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# The experiences of women with traumatic brain injury about the barriers and facilitators experienced after vocational rehabilitation in the Western Cape Metropole, South Africa

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## Abstract.

**BACKGROUND:** Traumatic Brain Injury (TBI) is a serious global public health problem. Globally and annually, at least 10 million individuals live with TBI that is serious enough to result in death or hospitalisation

**OBJECTIVE:** This study aimed to explore and describe the experiences of women with traumatic brain injury, in their work environments utilising the Model of Occupational Self-efficacy as a vocational rehabilitation approach

**METHOD:** Ten females with mild to moderate traumatic brain injury participated in the study. Semi-structured interviews were conducted and data were analysed utilising a qualitative approach to elucidate themes. Semi-structured interviews were also conducted with two occupational therapists who served as key informants.

**RESULTS:** Two themes emerged depicting the participants' experiences and perceptions of barriers and facilitators which influenced their return to work: (1) Barriers to work participation for women with TBI, 2) Re-establishing a worker identity by means of vocational rehabilitation.

**CONCLUSION:** Both personal and environmental factors emerged as hindrances to returning to work for women with traumatic brain injury. Vocational rehabilitation proved successful in establishing a worker identity amongst participants; however, particular focus should be placed on the function-dysfunction continuum of the process of work place integration to further develop and enhance sustainable return to work programmes for women with traumatic brain injury.

Keywords: Return to work, therapeutic use of self, self-efficacy

## 1. Introduction

Each year an estimated 1.5 million to 2 million United States citizens incur a traumatic brain injury, with 70 000 to 90 000 of these individuals experiencing long-term functional impairment [1]. A study

conducted in 2007 found that injury-related mortality rates in South Africa (SA) are 6 times higher and the incidence of road traffic injuries are double that of the global rate of these occurrences [2]. In South Africa, females involved in road traffic accidents have a higher rate of BI compared to males involved in road traffic accidents [3].

The World Health Organisation [4] considers gender to be a social determinant of health because, in most societies, women have less power and privilege

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and hence less access to health-care resources than do men. The relationship between sex and gender is complex. According to Colantonio [5], there is still a paucity of clinical research studies on TBI that considers how the interconnection between sex and gender can affect health for men and women. Sex-based, example biological factors and gender-based, example social factors, mutually affect and shape health behaviours, opportunities and outcomes [6]. A study on vocational rehabilitation after TBI found that women received fewer vocational rehabilitation services than men [7]. Holbrook and Hoyt [8] indicate that women are at risk for markedly worse quality of life and functional outcomes after major trauma than men, independent of injury severity and mechanism.

There is a substantial health care cost associated with TBI. The biggest challenge persons with TBI experience is reintegrating into the working world and earning a living, which in many cases results in these individuals relying on government subsidy programmes for basic financial support [1].

Several rehabilitation models have been identified to aid in the enhancement of functions for persons with TBI, as well as return to work (RTW) approaches that promote workplace integration. There is strong evidence for the cost-benefits to an individual with TBI to return to work in that the salaries from paid employment exceed the cost of intervention [9]. Supported Employment (SE), as stated in Van Niekerk et al., [10], is an effective service approach to promote the inclusion of persons with disability in the workplace. The concept of SE is based on the assumption that, when the right types and intensity of support are provided, the persons with disabilities can (and should) be integrated into competitive employment [10]. This approach can be associated with the Model of Occupational Self-Efficacy (MOOSE), which aims to enhance the skills of sick or injured individuals to become fully competent workers who have the ability to return to a job and successfully sustain that job, based on their individual capabilities. In the current study participants had undergone vocational rehabilitation by means of the Model of Occupational Self Efficacy (MOOSE) [11]. According to Soeker [11, 12] the MOOSE is an occupational therapy practice model that focuses on the development of internal processes, such as self-efficacy, through performance accomplishments. It aims to use the ability of the clients' beliefs in their existing and developing skills to succeed in overcoming challenging situations in the workplace.

