER DEGREES COMMITTEE OF THE UNIVERSITY OF THE WESTERN CAPE, SOUTH AFRICA



OFFICE OF THE DIRECTOR: RESEARCH
RESEARCH AND INNOVATION DIVISION

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18 October 2017

Ms Z Daries
Occupation Therapy
Faculty of Community and Health Sciences

Ethics Reference Number: BM17/8/7

Project Title: The development of a model to enhance the entrepreneurial skills of women with acquired brain injury.

Approval Period: 29 September 2017 to 29 September 2018

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

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

Please remember to submit a progress report in good time for annual renewal.


The permission letter from facilities/health authority must be submitted for record keeping.

The Committee must be informed of any serious adverse event and/or termination of the study.


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

PROVISIONAL REC NUMBER -130416-050

APPENDIX 3.2: REGISTRATION ON NATIONAL HEALTH RESEARCH DATABASE



The National Health Research Database

Log off My Account (nazeemdar@gmail.com) (/Manage) Help & Support (/Home/Help)

Home (/) Submit New Proposal (/Proposal/Create) Manage Proposals (/Proposal) Manage Researchers (/Researcher)


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MY RESEARCH PROPOSALS

[Conclude Proposal \(/Proposal/NewStudyFeedback\)](#)
 [Submit New Proposal \(/Proposal/Create\)](#)

You will find a list of research submissions that have been supplied and/or submitted by you.

Ref. No.	PHRC	Submitted?	Status of Application	Title of Study of Project	Status of Project	Est. Completion Date	View Docs.	Comments	Amend
WC_201711_021 (/PROPOSAL/DETAILS/28926)	WC	Yes	Approved	The development of a model to enhance the entrepreneurial skills of women with acquired brain injury	On-Going	2021/01/01	(/Proposal/ShowDocuments?refNo=WC_201711_021)	(/Proposal/ShowComments?refNo=WC_201711_021)	Amend (/Proposal/Amend)





<http://www.doh.gov.za/>

APPENDIX 3.3: ETHICS CERTIFICATE FROM GROOTE SCHUUR HOSPITAL



GROOTE SCHUUR HOSPITAL

Enquiries: Dr Bernadette Eick
E-mail : Bernadette.Eick@westerncape.gov.za

Ms. Z. Daries
Occupation Therapy – University of the Western Cape

E-mail: nazeemdar@gmail.com

Dear Ms. Daries

RESEARCH PROJECT: The Development Of A Model To Enhance The Entrepreneurial Skills of Women With Acquired Brain Injury

Your recent letter to the hospital refers.

You are granted permission to proceed with your research, which is valid until 29 September 2018.

Please note the following:

- a) Your research may not interfere with normal patient care.
- b) Hospital staff may not be asked to assist with the research.
- c) No additional costs to the hospital should be incurred i.e. Lab/ consumables or stationary.
- d) No patient folders may be removed from the premises or be inaccessible.
- e) Please provide the research assistant/field worker with a copy of this letter as verification of approval.
- f) Confidentiality must be maintained at all times.
- g) Should you at any time require photographs of your subjects, please obtain the necessary indemnity forms from our Public Relations Office (E45 OMB or ext. 2187/2188).
- h) Should you require additional research time beyond the stipulated expiry date, please apply for an extension.
- i) Please discuss the study with the HOD before commencing.
- j) Please introduce yourself to the person in charge of an area before commencing.
- k) On completion of your research, please forward any recommendations/findings that can be beneficial to use to take further action that may inform redevelopment of future policy / review guidelines.
- l) Kindly submit a copy of the publication or report to this office on completion of the research.

I would like to wish you every success with the project.

Yours sincerely

**DR BERNADETTE EICK
CHIEF OPERATIONAL OFFICER**

Date: 2 May 2018

C.C. Mr L. Naidoo
Mrs. R. Pillay

APPENDIX 3.4: ETHICS CERTIFICATE FROM TYGERBERG HOSPITAL



TYGERBERG HOSPITAL
REFERENCE:
Research Projects
ENQUIRIES: Dr GG
Marinus
TELEPHONE:021 938 5752

Ethics Reference: **BM17/8/7**

TITLE: The development of a model to enhance the entrepreneurial skills of women with acquired brain injury.

Dear Ms Z Darries

PERMISSION TO CONDUCT YOUR RESEARCH AT TYGERBERG HOSPITAL

1. In accordance with the Provincial Research Policy and Tygerberg Hospital Notice No 40/2009, permission is hereby granted for you to conduct the above-mentioned research here at Tygerberg Hospital.
2. Researchers, in accessing Provincial health facilities, are expressing consent to provide the Department with an electronic copy of the final feedback within six months of completion of research. This can be submitted to the Provincial Research Co-Ordinator (Health.Research@westerncape.gov.za).


DR GG MARINUS
MANAGER: MEDICAL SERVICES


DR D ERASMUS
CHIEF EXECUTIVE OFFICER

Date: 10 May 2010

Administration Building, Francie van Zijl Avenue, Parow, 7500
tel: +27 21 938-6267 fax: +27 21 938-4890

Private Bag X3, Tygerberg, 7506
www.capegateway.gov.za

APPENDIX 4.1 A: WORK REHABILITATION QUESTIONNAIRE (PART 1)

-1-

◆ WORQ

Date Day Month Year **Full Name**
ID Number (if applicable)

*The Work Rehabilitation Questionnaire (WORQ) is a questionnaire that has been developed to better understand the extent of problems in functioning that people may have due to their health condition(s) and who are undergoing work or vocational rehabilitation. Part 1 of WORQ will ask for sociodemographics and background information. Part 2 will ask you a series of questions concerning your functioning. When answering part 2, think about your **past week**, considering both your good and bad days and the extent of your problem on average in the past week.*

1. **Age (in years)** years 2. **Sex** female male
3. **Civil status** never married married separated divorced widowed cohabiting/living with somebody
4. **Which best describes your current work status, or if currently not working your last work status?**
 Employed Self-employed Non-paid work such as volunteer
 Student or in training Homemaker Retired Not applicable
5. **Which of the following describes your current work status best?**
a. If currently working, are you? Full time Part time On modified or light duty
Or, if currently not working, are you? Not working due to health reason
 Not working due to participation in vocational rehabilitation
 Not working due to other reasons: Please specify
- b) If currently not working, since when have you been off from work?
Day Month Year
6. **When thinking about your work or vocational rehabilitation program: Are you currently:** (Check all that apply)
 Engaging in vocational training activities such as in acquiring knowledge and skills for a job, including school training
 Engaging in programs related to preparation for employment such as apprenticeship or internship
 Engaging in activities to secure or maintain your current job
 Looking for a (new) job or work
7. **What is the highest level of education that you have completed?**
 No formal schooling Less than primary school Primary school Secondary school
 College / university Post-graduate degree
8. **What is your current job or profession or if currently not working, what is the last job or profession you worked in (job title)?**

WORQ was developed by the Swiss Paraplegic Research / ICF Research Branch, Nottwil Switzerland. WORQ was funded by the Swiss Accident Insurance (SUVA) and the Swiss Paraplegic Research. No part of WORQ can be used without written permission.