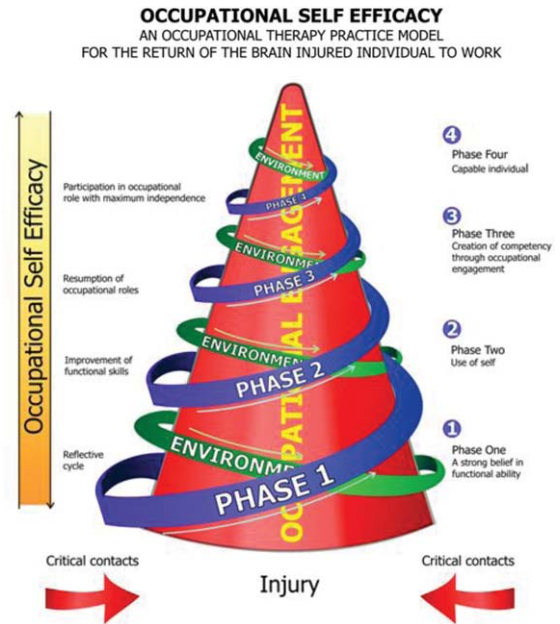


Fig. 1. Model of Occupational Self Efficacy by M.S Soeker, 2016, *WORK*, 53, p. 526. Copyright 2016 IOS Press. Reprinted with permission.

Creating more job opportunities for people with disabilities to become part of the labour force is viewed as assisting them and alleviating their poverty. However, a social factor that may influence gender differences in employment is the extent to which rehabilitation resources may be allocated by a lower value being placed on employment for women [7, 13]. The latter statement could be argued due to the fact that vocational rehabilitation and or training facilities may train women mainly in jobs where there is minimal income, such as domestic work duties.

Women's health, unhealthy lifestyles, violence and road traffic injury prevention are amongst the focus areas contributing to the burden of disease and medical care in the Western Cape [14]. The current political stance in regard to tackling social exclusion is to increase the participation of women in paid employment [15]. Women with disabilities are subjected to additional forms of discrimination in almost every given context. By combining gender and disability discrimination, the barrier of wage discrimination can confront women more often and more severely than any other impediments to work [14]. The consequent isolation of women with disability means that they are more likely to be poor or destitute, malnourished, illiterate and have a lesser

chance of raising and caring for a family [16]. The Integrated National Disability Strategy White Paper adopted in 1997 by the South African government, served as a blueprint for the inclusion and integration of disability in policies and legislation to encourage and improve the employment, or the economic empowerment, of people with disabilities (PWD). However, in the period 1998–2006, there was a significant decline in labour force participation and employment of PWD. Coetzee, Goliath, Van Der Westhuizen and Van Niekerk [17] found that vocational rehabilitation is usually offered in isolation and with very little integration among the government sectors, non-government sector, non-profit organisations and private sector. It was revealed in the South African Employment Equity Report that only 0.9 percent of the number of employees surveyed in the report had disabilities, whereas the number of disabled employees surveyed in the private sector was reported to be slightly better than the government sector at 1% [11]. Unemployment of persons with already diminished employment prospects, such as PWD, are at further risk of occupational dysfunction, adding to society's burden of care. Of concern both to medical practitioners and to employers is the fact that women with TBI and other disabilities, have been shown to have relatively fewer successful vocational outcomes than men. A study by Bounds, Schopp, Johnstone, Unger and Goldman [13] found that women are more likely than men to have their cases closed before rehabilitation services are initiated. One of the provincial strategic objectives of health in the Western Cape, South Africa [14], is to improve the health and employment status and outcomes of women. Therefore the purpose of the study was to explore the barriers and facilitators that women with TBI experience with regard to work reintegration after undergoing vocational rehabilitation.

### *1.1. Methods*

The study used an exploratory design, utilising a qualitative approach. According to Robson [18], exploratory design is a design which explores a research or other situation that requires an in-depth understanding of a phenomenon on which little is known, in order to generate ideas and new insights for future research. This approach allows for the exploration of the individual's own perspective and the descriptions that characterise his/her experiences

of the topic being explored, without the control or manipulation of the participants involved [19].

### *1.2. Participants*

Purposive sampling was utilised to select the participants in this study, because the sample had particular features and characteristics which enabled detailed exploration and understanding of the topic. De Vos, Strydom, Fourie and Delpont [20], state that the sample to be used should comprise elements that contain the most characteristics, representations or typical attributes of the population.

Ten participants were purposively sampled, utilising telephonic enquiries and statistical records from the Occupational Therapy Department at a health institution, Tygerberg Hospital. Participants were also sourced from the Heads-Up organisation based in community settings in the Cape Metropolitan area. Heads-Up is a Non-Profit Organisation managed by the Department of Social Development and runs support groups for individuals who have experienced brain injury. Past medical notes of participants who presented with a Glasgow Coma Scale (GCS) of 9–12 moderate TBI and 13–15 mild TBI [21] were selected as part of the inclusion criteria. Two key informants (occupational therapists) were purposively sampled due to their active involvement in applying the MOOSE to return individuals with brain injury to work. The information obtained from the key informants helped to reinforce the findings from the TBI participants to gain deeper insight on the topic at hand. See Table 1 for inclusion and exclusion criteria and Table 2 for demographic information of participants.

### *1.3. Procedure*

The researcher used face-to-face semi-structured interviews, ranging in time between 45–60 minutes, conducted in English and Afrikaans, to collect data. Semi-structured interviews ensured that the researcher remained focused on the topic of enquiry while interviewing the participants, but at the same time could gather in-depth information about the participants' beliefs, perceptions and experiences, and the meaning the participants attached to their experiences of returning to work after completing vocational rehabilitation [14]. The interviewing techniques were applied by posing a broad question and allowing the participants to talk freely. Dur-

Table 1  
Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> <li>– Individuals should have had a confirmed diagnosis of mild to moderate TBI</li> <li>– Individuals must have been involved in gainful employment before their injury and must have returned to employment after rehabilitation</li> <li>– The individuals had to be able to understand and communicate as well as comprehend the English and Afrikaans languages</li> </ul>	<ul style="list-style-type: none"> <li>– Individuals did not have a dual diagnosis, as well as any other classified psychiatric conditions or other medical conditions which might have influenced the sequelae of TBI</li> <li>– None of the individuals experienced active symptoms such as confusion or dizziness as a result of the TBI.</li> </ul>
<p>Key informants</p> <ul style="list-style-type: none"> <li>– Individuals should be occupational therapists familiar with the application and the functioning of the MOOSE</li> </ul> <p>Individuals should have experience with regard to vocational rehabilitation</p>	<ul style="list-style-type: none"> <li>– Individuals who do not work in the field of vocational rehabilitation</li> </ul>

Table 2  
Demographics of participants

Participants	Age	Education	Marital status	Diagnosis	Employment prior to injury	Intervention prior to Rehab	RTW after Rehab
P1	22	Grade 9	Single	Moderate TBI	Child minder	None	RTW as packer at Pick and Pay
P2	29	Grade 11	Single	Moderate TBI	Cashier	Support group	RTW as a cleaner at a primary school
P3	33	Tertiary	Single	Mild TBI	Bank teller	Psycho therapy	RTW as administration clerk
P4	29	Tertiary	Single	Moderate TBI	Jewelry designer	Speech, occupational therapy and physical therapy	Not employed
P5	37	Grade 10	Separated	Mild TBI	Cleaner	Support group	RTW as a cleaner
P6	33	Grade 10	Single	Mild TBI	Home-based –care	Treatment for substance abuse	RTW as office tea lady
P7	39	Grade 10	Married	Mild TBI	Team leader For cleaning company	None	RTW as cleaner at learnership placement
P8	48	Grade 8	Married	Mild TBI	Nanny	None	Volunteer at crèche
P9	25	Grade 10	Single	Moderate TBI	Assistant nurse	None	RTW as office assistant. Resigned due to transport problems
P10	32	Grade 9	Single	Moderate TBI	Cleaner	None	RTW as general worker at community center
Demographics of the key informants							
Participants	Age	Qualification		Years of experience		Level of employment	
P11	37	MSc OT		13 years		Occupational Therapist	
P12	28	BSc OT		8 years		Occupational Therapist	

ing the interview the researcher used probing to further unpack a topic of interest raised by the participants. A total of 12 interviews were conducted, after which saturation occurred. An audiotape was used to record conversations with the participants. The researcher also monitored the effect of the interview on the participants by observing body language to detect any discomfort. In preparation analysing the data, the audio-taped interviews were transcribed verbatim by an individual who is well-skilled in the task.

#### 1.4. Analysis

Guided by the work of Creswell [22], thematic data analysis was the method used in this study. Data were analysed adopting a method adapted from, amongst others, Tesch [23] i.e.: 1) Get a sense of the whole, 2) Pick one audiotape and study it, 3) Cluster similar topics, 4) Relook at the data and 5) Reduce the number of categories. The researcher manually handled the transcribed data to extract codes. Notes were made next to the participants', quotes which assisted the

researcher's understanding and correlation with the relevant literature. Further analyses of text were classified into categories which had common meanings and linkage with the relevant literature and theories. An inductive approach parallel to the deductive method was applied in order to explore the possibility of new emerging themes developing from the collected data and observations [24].