9. **What kind of business, industry or service is (or was) your job in?**
(e.g., cardboard box manufacturing, road maintenance, retail shoe store, secondary school, dairy farm, municipal government)
10. **What kind of work are (or were) you doing?**
(e.g., driving trucks, operating machines, writing letters, answering telephone calls)
11. **If a change of job is planned, what future job are you aiming for?** *Not applicable*
12. **Are you in medical or therapeutic treatment?** Yes No *Not applicable*
(e.g. with physician, therapists, etc.)
If yes, please specify:
13. **Do you have current restrictions?** Yes No *Not applicable*
(e.g. lifting limited to 5kg, limited weight bearing on your leg or arm)
If yes, please specify:
14. **What kind of work or vocational intervention are you receiving now? (list all you know)**
(e.g. physical training, cognitive training, case management, vocational training, work place adaptation, work evaluation etc.)
Interventions:
15. **In your current situation, do you get the support you need from your family?** Yes No *Not applicable*
If yes, please specify what kind of support you get:
16. **If still employed, do you get the support you need from your supervisor or boss?** Yes No *Not employed*
If yes, please specify what kind of support you get:
17. **Outside of your current work or vocational rehabilitation program, do you get the support you need from government or private employment agencies to find suitable work, or looking for different work?** Yes No *Not applicable*
If yes, please specify what kind of support you get:

WORQ was developed by the Swiss Paraplegic Research / ICF Research Branch, Nottwil Switzerland. WORQ was funded by the Swiss Accident Insurance (SUVA) and the Swiss Paraplegic Research. No part of WORQ can be used without written permission.

APPENDIX 4.1 B: WORK REHABILITATION QUESTIONNAIRE (PART 1)
AFRIKAANS VERSION

Datum _____ Naam/Van (opsioneel) _____

Die Werk Rehabilitasie Vraelys (WORQ) word gebruik om beter insig te verkry tenmate van die probleme in die funksionering wat mense kan hê as gevolg van hulle gesondheidstoestand (e) en diegene wat werks rehabilitasie ondergaan.

Deel 1:

1. Ouderdom (in jare)

Jaar

2. Seks

Vroulik Manlik

3. Siviele status

Nooit getroud Getroud Geskei Weduwee

Leef saam



4. Wat beskryf jou huidige werkstatus die beste, of jou laaste beroep?

Werk Selfstandig Nie-betaalde werk bv. Vrywilliger Student of in opleiding Huisvrou Afgetree Nie van toepassing

5. Watter van die volgende opsies beskryf jou huidige werkstatus die beste?

a) As u huidiglik werk, is u? Voltyds Deeltyds Aangepas of ligte diens

Of as u huidiglik nie werk, is dit om rede?

Nie werkend as gevolg van gesondheids redes

Nie werkend as gevolg van deurlopende beroeprehabilitasie

Nie werkend as gevolg van ander redes: kan u meer verduidelik?

b) Indien jy huidiglik nie werk. Hoe lank is u al afwesig van werk?

Dag Maand Jaar

6. As u dink oor u werk of beroeprehabilitasie program: is u tans: (kies wat van toepassing is)

- Deelname aan beroepopleiding aktiwiteite soos in die verkryging van kennis en vaardighede vir 'n werk, insluitend skool opleiding
- Betrokke by programme wat verband hou met voorbereiding vir indiensneming soos vakleerlingskap of internskap
- Aktiwiteite om jou huidige werk te behou
- Op soek na 'n (nuwe) werk / of alternatiewe werk

7. Wat is die hoogste skool vlak wat u voltooi het?

- Geen skool
- Minder as primêre skool
- Primêre skool
- Sekondêre skool
- Kollege/Universiteit
- Nagraadse studies



8. Wat is u huidige werk posisie? Of as us nie werk nie, wat was u laaste werk posisie? (werk titel)

9. Watter soort besigheid industrie of diens was u in aangestel?

(byvoorbeeld: karton boks vervaardiging, pad werke, kleinhandel, skoene winkel, plaas werker, munisipale werk)

10. Wat soort werk het u laas gedoen of huidiglik)?

(byvoorbeeld: bestuur vragmotors, hanteer masjiene, skryf briewe, beantwoord telefoon oproepe)

11. As u verandering van werk beplan, wat soort werk sou u in die toekoms wou doen?

N/A

12. Ontvang u huidig enige mediese of terapeutiese behandeling?

(byvoorbeeld: by a dokter of terapeut)

- Ja
- Nee
- Nie van toepassing (N/A)

Indien 'Ja', kan u meer verduidelik:

13. Ervaar u enige huidige beperkings?

(byvoorbeeld: Kan nie meer as 5kg optel, kan nie gewig dra deur die been of u arm)

- Ja
- Nee
- Nie van toepassing (N/A)

Indien 'Ja', kan u meer verduidelik:



14. Watter soort werk rehabilitasie ontvang u huidiglik? (verduidelik so veel as wat u kan)

(byvoorbeeld: Fisiese opleiding, kognitiewe opleiding, geval bestuur, beroeps opleiding, werks plek aanpassing, werk evaluasie)

15. In jou huidige situasie, kry jy die ondersteuning wat jy nodig het van u familie?

- Ja
- Nee
- Nie van toepassing (N/A)

Indien 'Ja', kan u meer verduidelik:

16. Indien u huidiglik werk, ontvang u die ondersteuning wat u nodig het van u werkgever of bestuurder?

- Ja**
- Nee**
- Nie werkend**

Indien 'Ja', kan u meer verduidelik:

17. Buite jou huidige werk of beroep rehabilitasie program; ontvang u enige ondersteuning van die regering of private indiensneming agentskappe om geskikte werk te vind, of op soek na verskillende werk?

- Ja
- Nee
- Nie van toepassing (N/A)

Indien 'Ja', kan u meer verduidelik:

-End-dankie vir u deelname!



APPENDIX 4.2: DESCRIPTION AND OPERATIONALISATION OF VARIABLES IN SPSS

DEPENDENT VARIABLE

The dependent variable in this study is return to work (RTW) status, which refers to the resumption of work (of the women with ABI) in the competitive labour market which includes the formal, informal as well as self-employment sector, the Cape Metropolitan, Western Cape, South Africa. This is derived from the question “which describes your current work status best; If currently working? or If not currently working?”

A dichotomous answer was derived of “Yes or “No”

INDEPENDENT VARIABLE

The independent variables were grouped into three categories. These include demographic variables, clinical characteristic variables, and supports towards work resumption variables.

Demographic variables

Age: Participants’ age was entered as a continuous variable

Marital status: Respondents’ marital status were categorised as 0- Single (this connotes never married, divorced /separated and widowed) and 1- Married

Highest education level: Educational level was categorised as 0- Primary level; 1- Secondary level, and 2-Tertiary level (this connotes college, university and postgraduate degree).

Clinical characteristic variables

Type of treatment received: Medical and/or therapeutic that was received was categorised as 0- No and 1- Yes

Restrictions: Having a current restriction was categorised as 0- No and 1- Yes

Type of vocational rehabilitation received: This refers to vocational intervention that is directed towards the resumption of work. Type of vocational rehabilitation was categorised as, 0- Vocational intervention (this connotes cognitive, physical, case management,

vocational training, and work adaptation intervention); 1- Work evaluation, and 2- No intervention received.

Supports towards work resumption variables

Received support from family and friends: This was categorised as 0-No and 1- Yes

Received work place support: This was categorised as 0-No and 1- Yes

Received support from government and private organisations: This was categorised as 0-No and 1- Yes



APPENDIX 5.1: RESEARCH INFORMATION SHEET

UNIVERSITY OF THE WESTERN CAPE



Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959 9339, Fax: 27 21-959 9359

E-mail: msoeker@uwc.ac.za

INFORMATION SHEET

Title of Research: Exploring the components of a model that enhances the entrepreneurial skills of women with acquired brain injury

What is this study about?

This study intends to explore barriers and facilitators to entrepreneurial skills development in women with ABI. To explore the perceptions and experiences of women with ABI on entrepreneurship. Furthermore, to develop the components of a model that facilitate entrepreneurship of women with ABI.

What will be asked if I agree to participate in this study?