Data triangulation was used in this study to ensure the reliability of the information that was collected. The triangulation technique was utilised by conducting interviews with various women in the study who suffered from TBI, and by collecting data from key informants who provided rehabilitation to the study participants, as well as from the researcher's reflective notes. Applicability was ensured through the use of dense descriptions of the population, sampling, sample settings, participants and data collection and analysis. A detailed account of the methods used, phases of enquiry and peer evaluations further ensured the consistency of this study. Conformability was ensured as the researcher used the strategies of peer evaluations, reflexivity and member checking to instil a greater awareness of her influence on the research data. Member checking was conducted by means of a focus group with participants. Findings were summarised and presented to participants for accuracy in order to further ensure the credibility of the study. The neutrality criterion was ensured through the presentation of dense descriptions of the data as well as the use of an audit trail.

### 1.5. Ethics

The research study commenced after approval was obtained from the Research Ethics Committee of the University of the Western Cape, followed by permission from the Medical Superintendent at Tygerberg Hospital to conduct part of the study at the Occupational Therapy Department. The Heads-Up organisation also granted permission to the researcher to source collateral information on participants to aid the study. Informed written consent from participants was obtained after the participants were provided with a written description of the study aim, objectives and rationale. Participants were also informed that confidentiality and their right to remain anonymous were ensured. Voluntary participation was emphasised and the participants were informed that they were under no obligation to continue participating in the study and had the right

to withdraw at any time without any detrimental consequences.

### 1.6. Results

From the findings of the study the themes: Barriers to work participation for women with TBI, and re-establishing a worker identity by means of vocational rehabilitation, emerged. These two themes will be discussed as the barriers and facilitators perceived by participants during their rehabilitation and reintegration into the workplace. A description of the above themes is indicated in Fig. 2.

The loss of functional capacity hindered the resumption of work for women with TBI. According to Soeker [11], functional capacity was evaluated and considered to be influenced by many factors, including physical ability, beliefs and perceptions. Therefore these results were interpreted within the participants' broad personal and environmental contexts. Participants expressed their anxiety in regard to their poor knowledge and understanding of TBI. They voiced the need for medical staff to provide them with the basic clinical features and implications on their physical and mental function before medical discharge. One participant suggested that doctors should provide patients with information to understand certain feelings (emotions) they might experience and unfamiliar behaviour they might display, and explain the reasons for these. She said:

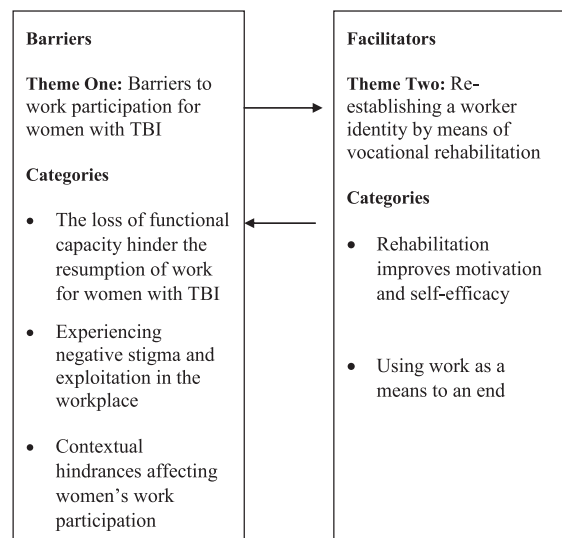


Fig. 2. Diagrammatical presentation of themes Barriers to work participation for women with TBI.

*I think it if you can even ask the doctors to look at what is wrong you see, because sometimes you can't see everything that is in my body. (P7)*

Another participant expressed her despair towards her behaviour after the TBI.