You can choose whether to be in this study or not. If you volunteer to be in this study you will be requested to participate in individual interviews which will be audio tape recorded to ensure that all the information is correctly recorded. The interviews will be held at the health institution or a venue which is most accessible to you.

What are the risks of the research?

It is foreseen that the study holds minimal risk to cause physical or psychological harm. If you are asked or something comes up in a conversation that makes you uncomfortable, you can choose not to answer. A referral source will be available during the interviews should you require any emotional support due to feelings that may be evoked as a result of the study.

What are the benefits of the research?

To share information gained on the workplace experience and participation of women with Acquired Brain Injury (ABI), to assist with related assessment and intervention planning. The

results of the study may assist clinicians and rehabilitation professionals with recommendations for the further development of vocational programmes and workplace reintegration strategies for women who sustained an ABI.

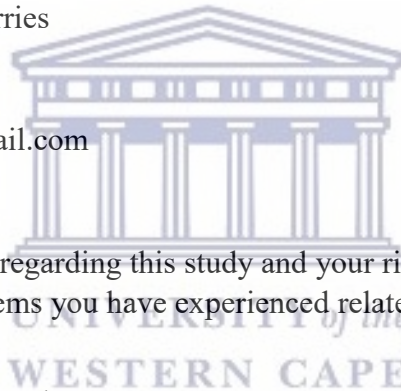
Do I have to be in this research or may I stop participating at any time?

You are participating in this study voluntarily, and may withdraw your consent at any time and discontinue participation without consequences.

What if I have questions?

The research will be conducted by Zareena Darries under the guidance of the Occupational Therapy Department, University of the Western Cape. If at any time you have queries regarding the nature of the study, you could contact the researcher at the details given below:

Researcher: Mrs Zareena Darries
Cell No: 0732026228
E-mail: nazeemdar@gmail.com



Should you have any questions regarding this study and your rights as a research participant, or you wish to report any problems you have experienced related to the study you may also contact:

Supervisor: Professor Shaheed Soeker

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021)959-9339

Cell: 082 7175432

Fax: (021)959-9359

Email: msoeker@uwc.ac.za

APPENDIX 5.2: RESEARCH CONSENT FORM

UNIVERSITY OF THE WESTERN CAPE



Private Bag X 17, Bellville 7535, South Africa

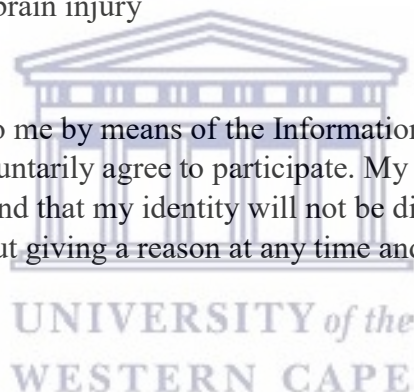
Tel: +27 21-959 9339, Fax: 27 21-959 9359

E-mail: msoeker@uwc.ac.za

Consent Form

Title of Research: Exploring the components of a model that enhances the entrepreneurial skills of women with acquired brain injury

The study has been described to me by means of the Information Sheet, in a language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.



Participant's Name: Participant's Signature:

Witness:

Date:

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

Supervisor: Professor Shaheed Soeker

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021)959-9339

Cell: 082 7175432

Fax: (021)959-9359

Email: msoeker@uwc.ac.za



APPENDIX 5.3: QUALITATIVE INTERVIEW GUIDE

Question: Can you tell me about your experience during your work rehabilitation process.

What is your opinion on entrepreneurial skills development and initiatives as part of the work rehabilitation process?

Interview probing guide:

- Can you tell me about your experience during your work rehabilitation process?

Probe: Describe your understanding of your participation in the work assessment unit

Probe: How do you feel about your own work skills?

- From your view point please describe the difficulty that you think women experience particularly when developing the skills needed to start their own business (entrepreneurship skills).

Probe: Describe how the community may have been a barrier to your skills development?

Probe: Describe how the various organisations could have been a barrier to your skills development?

- From your view point please describe the factors that help women particularly when developing the skills needed to start their own business (entrepreneurship skills).

Probe: Describe how the community helped you?

Probe: Describe how the various organisations helped you?

- From your viewpoint describe how rehabilitation programmes prepared you to find or return to a job.

Probe: Describe how rehabilitation programmes helped you to develop your ability or skills to develop your own business or entrepreneurship skills

Probe: Do you think you will be able to apply what you were taught during your rehab process and apply it during entrepreneurial activities?

- Are there any suggestions you would like to make with regards to the rehabilitation process?

Probe: What changes could we do to rehabilitation programmes to improve the individual's ability to find employment



APPENDIX 5.4: DATA BASE OF QUALITATIVE STUDY PARTICIPANTS

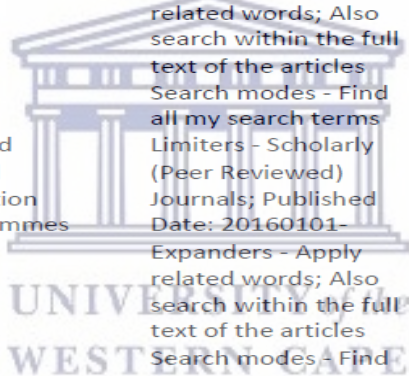
Names	Age	Education	Marital status	Diagnosis	Employment prior to injury	Difficulties after ABI	RTW after ABI
Participant 1: SE	57	Grade 10	Married	Brain aneurysm	Self-employed	Poor vision, memory and emotional difficulties	No
Participant 2: ES	45	Grade 10	Single	Brain tumour	Machinist	Memory and concentration difficulties	RTW as a cashier (14 months post ABI)
Participant 3: LBO	41	Grade 10	Single	Left cerebral vascular accident (CVA)	CCTV security guard	Right upper limb weakness, cognitive and emotional difficulties	RTW in same capacity (4 months' post ABI). Currently unemployed after resignation
Participant 4: NR	29	Grade 11	Single	Moderate TBI	Bar lady	Short term memory and concentration difficulties	Learnership programme (private organisation)
Participant 5: LB	36	Tertiary education	Single	Moderate TBI	Jewellery designer and manufacturer	speech and cognitive difficulties	Self-employed
Participant 6: VG	48	Grade 10	Single	pituitary brain tumour	Machinist	Changes in mood, poor memory as well as frequent fatigue	RTW in same job (resigned 6

							months post RTW) currently unemployed
Participant 7: CW	24	Grade 12	Single	Mild TBI	Receptionist	Concentration and memory difficulties	RTW as receptionist (two years post ABI)
Participant 8: BW	42	Grade 10	Single	Moderate TBI	Hair dresser	Post-traumatic stress symptoms	Unemployed
Participant 9: EH	42	Grade 7	Married	left cerebral vascular accident	Domestic worker	Spastic right hand and cognitive difficulties	Unemployed
Participant 10: EB	28	Grade 10	Married	Right cerebral vascular accident	Administrative assistant	Mild cognitive difficulties, psychological and emotional difficulties	Unemployed

UNIVERSITY *of the*
WESTERN CAPE

APPENDIX 6.1: DETAILED SEARCH RESULT FOR ACADEMIC SEARCH COMPLETE

SN	Search Terms	Search Options	Actions/ Results
S53	(self-employment or women and acquired brain injury) OR vocational rehabilitation AND programmes	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20150101-; Hidden NetLibrary Holdings Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase	16,842
S52	Self-employment or women and acquired brain injury	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20140101-; Hidden NetLibrary Holdings Expanders - Apply related words; Also search within the full text of the articles Search modes - Find all my search terms	1,783
S51	vendor and vocational rehabilitation and programmes	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20160101- Expanders - Apply related words; Also search within the full text of the articles Search modes - Find all my search terms	6
S50	small business and women and acquired brain injuries and programs	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231 Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase	239,785
S49	own business and women and acquired brain injuries	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231 Expanders - Apply related words Search modes - Boolean/Phrase	59,841
S48	small enterprises and vocational rehabilitation programmes	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231 Expanders - Apply related words Search modes - Boolean/Phrase	28,227