*And at home I'm not, I'm not right with my children. Sometimes I shout my children. I don't know why. (P5)*

## **2. The loss of functional capacity hindered the resumption of work for women with TBI**

A lack of knowledge on their condition added to the fear, anxiety and the lack of trust participants developed about their own capabilities. These feelings exacerbated their emotional standpoints after the TBI, which further impacted on their motivation and desire to resume their worker roles. One participant expressed her feelings about her disability and how it impacted on her motivation to resume her worker role:

*In a sense of being stagnated and not going anywhere, because I didn't know how to move forward with the disability.*

*I can see myself in the situation (work), but I can't see myself coping. (P3)*

The rehabilitation process and its progress were notably affected as a result of participants struggling to work through the emotional sequelae of the condition. A participant stated:

*I don't know if it's because of the accident, but I do have a temper that kind of, I become snappish or whatever and I don't . . . I try to control myself, because sometimes I don't even know half of the things that are coming out of my mouth when I'm speaking. (P3)*

Loss of memory or inability to retain memory was the most severely impacted component of brain function amongst all the participants. The most concrete functional deficit identified after the brain injury was poor memory, which also affected their work performance as illustrated below:

*Before I could write and my memory was good, now I cannot do that anymore. I cannot write the memory is not always there to remember what to do. (P9: EP)*

*My facilitator, she said I'm good at work. I know how to do my work, but sometimes I get struggle, because I forgot most of the time about things. (P2)*

Memory deficit amongst participants left them discouraged which, in turn, impacted on the rehabilitation process. Participants expressed that their anger and frustrations often emerged within situations where their functional competencies were challenged due to the residual effects of their injury. A participant stated:

*I was not number one, I was struggling to identify the things that you showed us and I was scared for the first time, I was angry.*

*I was angry. I have I had too much anger for that accident.*

*Like before yoh I was very angry . . . . If someone talks to me something that I don't understand, yoh I get angry. Or if you talk something that I don't like, I also get angry. (P2)*

Work tasks and demand seem to have a significant impact on the memory system. A participant stated that when she is under pressure at work, her feeling of inability to organise and extract pertinent information regarding job tasks, is overwhelming. She stated:

*Now, it's like when I do get too busy, I get disorganised and disorientated because at one stage, I was filing incorrect information in the wrong uhm folders and if it wasn't for the supervisor checking up on the work, I wouldn't have known. (P3)*

## **3. Experiencing negative stigma and exploitation in the workplace**

In this study participants experienced negative stigma and exploitation in the workplace. Attitudinal barriers from co-workers and supervisors, impacted negatively on social participation and activity engagements. Misconception and a lack of knowledge of TBI from employers and employees also contributed to the negative experiences of some participants upon their return to work, as did being subjected to unreasonable job demands, as illustrated below:

*People get scared that you gonna maybe lose your temper to that extent where you maybe take out a*

*knife or grab a pen and stab somebody or throw things, computers around and things like that. (P3)*

*The facilitator does not understand everyone's challenges, some of us were disabled, some of us were not disabled and some were just slow. He had the same expectation from all of us, because he does not see us as disabled.*

*Like some people understand that you have a disability and then there are others that know you have a disability, but they still expect too much from you and if you can't do it, they become upset and I don't like being shouted at, really I don't. (P9)*

RTW for women with TBI was further hampered by the legislative measures of Black Economic Empowerment (BEE) applied to companies. Job advertisement specifically included people with disabilities, but BEE protocol prevented the Caucasian participants with the opportunity to apply for jobs at these companies. Irrespective of the participants' abilities and skills to meet the inherent job requirements, they were not considered on the basis of race. One participant stated:

*Personality and knowledge and all that stuff are there but I am not the right colour. Yes, and apart from being disabled, it is the colour. The problem is we are not black. (P4)*

#### **4. Contextual hindrances affecting women's work**

Most participants in this study are single mothers and the sole bread winners in their households with little financial or other support from their estranged or absent partner. Some participants had no other options than to stay away from work in order to tend to the children.

*Sometimes the time is too early to come for Rehab because I have to prepare for children before I come. (P7)*

*My children are not well. He's sick, right now and my daughter who got a problem, so I try to help her, but she doesn't understand me if I'm talking to her she doesn't understand me. (P5)*

Work participation by some participants was further impacted by the City's transport system, due

to delayed operation systems and safety risks for women.