S47	S52 OR S51 OR S50 OR S49 OR S48	Search modes - Boolean/Phrase	1,643
S46	re-employment and acquired brain and women	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101- 20191231 Expanders - Apply related words Search modes - Boolean/Phrase	28,014
S45	return to work and entrepreneurship	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101- 20191231 Expanders - Apply related words Search modes - Boolean/Phrase	5
S44	work integration and women	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101- 20191231 Search modes - Boolean/Phrase	35
S43	return to work or employment and women and acquired brain injury	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101- 20191231 Expanders - Apply related words Search modes - Boolean/Phrase	84,756
S42	return to gainful occupation and entrepreneurship strategies	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101- 20191231 Expanders - Apply related words Search modes - Boolean/Phrase	235
S41	(return to gainful occupation) AND (S46 OR S45 OR S44 OR S43 OR S42) and programs	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101- 20191231 Expanders - Apply related words Search modes - Boolean/Phrase	327
S40	(return to gainful occupation) AND (S46 OR S45 OR S44 OR S43 OR S42)) AND(S47 AND S41)	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20110101-20191231 Expanders - Apply related words Search modes - Boolean/Phrase	0
S39	self-employment	Limiters - Scholarly (Peer Reviewed) Journals;	6,173



		Published Date: 20100101-20191231	
		Search modes - Boolean/Phrase	
S38	vendor	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231	19,224
		Search modes - Boolean/Phrase	
S37	small business women and vocational rehabilitation	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231; Search modes - Boolean/Phrase	42,356
		Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231	
S36	own business	Search modes - Boolean/Phrase	
		Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231	1,867
		Search modes - Boolean/Phrase	
S35	small enterprises and vocational rehabilitation	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20191231; Expanders - Apply related words	32,452
		Search modes - Boolean/Phrase	
S34	S34 S39 OR S38 OR S37 OR S36 OR S35	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20110101-20181231; Expanders - Apply related words; Also search within the full text of the articles	18,261
		Search modes - Boolean/Phrase	
		Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231	
S33	re-employment and acquired brain injury and programmes or programs	Expanders - Apply related words; Also search within the full text of the articles	664,833
		Search modes - Boolean/Phrase	
S32	return to work and entrepreneurships and strategies	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231	37,885
		Expanders - Apply related words	
		Search modes - Boolean/Phrase	
S31	work integration	Limiters - Hidden NetLibrary Holdings	11,873
		Search modes - Boolean/Phrase	

S30	return to work or women and employment and acquired brain injury	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231 Expanders - Apply Search related words Search modes - Boolean/Phrase	74,516
S29	return to gainful occupation	Search modes - Boolean/Phrase	3
S28	(return to gainful occupation) AND (S33 OR S32 OR S31 OR S30 OR S29)	Search modes - Boolean/Phrase	1,033
S27	(return to gainful occupation) AND S33 OR S32 OR S31 OR S30 OR S29)	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231 Expanders – Apply related words Search modes - Boolean/Phrase	0
S26	self-employment	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101- ; Hidden NetLibrary Holdings Search modes - Boolean/Phrase	6,173
S25	vendor and acquired brain injury	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231 Expanders - Apply related words Search modes - Boolean/Phrase	700
S24	small business and vocational rehabilitation	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131 Expanders - Apply related words Search modes - Boolean/Phrase	1
S23	own business and acquired brain injury and women	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231 Expanders - Apply related words Search modes - Boolean/Phrase	63,213
S22	small enterprises and vocational rehabilitation and acquired brain injury	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231; Hidden NetLibrary Holdings	84,130



S21	S26 OR S25 OR S24 OR S23 OR S22	Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231	31,892
S20	reemployment and entrepreneurship	Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20110101-20181231	93
S19	return to work and women	Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20110101-20181231	1,798
S18	work integration and women and acquired brain injury	Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20181231	96
S17	return to work or employment and acquired brain injury	Expanders - Apply related words Search modes - Boolean/Phrase Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131	60,650
S16	return to gainful occupation and vocational rehabilitation strategies	Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131	3,201
S15	(return to gainful	Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131	3,255



	occupation) AND (S20 OR S19 OR S18 OR S17 OR S16)	Reviewed) Journals; Published Date: 20110101-20180131 Expanders - Apply related words; Also search within the full text of the articles Search modes - Boolean/Phrase	
S14	(return to gainful occupation) AND (S20 OR S19 OR S18 OR S17 OR S16) AND (S21 AND S15)	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20140101- Expanders - Apply related words; Also search within the full text of the articles Search modes - Find all my search terms	0
S13	(return to gainful occupation) AND (S7 OR S8 OR S9 OR S10 OR S11) AND (S6 AND S12)	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20110101- Expanders - Apply related words; Also search within the full text of the articles Search modes - Find all my search terms	0
S12	(return to gainful occupation and acquired brain injury) AND (S7 OR S8 OR S9 OR S10 OR S11)	Search modes- Boolean/Phrase	822
S11	return to gainful occupation and vocational rehabilitation and women	Search modes- Boolean/Phrase	1,028
S10	return to work or employment and acquired brain injury	Search modes- Boolean/Phrase	209,376
S9	work integration and self-employment programmes and acquired brain injury and women	Search modes- Boolean/Phrase	31,263
S8	return to work and self-employment	Search modes- Boolean/Phrase	39
S7	Re-employment and entrepreneurship and strategies	Search modes- Boolean/Phrase	238
S6	S1 OR S2 OR OR S4 OR S5	S3 Expanders – Apply related words; Also search within the full text of the articles Search modes - Find- all my search terms	2
S5	vocational	Limiters – Scholarly	35,266

	rehabilitation and women and acquired brain injury	(Peer Reviewed) Journals; Published Date: 20100101-20180131 Search modes - Boolean/Phrase	
S4	return to work and own business and programmes	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131 Search modes - Boolean/Phrase	58,191
S3	small business and entrepreneurship brain injury	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131	14,206
S2	vendor and self-employment programme and strategies	Limiters – Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131 Search modes – Boolean/Phrase	921
S1	self-employment and women with acquired brain injury	Limiters - Scholarly (Peer Reviewed) Journals; Published Date: 20100101-20180131 Expanders – Apply related words Search modes - Boolean/Phrase	50,566



APPENDIX 6.2: SCOPING REVIEW APPRAISAL TOOL

SN	Question	No	Partially			Yes
		1	2	3	4	5
1	Are the aims clear?					
2	Does the publication achieve its aims?					
3	Is the publication relevant?					
4	Is it clear what sources of information were used to compile the publication (other than the author or producer)?					
5	Is it clear when the information used or reported in the publication was produced?					
6	Is it balanced and unbiased?					
7	Does it provide details of additional sources of support and information?					
8	Does it refer to areas of uncertainty?					
9	Does it describe how each treatment works?					
10	Does it describe the benefits of each treatment?					
11	Does it describe the risks of each treatment?					
12	Does it describe what would happen if no treatment					
13	Does it describe how the treatment choices affect overall quality of life?					
14	Is it clear that there may be more than one possible treatment choice?					
15	Does it provide support for shared decision-making?					
16	Based on the answers to all of the above questions, rate the overall quality of the publication as a source of information about treatment choices					
		Low	Moderate			High

Note on scoring:

Low indicates that the publication has serious or extensive shortcomings

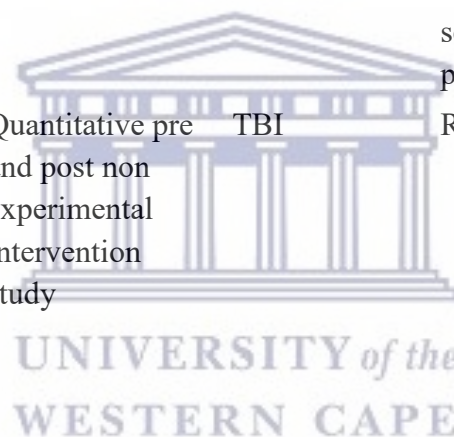
Moderate: potentially important but not serious shortcomings

High: minimal shortcomings

APPENDIX 6.4: CHARACTERISTICS OF THE INCLUDED STUDIES

S N	Authors	Year	Title	Methodology design	Population	Outcome measures	Geographical location
1	Douglas, Knox, De Maio, Bridge, Drummond & Whiteoak	2019	Effectiveness of communication specific coping intervention for adults with TBI: preliminary results	Quantitative pre- vs. post-intervention repeated measures design	TBI	Improvements in communication-specific coping, functional communication. Improved use of communication-specific coping strategies and reduction in stress at the end of treatment at one and three months later	United kingdom
2	van Dongen, Goosens, Paulsen, van Zee, Verpoort, Vliel and & van Velzen	2018	Short-Term and Long Term outcomes of a Vocational Rehabilitation program for patients with Acquired Brain Injury in the Netherlands	Descriptive cohort study, chart review after VR programme & Follow up questionnaire	ABI	Return to work, hours at work and task adjustments	Netherlands
3	Poncet, Swaine, Migeot,	2018	Effectiveness of a multidisciplinary rehabilitation	Single experimental	ABI	Six out of seven participants improved significantly on the	Paris/France

	Lamoureux, Picq & Pradat		program for persons with acquired brain injury and executive dysfunction. (Client centred approach)	case study design		Instrumental Activities of Daily Living Profile and 4 participants improved between the post and 6month follow-up. Four out of seven participants showed significantly improved Life Habits scores pre versus post- program.	
4	Soeker	2017	The use of the Model of Occupational Self Efficacy in improving the cognitive functioning of individuals with brain injury: A pre- and post- intervention study	Quantitative pre and post non experimental intervention study	TBI	RTW status	South Africa
5	Howe et al.	2017	Combined cognitive and vocational interventions for mild to moderate traumatic brain	Mixed method design, a feasibility study –pilot	TBI	Results showed an improvement in participants self-efficacy and evaluation of their ability to return to work	Norway



			injury: study protocol for randomised controlled trails				
6	Grigorovich, Stergiou-Kita, Damianakis, Le Dorze, Lemsky & Herbert	2017	Persons with brain injury and employment supports: Long-term employment outcomes and use of community-based services	Descriptive mixed-method case study	58 ABI (30 non-traumatic; 26 TBI); 14 key Informants	RTW status	Canada
7	Matérne, Lundqvist & Strandberg	2017	Opportunities and barriers for successful return to work after acquired brain injury: A patient perspective	Qualitative descriptive case study	ABI (SS; TBI; Brain Tumor)	RTW status	Sweden
8	Inge, Graham, Erickson, Sima, West & Cimera	2016	The effectiveness of knowledge translation strategies to impact the use of evidence-based practices by vocational	Randomised pre-test and post-test control group design	Vocational Rehab counsellors	Both groups knowledge of VR rehab increased but there was a difference between the findings that group 1 would provide if knowledge was more easily accessible via the videos	Viginia/USA

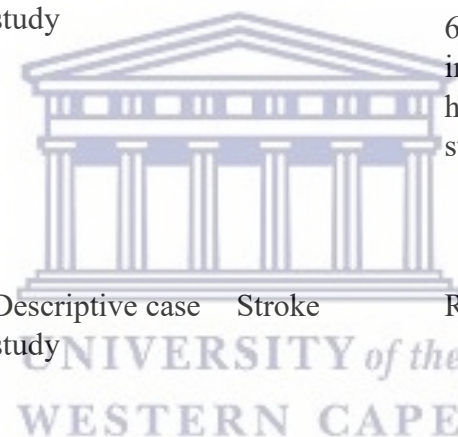


			rehabilitation counsellors				
9	Donker-Cools, Daams, Wind & Frings-Dressen.	2016	Effective return-to-work interventions after acquired brain injury: A systematic review	Systematic review	Brain Injury	Literature review	Amsterdam
10	van Velzen , van Bennekom, van Dormolen, Sluiter & Frings-Dresen.	2016	Evaluation of the implementation of the protocol of an early vocational rehabilitation intervention for people with acquired brain injury	Descriptive case report	21 rehab professionals (OT, PT, ST, SW, psychologist, VR specialist, Cognitive trainer and physician)	Facilitate early RTW Facilitate RTW for ABI	Netherlands
11	Hellgren, Samuelsson, Lundqvist & Börsbo	2015	Computerised Training of Working Memory for Patients with Acquired Brain Injury	Quantitative pre and post intervention design	ABI	All patients' WM index improved after WM training. Cognitive functions, as measured by WM related neuropsychological tests, improved as well as performance of important WM-related everyday activities.	Sweden

12	Foy	2014	Long Term Efficacy of an Integrated Neurological and Vocational Rehabilitation Programme for Young Adults with Acquired Brain Injury	Cohort/ Longitudinal case study	TBI, stroke	At baseline (admission) and 1-year post discharge Vocational outcome	United Kingdom
13	Hamonet-Torny, Fayol, Faure, Cariere & Duumond	2013	Traumatic brain injury rehabilitation, the programs applied in French UEROS units and the specificity of the Limogoes experience	Evaluations and description of the UEROS therapy program	TBI	Description the specific programs and the different tools put to work in the UEROS of Limoges, offering a form of holistic rehabilitation management characterised by the importance of psycho-education and its type of approach towards vocational reintegration.	France
14	Kolakowsky-Hayner, Wright, Sham, Medel & Duong	2012	An effective community-based mentoring program for RTW and school after brain and spinal cord injury	Mentee and mentor support program, contacts logged by mentors	TBI and spinal cord injury	89 participants were successfully matched 12 never reached their goals , out of 77 successful matches who completed the whole program there were 42 returns to school or work and 35 failures.	San Jose/ California USA



15	Lindén, Lexell & Lund	2011	Improvements of task performance in daily life after ABI using commonly available everyday technology	Yin's multiple case study design	ABI	Increased occupational performance	Europe
16	Niemeier, DeGrace, Farrar, Ketchum; Berman & Young	2010	Effectiveness of a comprehensive, manualised intervention for improving productivity and employability following brain injury	Prospective exploratory study	ABI , Stroke	RTW status Assessed at baseline 3rd, 6th and 9th week after intervention. The program has a positive effect on job stability.	USA/Virginia
17	Owensworth	2010	A metacognitive contextual approach for facilitating return to work following acquired brain injury: Three descriptive case studies	Descriptive case study	Stroke	RTW status at 6 months	Queensland/ Australia
18	Macaden, Chandler, Chandler & Berry	2010	Sustaining employment after vocational rehabilitation in	Qualitative descriptive case study	ABI; Stroke	Sustained employment	USA