*Even here at school (workplace) I must start at 8 am, but I'm always late. It's the train problem. I woke up at home at quarter two six, then my train is five to seven that train that comes from here, it delays. (P2)*

*I left Siyaya, (work placement organisation) because of the travelling, it started becoming dangerous on the trains. (P9)*

#### **4.1. Re-establishing a worker identity by means of vocational rehabilitation**

This theme presents the rehabilitation process as a facilitator in the resumption of work. Participants in this study reported that engaging in the rehabilitation process facilitated their recovery and acceptance of their situation, as well as enhancing their skills and knowledge to resume a work role. Utilising the Model of Occupational Self-efficacy (MOOSE) promoted exposure to work environments and to becoming part of a work team, whilst allowing participants to build up social relationships, financial independence and self-respect, as well as purposeful engagement in structured work tasks. One participant stated:

*I think it helped me a lot in terms of dealing with my disability, which I wouldn't accept because the word normal for me and normal for an able body is completely different. I think slowly it helped me to develop more in a sense of the functioning of my brain ... So with the rehab I got to know more about what was wrong with me and it kind of helped me. (P3)*

A therapeutic relationship between the therapist and participants strongly motivated the participants to engage in and aim towards participating in work-related activities. Facilitating success in activities and providing positive praise by the therapist improved self-esteem, self-worth and eventually improved self-efficacy.

#### **5. Rehabilitation improved motivation and self-efficacy**

The rehabilitation of performance skills enhanced work performance. Stage 3 of the MOOSE is



also known as creation of competency through occupational engagement, aimed to improve self-efficacy in participants to the extent that they engage independently in their work tasks. Compensatory methods were introduced while engaging in work tasks, encouraging participants to utilise strategies to improve memory, such as activities of recalling or retaining relevant information. A participant stated:

*What I like is, I found out how to refresh my memory, to write down, to set my phone for the reminders and to keep something closer to the place so that I keep a reminder of something important. Phone reminders, stuff like that. (P7)*

## 6. Using work as a means to an end

Participants in this study engaged in self-directed and desired occupations which were contextually relevant and from which they drew meaning. Work related goal-setting and client-directed therapy thus acted as a facilitator to further enhance self-efficacy and the promotion of occupational competence. One participant stated:

*Cleaning it is right; it's good, because I'm good in the kitchen. I'm good, even when you say, Sylvia you gonna sweep and mop, you see, I'm good. It is right because there is not a lot of instructions to follow. (P7)*

Participants also reported that being in an environment of work, exposure to work structure and to routine have had a positive impact on their work performance. A participant stated:

*Here they taught us how to behave at work, how to do your job. You must do your job properly, you must respect. Mustn't stay absent. (P6)*

Another participant indicated that she could apply herself and master the job tasks using her work skills and knowledge. This form of social affirmation of good work performance further strengthens the subjective validation of the participants' changed and developing work roles.

*I'm working nice in my workplace. Uhm. Cause no-one at work shout me. I'm working freely and my supervisor and principal, no one talk to me bad. Treat me nice. I'm feeling happy. (P5)*

## 7. Discussion

### 7.1. Barriers

In Dyck [25] women found the language of biomedicine inadequate to describe dimensions of illness that were not purely physical. The participants in this study had a need to understand the relationship between their TBI symptoms and their functional performance. A clearer understanding of their condition facilitated self-reflection and introspection, establishing awareness of their own capabilities, strengths and weaknesses. According to MacNamee, Walker, Cifu and Wehmen [26] TBI has a negative impact on post-injury RTW and that TBI sufferers have to endure a variety of physical, psychological, emotional, cognitive and behavioural problems which limit their ability to adapt to their work roles. Vocational rehabilitation within the context of the use of MOOSE adopts an holistic approach as the therapist aims to engage and develop the participants in all life areas and occupations. Encouraging the sharing of experiences and creating a supportive and contained situation, facilitated participants to work through their fears and anxieties and express their losses and shortfalls within a therapeutic and safe environment [27].

Participants in this study were subjected to a range of neurological deficits, of which memory deficit was the most prominent. In Pansford [28] short term memory in brain injury is often most affected but long term memory is often affected as well. Inadequate memory systems amongst participants exacerbated emotional instability, which in turn impacted on the rehabilitation process as participants struggled to regulate and contain their emotions, which could delay the integration of work skills and concepts needed to return to work. Le Doux [29] stated that emotions seem to have a major impact on transferring information from short- to long-term memory via the Amygdalla and Hippocampus from the brain. These shortcomings experienced by participants in turn impacted on their self-efficacy. Self-efficacy can be described as the individual's perception and belief of his/her ability to master tasks; Le Doux [29]. Individuals with a low self-efficacy are less likely to pursue a difficult task and would rather avoid or withdraw from it, as they feel they are unlikely to maintain their commitment to their goals. Within the work context, participants experienced marginalisation and exploitation and were sometimes subjected to unreasonable working conditions. Misconceptions about