19	Phillips, Drummond, Radford, Tyerman	2010	acquired brain injury Return to work after traumatic brain injury: Recording , measuring and describing occupational therapy intervention	Qualitative descriptive case study	TBI	RTW outcome	Nottingham /United Kingdom
20	Cicerone, Mott, Azulay, Sharlow-Galella, Ellmo, Paradise & Friel	2008	A randomised control trial of holistic neuropsychological rehabilitation after TBI	Randomised trial with various questionnaires on perceived quality of life and community integration employment	TBI	Primary outcomes were the Community Integration Questionnaire (CIQ) and Perceived Quality of Life scale (PQOL). Secondary outcomes included NP functioning, perceived self-efficacy, and community-based employment.	USA
21	Kissinger	2008	Traumatic brain injury and employment outcomes: Integration of the working alliance model	Qualitative descriptive case study	TBI	In-depth interviews and focus group discussion	USA

22	Turner-Stokes	2008	Evidence for the effectiveness of multi-disciplinary rehabilitation following Acquired Brain Injury: a synthesis of 2 systematic approaches	Synthesis of best evidence compiled from a Cochrane Review of randomised controlled trials.	TBI	To make gains in independence and community integration between 2 and 5 years' post injury.	London
23	Bisiker & Millinchip	2007	Developing a work Rehabilitation Project: 'Equal Pathways to Work'	Case control/ Retrospective study	Neurological conditions, Stroke	RTW outcome	United Kingdom/ Wolverhampton
24	Rubenson, Svensson, Linddahl & Björklund	2007	Experiences of returning to work after acquired brain injury	Qualitative descriptive case study	ABI, Stroke	The conclusion of this study is that returning to work after acquired brain injury requires motivated individuals, flexible work, accommodating labour management, and prolonged environmental support.	Sweden
25	DeSouza, Sycamore & Kriker	2007	The Papworth Early Rehabilitation Programme: Vocational outcomes	Retrospective/cohort pre-post intervention study	Brain injury (Stroke, TBI); MSD; others	Programme demonstrates that long-term incapacity benefit recipients can return to sustained	United Kingdom

26	O'Brien	2007	Achieving a successful and sustainable return to the workforce after ABI: A client-centred approach	Retrospective/ Descriptive case study	ABI ;Stroke	employment, as shown in those who participated in the Papworth Trust's vocational rehabilitation programme A client-centred approach, combining specialist ABI expertise, skilled assessment and practical work place based interventions resulted in favourable employment outcome rates	Australia/ Melbourne
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APPENDIX 7.1: DELPHI STUDY INFORMATION SHEET



UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel : +27 21-959 9339, Fax : 27 21-959 9359

E-mail: msoeker@uwc.ac.za

Research title:

The development of a model to enhance the entrepreneurial skills of women with acquired brain injury.

Invitation

You are invited to take part in a research study conducted by ZAREENA DARRIES (Ph.D. candidate) of the University of the Western Cape. Please read the following information that will provide you with more insight about the study.

What is the study about?

Returning to formal paid employment after brain injury has been identified as a factor impacting on the livelihood and well-being of women in the Cape Metropole, South Africa. South Africa is a low and middle income country with high unemployment rates that results in restricted opportunities for work in the formal sector. Over the past two decades South Africa has been promoting entrepreneurship as an antipoverty strategy for addressing the prevalence of unemployment and underemployment among people with disabilities. South Africa also identifies the financial inclusion with special focus on women as a critical tool that will result in quicker poverty elimination and reduction of inequality. There is minimal research about the relevant features of disabled entrepreneurs and entrepreneurial performance in South Africa. This study therefore aims to develop a model that would enhance the entrepreneurial skills of women with acquired brain injury to promote and facilitate female empowerment and poverty alleviation.

Do I have to participate?

Participation is voluntary. If you decide to participate you will be forwarded with the first round Delphi instructions which will include your consent to participate. You are free to withdraw at any time without giving a reason. A decision not to participate or withdraw at any time, will not affect you in any way.

What will happen if I participate?

The proposed time frame for this study is 3 months. This research will be carried out using an e-Delphi technique consisting of three rounds (questionnaires) aimed to achieve consensus. With your permission the questionnaires will be e-mailed or sent via direct link to you. Simple and specific instructions will be provided for each questionnaire. The amount time necessary

for completion of each questionnaire will vary with each panellist, but should range between 10-15 minutes per round. There are no right or wrong answers to the questions. This study is seeking your expert opinion.

The following points are important for you to remember:

- You will remain anonymous to other participants (experts) throughout this Delphi study and only the researcher will be able to identify your specific answers.
- All records are confidential. Your name will only be recorded on the consent form; it will not be recorded on any questionnaire; each participant will be allocated a unique code. All information will only be available to the research team. All information will be destroyed 5 years after the research is complete.
- Following the study, information gathered will be uploaded on the University of the Western Cape's data base, sent for publication in professional journals and will also be presented at conferences. All detail of individuals who participated in this study will be kept anonymous.
- You will only have to complete the consent form once; return of completed Delphi round one implies your consent to participate.

What if something goes wrong?

I am not aware of any complications or risks that could arise from participating in this study. However, if you decide to participate in the study you will be given written information detailing the names and telephone number to contact should you have any complaints or difficulties with any aspect of the study.

This study has been approved by the University of the Western Cape's Research and Ethics Committee (BM17/8/7) and the Western Cape Department of Health Research Committee (WC_201711_021).

If you need further information regarding this study you can contact:

Researcher: Mrs Zareena Darries

Mobile: 073 2026 228

Email: nazeemdar@gmail.com

Supervisor: Professor Shaheed Soeker

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021) 959-9339

Mobile: 082 7175 432

Fax: (021) 959-9359

Email: msoeker@uwc.ac.za

APPENDIX 7.2: DELPHI STUDY CONSENT FORM



UNIVERSITY OF THE WESTERN CAPE
Private Bag X 17, Bellville 7535, South Africa
Tel : +27 21-959 9339, Fax : 27 21-959 9359
E-mail: msoeker@uwc.ac.za

CONSENT FORM

Title of Research Project: The development of a model to enhance the entrepreneurial skills of women with acquired brain injury

The study has been described to me in language that I understand. My questions regarding the study have been answered. I understand what my involvement will entail, and I agree that my participation is my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without reason and without fear of negative consequences or loss of benefits.

I agree to participate in the Delphi study.

I do not agree to participate in the Delphi study.

Participant's name:

Participant's signature:

Date:

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

Researcher: Mrs Zareena Darries

Mobile: 073 2026 228

Email: nazeemdar@gmail.com; 2212455@myuwc.ac.za

APPENDIX 7.3: DELPHI STUDY DEMOGRAPHICS AND FIRST ROUND DELPHI QUESTIONS

3/30/2021

A model to enhance entrepreneurial skills in women with acquired brain injury: A Delphi Survey(Experts Demographic Information ar

A model to enhance entrepreneurial skills in women with acquired brain injury: A Delphi Survey(Experts Demographic Information and First Round Delphi Questions)

Survey content

This survey has 15 questions and takes less than 10 minutes to complete. It seeks to collect your consent, demographic information and opinion on the contents on a model to enhance entrepreneurial skills in women with acquired brain injury.

*Required

1. Email address *

2. Question 1: Are you willing to participate in this survey? *

This serves as consent that you are willing to participate in this study. Please note that participation in this study is voluntary. All information provided is protected and anonymous.

Mark only one oval.

- Yes, I would like to participate in this study. Skip to question 2
- No, I do not want to participate in this survey. Stop filling the form

3. Question 2: What is your age?

4. Question 3: What is your sex? *

Mark only one oval.

- Female
- Male

5. Question 4: Which of the following describes your profession? *

Mark only one oval.

- Occupational Therapy
- Physical Therapy
- Social Work
- Psychology
- Vocational Counselling
- Nursing
- Psychiatry
- Education
- Other: _____

6. Question 5: For your identified profession what year did you obtain your entry-level degree/ diploma? *



7. Question 6: What is your highest level of education? *

Mark only one oval.

Mark only one oval.

College

Bachelor

Masters

Ph.D.