TBI within the work environment acted as a barrier for women with TBI as it restricted the development of work competency. As stated in Townsend and Wilcock [30], occupational marginalisation is one of the four manifestations of occupational injustice. The irregular schedules of the transportation system in the Cape Town Metropole negatively influences work attendance, as do the dangerous conditions encountered on the train system. This resulted in the resignation of some participants from the study. Kielhofner [31] emphasises how environmental demands and constraints can impact on an individual and his/her occupation. Participants fail to achieve job satisfaction due to consistent feelings of inadequacy and inferiority. In this case a sense of self-efficacy could not be attained, which correlates with the notion of Hammel [32] that well-being cannot be attained in oppressive environments and that there is a relationship between well-being and occupation. According to Schultz and Schkade [33] a function-dysfunction continuum is observed during the person's inability to generate an appropriate adaptive response as a result of personal factors or environmental factors that could lead to dysfunction.

### 7.2. Enablers

Meriano and Latella [34] suggest that enabling people to engage in occupations that are meaningful to them, such as work-related tasks, fulfils their human need for occupation and in so doing facilitates the process of redefining themselves in their occupational identities. In this study the rehabilitation programme aimed at facilitating participants to respond adaptively to occupational challenges and to integrate and utilise various adaptation strategies to aid their work role. This process enabled the participants to become capable workers and create a greater sense of job satisfaction and sustainability regarding their worker roles. Companies which applied Black Economic Empowerment (BEE) principles as directed by the South African government, turned down applications by Caucasian participants during the hiring process irrespective of the skills and abilities of the participant. Temporal factors such as inadequate coping skills to address parenting responsibilities and a lack of social support, influenced attendance at rehabilitation sessions and in the work context. During rehabilitation the therapist acted as an external motivator to the participants to self-reflect on their feelings, identify strengths and establish an awareness of their limitations, which in

turn enabled them to formulate more realistic goals for themselves, which is part of establishing a positive self-efficacy [35]. In this study the findings depicted an association between being engaged in meaningful occupations (work tasks) and developing positive and healthy occupational identities (participants identifying with their emerging new worker roles). According to Dickie, Cutchin and Humphry [36] identity as a worker includes a personal construction of the purpose and meaning of work, and supports the participant's views and experiences in the workplace which, in part, can fuel their desire to become more efficient and reach higher goals. Feedback from the women with TBI in this study generally reflected that they felt fulfilled and happy to be in a satisfying job.

### 7.3. Limitations of study

A limitation of the study was identified as some participants' TBI having occurred more than five years ago, whereas other participants' injuries were more recent. The discrepancy between the occurrences of injury amongst participants could have impacted on the quality of the data. Another limitation was that, even though the participants who were Xhosa-speaking could understand English and the need for a translator was not a priority, the presence of a translator could possibly have provided more correct and valuable information if the participants had spoken in their mother tongue.

## 8. Conclusion

The findings of this study suggest that women with TBI experience and perceive the barriers to resuming their worker roles to be within their unique context, where both personal and environmental factors emerge as barriers to RTW. Vocational rehabilitation proved successful by utilising the Model of Occupational Self-efficacy in establishing a worker identity amongst participants; however, particular focus should be given to the function-dysfunction continuum in the process of workplace integration to further develop and enhance sustainable RTW programmes for women with TBI.

### Acknowledgments

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## Conflict of interest

None to report.