M.D.

Other: _____

8. Question 7: Have you obtained any post-graduate training specifically in vocational rehabilitation? For example, certificates, workshops, courses? *

Mark only one oval.

Yes

No

9. Question 8: Where is your country of practice? *

10. Question 9: Which of these describes your work setting? *

Multiple options allowed

Tick all that apply:

In-patient

Out-patient

Community practice (e.g. community care access facility)

Private practice

Academic/ Research

Other: _____



11. Question 10: What is the main funding source for your clients with brain injuries/ disabilities? *

12. Question 11(a): How many years of experience do you have in disability management? *

13. Question 11(b): How many years of experience do you have in vocational rehabilitation? *

14. Question 11(c): How many years do you have experience in vocational rehabilitation of persons with brain injury? *

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15. Question 12: In which aspect in vocational rehabilitation/ return to work do you have experience? *

Multiple options allowed

Tick all that apply.

Assessment

Intervention

Monitoring/ Follow-up

Case management

Other:

16. Question 13: What are the return to work interventions needed to address impairments, activity limitation and participation restrictions in women after sustaining an acquired brain injury (ABI)? *

17. Question 14: What are the interventions needed to address impairments, activity limitation and participation restrictions related to entrepreneurial/ self-employment skills in women with ABI? *



18. Question 15: What do you suggest are the processes to be applied when following the interventions you have listed/ described in question 13 & 14? *

For example, (a) Assessment phase- standardised / non-standardised tests etc. (b) Intervention phase- strategies, techniques etc.

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APPENDIX 8.1: SECOND ROUND DELPHI QUESTIONNAIRE

3/30/2021

DEVELOPEMENT OF A MODEL TO ENHANCE ENTREPRENEURIAL SKILLS IN WOMEN WITH ABI (Second Round Delphi Ques...

DEVELOPEMENT OF A MODEL TO ENHANCE ENTREPRENEURIAL SKILLS IN WOMEN WITH ABI (Second Round Delphi Questions)

This survey has 22 questions and takes less than 15 minutes to complete. It seeks to collect your opinion on the contents of a model to enhance entrepreneurial skills in women with ABI (arrived at from participant responses to the first round of the Delphi study)

*Required

1. Email address *

2. 1. STAGE ONE: Holistic assessment and reflection stage

During stage one a holistic assessment will be conducted to gain information about the client's functional abilities, social and work participation; the facilitation of self-reflection, introspection, and self-acceptance to enhance self-efficacy for active participation in pursuing vocational goals; the assessments and goal planning will be conducted by the occupational therapist at a vocational rehabilitation unit or occupational therapy practice setting. **Please indicate your response below: agree, disagree, or indifferent (Mark only one oval per row).**

Tick all that apply.

	Disagree	Indifferent	Agree
Holistic understanding of the current level of functional ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of standardised and non-standardised assessment methods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education and involvement of family and caregiver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitating the process of reflection and introspection by means of reflexive journaling and coming to terms with ABI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitate inner-strenght and motivation to overcome difficulties in occupational areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitate the process of reflection on self-employment and entrepreneurship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitating motivation and drive to explore and pursue self-employment initiatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



3. 2. Kindly indicate any comments/suggestions you have regarding stage one of the model

Comments/suggestions

4. 3. The estimated duration required to implement stage one of the model should be?

Duration of stage one (Mark only one oval per row)

Tick all that apply.

	Disagree	Indifferent	Agree
3-5 session of 60-90 minutes per session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-10 session of 60-90 minutes per session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intervention frequency is individualized of 60-90 minutes per session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. 4. Kindly indicate any comments/suggestions you have regarding the duration of stage one of the model

Comments/suggestions

6. 5. STAGE TWO: Active participation in functional and meaningful activities

During stage two the client will be encouraged to actively participate and engage in meaningful activities in order to enhance functional skills as well as the development of coping and compensatory behaviour strategies; to enhance the clients' critical awareness, understanding of causal agents and facilitation of resource mobilization. Interventions during this stage onward will be deliverable within a rehabilitation unit, clients' homes, community facilities or educational settings. **Please indicate your response below: agree, disagree, or indifferent** (Mark only one oval per row).

Tick all that apply.

	Disagree	Indifferent	Agree
Engagement in functional meaningful activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Client identification of specific needs arising during intervention process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Involvement of relevant health team members in addressing residual component deficits identified by the client	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Education on relevant resources within health departments, community, governmental and private support structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitating structured entrepreneurial skills education within the rehabilitation setting i.e. venture planning, business management, communication skills, financial management, funding applications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitate coping skills, cognitive compensatory strategies, learning skills, social and communication strategies, to enhance entrepreneurial skills and participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitating formal entrepreneurial qualification opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



7. 6. Kindly indicate any comments/suggestions you have regarding stage two of the model

Comments/suggestions

8. 7. The estimated duration required to implement stage two of the model should be?

Duration of intervention process in stage two (Mark only one oval per row)

Tick all that apply.

	Disagree	Indifferent	Agree
10-15 sessions of 60 minutes per session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10-20 sessions 60 minutes per session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intervention frequency is individualized of 60 minutes per session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. 9. STAGE THREE: The establishment of occupational competence, through active occupational engagement in entrepreneurial tasks

During stage three the intervention will focus on the specific performance area, namely entrepreneurship/ self-employment; to further strengthen self- efficacy by additionally enhancing the clients' knowledge base and entrepreneurial practical skills. The interventions during this stage onward will be deliverable within clients' homes, community facilities, educational settings, business settings. Please indicate your response below: agree, disagree, or indifferent (Mark only one oval per row).

Tick all that apply.

	Disagree	Indifferent	Agree
Facilitate entrepreneurial practical skills training, through simulation of venture practice trials, role play, practical training sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identify and facilitate stakeholder partnerships, community resources, business support resources i.e. use of online searches, social or formal media, community support organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advocate and mediate for entrepreneurial test placements at relevant businesses and organizations i.e. potential business incubators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitate utilization of strategies learnt from previous stages to improve confidence and motivation during entrepreneurial skills training i.e. more structured task planning, able to employ adaptive or compensatory strategies to handle and overcome challenges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitate the ABI client to utilize available support resources and relevant stakeholders as identified throughout the practice model stages i.e. client easier communicate needs, source and make use of opportunities to initiate small business ventures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilitating independence and self-directed action through self-advocacy and self-determination i.e. client will require minimal support in writing a basic business proposal and budget plan for possible funding applications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



10. 8. Kindly indicate any comments/suggestions you have regarding stage two of the model

Comments/suggestions

11. 10. Kindly indicate if you have any comments/suggestions regarding stage three of the model

Comments/suggestions on Stage three

12. 11. The estimated duration needed to implement stage three of the model should be?

Duration of stage three (Mark only one oval per row)

Tick all that apply.

	Disagree	Indifferent	Agree
Minimum of 4 sessions over a month period (60 minutes per session)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum of 8 sessions over a two month period (60 minutes per session)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimum of 12 sessions over a three month period (60minutes per session)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intervention frequency is individualized of 60 minutes per session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. 12. Kindly indicate any comments/suggestions regarding the duration of stage three of the model comments/suggestions on stage three duration

14. 13. STAGE FOUR: The client will demonstrate with the competencies to participate in an entrepreneurial/ self-employment work role

In stage four the individual with ABI will demonstrate the necessary competence to pursue and engage in entrepreneurial /self -employment ventures of choice. Please indicate your response below: agree, disagree, or indifferent (Mark only one oval per row).

Tick all that apply.

	Disagree	Indifferent	Agree
The individual with ABI will be able to plan and formulate a small business proposal with maximum independence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The individual with ABI will be able to draw up a financial budget plan for a small business with maximum independence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The individual with ABI will be able to identify and source funding opportunities with minimal support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The individual with ABI will continue with reflection and introspection, continue self-monitoring, appraising performances and utilize strategies learnt in previous stages to adapt, compensate and overcome entrepreneurial participation challenges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The ABI client will have a strong sense of occupational and entrepreneurial efficacy and would be able to employ the necessary coping behaviours to successfully exert control over the demands imposed within their respective entrepreneurial environments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The occupational therapists' involvement will be gradually decreased as the ABI individual's entrepreneurial self-efficacy is enhanced and maximum independence is achieved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



15. 14. Kindly indicate any comments/suggestions you have regarding stage four of the model
 Comments/suggestions regarding final stage of model

.....

.....

.....

.....

16. 15. The estimated duration needed to implement stage four of the model should be ?
 Duration for implementing final stage four (Mark only one oval per row)

Tick all that apply:

	Disagree	Indifferent	Agree
A three-month duration of 3-5 contact sessions (60 minutes each)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A six-month duration of 6-9 contact sessions (60 minutes each)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A 12-month duration of 6 contact sessions (60 minutes each)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No time-line linked, this is based on individual progression. However, the occupational therapist contact is limited to 1-2 contact sessions per month over a 12 month period (personally or telephonically)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Implementation strategies for the entrepreneurial skills model

This section describes the strategies by which the different stages of the interventions are to be operationalized

17. 17. Should the following strategies be utilised when implementing the four stages of the model? (Mark only one oval per row)

Tick all that apply.

	Disagree	Indifferent	Agree
Holistic client-centred approach (active client participation throughout the intervention process)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Individually tailored interventions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of a case manager to co-ordinate intervention process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of transdisciplinary approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of supported employment principles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. 16. Kindly indicate any comments/suggestions you have regarding the duration of stage four of the model
 Comments/suggestions

.....

.....

.....

.....



19. 18. Kindly indicate any comments/suggestions you have regarding the implementation strategies of the entrepreneurial skills model
 Comments/suggestions on implementation strategies

20. 19. When in the rehabilitation process should the intervention stages of the model commence? (Mark only one oval per row)

Tick all that apply.

	Disagree	Indifferent	Agree
During in-patient rehabilitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During out-patient rehabilitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After completion of medical intervention by physician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After out-patient rehabilitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. 20. Based on the recovery of the ABI patient, when should the intervention stages of the model commence?(Mark only one oval per row)

Tick all that apply.

	Disagree	Indifferent	Agree
Client must have cognitive status level VIII on Ranchos Los Amigos Scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When client is independent in performing basic activities and most instrumental activities of daily living tasks (self-care, shopping, community mobility)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Client is able to engage in selected leisure pursuits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Client has achieved successful community integration after injury i.e. community level interaction such as school and social group events)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



22. 21. Kindly indicate any comments/suggestions you have regarding the period for commencing the entrepreneurial skills development model
 Comments on when to commence intervention stages of model

23. 22. Kindly indicate any comments/suggestions you have concerning the overall structure of the entrepreneurial skills development model for women with ABI
 Comments on overall structure of model

APPENDIX 8.2: THIRD ROUND DELPHI QUESTIONNAIRE

3/30/2021

DEVELOPEMENT OF A MODEL TO ENHANCE ENTREPRENEURIAL SKILLS IN WOMEN WITH ABI (Third and final round Delphi ...

DEVELOPEMENT OF A MODEL TO ENHANCE ENTREPRENEURIAL SKILLS IN WOMEN WITH ABI (Third and final round Delphi questions)

This survey has 5 questions and takes less than 5 minutes to complete. It seeks to collect your opinion on the contents that were modified from the second round of the Delphi survey.

*Required

1. Email address *

2. 1. In terms of Stage One of the Entrepreneurial Skills Development Model which is known as "Holistic assessment and reflection", kindly consider the RELEVANCE of the following intervention component in the Stage One of the model. (Mark only one circle)

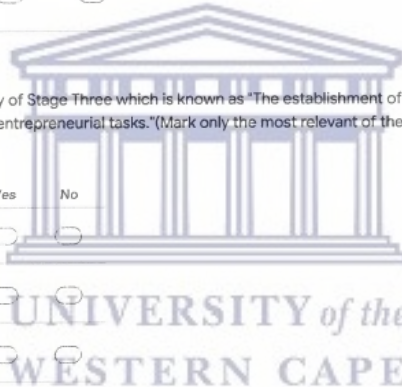
Mark only one oval per row.

	Relevant	Not relevant
Facilitation of reflection and introspection regarding functional strenghts and limitations after ABI	<input type="radio"/>	<input type="radio"/>

3. 2. Kindly consider the duration and frequency of Stage Three which is known as "The establishment of occupational competence, through active occupational engagement in entrepreneurial tasks." (Mark only the most relevant of the items listed below)

Mark only one oval per row.

	Yes	No
Minimum of 4 sessions over a month period (60 minutes per session)	<input type="radio"/>	<input type="radio"/>
Minimum of 12 sessions over a three month period (60 minutes per session)	<input type="radio"/>	<input type="radio"/>
Intervention frequency is individualized of 60 minutes per session	<input type="radio"/>	<input type="radio"/>



4. 3. Kindly indicate any comments/suggestions you have regarding the duration and frequency of Stage Three

5. 4. In terms of Stage Four which is known as "Competency to participate in the entrepreneurial worker role", kindly consider the following intervention components in the final stage of the model. (Give a suitable response to all items listed below) *

Mark only one oval per row.

	Yes	No
With minimal facilitation, the individual with ABI will be able seek the necessary support from external stakeholders to plan and formulate a small business proposal	<input type="radio"/>	<input type="radio"/>
With minimal facilitation, the individual with ABI will be able seek the necessary support from external stakeholders to draw up a monthly financial budget to improve income/expenditure for a small business	<input type="radio"/>	<input type="radio"/>
The individual with ABI will be able to identify and source funding opportunities with minimal/moderate support	<input type="radio"/>	<input type="radio"/>

6. 4. When to commence with the implementation of the stages of the model? (Mark the most relevant items listed below)

Mark only one oval per row.

	Yes	No
During in-patient rehabilitation	<input type="radio"/>	<input type="radio"/>
During out-patient rehabilitation	<input type="radio"/>	<input type="radio"/>
After completion of medical intervention by physician	<input type="radio"/>	<input type="radio"/>

7. 5. Kindly indicate any comments/suggestions you have regarding the period for commencing the entrepreneurial skills development model



8. 6. Please comment on the most appropriate time when the client would be ready to participate in the first stage of the model. (Mark the most relevant items below)

Mark only one oval per row.

	Yes	No
Client must have cognitive status level VIII on Ranchos Los Amigos Scale	<input type="radio"/>	<input type="radio"/>
When client is independent in performing basic activities and most instrumental activities of daily living tasks (self-care, shopping, community mobility)	<input type="radio"/>	<input type="radio"/>
Client is able to engage in selected leisure pursuits	<input type="radio"/>	<input type="radio"/>
Client has achieved successful community integration after injury i.e. community level interaction such as school and social group events)	<input type="radio"/>	<input type="radio"/>

- 9. 7. Kindly indicate any comments/suggestions you have regarding the time when the client would be ready to participate in the various stages of the model.

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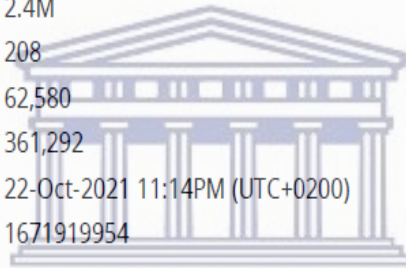


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