## References

- [1] Wehman P, Kregel J, Keyser-Marcus L, Sherron-Tagett P, Campbell L, West M, Cifu, DX. Supported employment for persons with traumatic brain injury: A preliminary investigation of long term follow-up cost and program-efficiency. *American Academy of Physical Medicine and Rehabilitation*. 2003.
- [2] Norman R, Matzopoulos R, Groenewald P, Bradshaw D. The high burden of injuries in South Africa. *Bull World Health Organ*. 2007;5(9):695-702. [<http://dx.doi.org/10.2471/BLT.06.037184>].
- [3] Bradshaw W, Nannan N, Groenewald P, Joubert J, Laubscher R, Nojilana B, Norman R, Pieterse D, Schneider M. Provincial mortality in SA-priority setting for now and benchmarks for the future. 2005;95(7):496-503.
- [4] World Health Organization. Social determinants of health: Women and gender equity. Available at: [http://www.who.int/social\\_determinants/themes/womenandgender/en/](http://www.who.int/social_determinants/themes/womenandgender/en/). [Accessed 12 December 2016].
- [5] Colantonio A. Sex, Gender and Traumatic Brain Injury: A Commentary: *Archives of Physical Medicine and Rehabilitation*. 2016;97(2 suppl):S1-4.
- [6] Krieger N. Genders, sex and health: what are the connections-and why does it matter? *International Journal Epidemiol*. 2003;32:652-7.
- [7] Johnstone B, Vessel R, Bounds T, Hoskins S, Sherman A. Predictors of success for state vocational rehabilitation clients with traumatic brain injury. *Archives Phys Medicine Rehabilitation*. 2003;84:161-7.
- [8] Holbrook TL, Hoyt DB. The impact of major trauma: Quality-of-life outcomes are worse in women than in men, independent of mechanism and injury severity. *J Trauma*. 2004;56:284-90.
- [9] Murphy L, Chamberlain E, Weir J, Berry A, Nathaniel-James D, Agnew R. Effectiveness of vocational rehabilitation following acquired brain injury: Preliminary evaluation of a UK specialist rehabilitation programme. *Brain Injury*. 2006;20(11):1119-29.
- [10] Van Niekerk L, Coetzee Z, Engelbrecht M, Hajwani Z, Landman S, Motimele M, Terreblanche S. Supported Employment: Recommendations for successful implementation in South Africa. *South African Journal of Occupational Therapy*. 2011;41(3):85-90.
- [11] Soeker MS. The development of the model of occupational self efficacy. *Work*. 2012;43(03):313-22.
- [12] Soeker MS. A pilot study on the operationalisation of the Model of Occupational Self Efficacy: A model for the reintegration of persons with brain injuries to their worker roles. *Work*. 2016;53:523-34
- [13] Bounds TA, Schopp L, Johnstone B, Unger C, Goldman H. Gender differences in a sample of vocational rehabilitation clients with TBI. *Neurorehabilitation*. 2003;18(3):189-96.
- [14] Health Western Cape. *Healthcare 2030: Western Cape's plan for ensuring equal access to quality health care*. Western Cape, Cape Town: Department; 2013.
- [15] Ross J. *Occupational Therapy and Vocational rehabilitation*. Chichester: John Wiley and Sons Ltd; 2007.
- [16] Integrated National Disability Strategy: White Paper Office of the President. Accessed: 01/02/2017 <http://www.independentliving.org/docs5/SANatDisStrat1.html>.
- [17] Coetzee Z, Goliath C, Van Der Westhuizen, Van Niekerk L. Re – conceptualising vocational rehabilitation services towards and inter-sectoral model. *South African Journal of Occupational Therapy*. 2001;41(2):32-6.
- [18] Robson C. *Real world research: A resource for social scientist and practitioner-researchers*. 2nd ed. Oxford: Wiley Publishing; 2002.
- [19] Denzin N. *The sage handbook of qualitative research*. 3rd ed. United States of America: Sage publications; 2005.
- [20] De Vos AS, Strydom H, Fourie CB, Delpont CSL. *Research at Grassroots: For social sciences and human service professions*. 4th ed. Pretoria: Van Schaik; 2011.
- [21] Lombard LA. Characterization of traumatic brain injury severity. In Zollman FS. *Manual of Traumatic Brain Injury Management*. New York: Demos Medical Publishing; 2011.
- [22] Creswell JW. *Qualitative enquiry and research design: Choosing amongst five approaches*. 3rd ed. Thousand Oaks: Sage Publications; 2007.
- [23] Tesch R. *Qualitative research: Analysis types and software tools-Volume 337*, Press Ltd; 1990.
- [24] Guest G, MacQueen K, Namey E. *Applied Thematic Analysis*. Thousand Oaks: Sage Publications; 2012.
- [25] Dyck I. Working with theory in qualitative research: An example from a study of women with chronic illness (multiple sclerosis). Using qualitative research: A practical introduction for occupational and physical therapists. Churchill Livingstone, New York; 2000.
- [26] McNamee S, Walker Cifu D, Wehman. Minimizing the effect of TBI-related physical sequelae on vocational return. *Journal of Rehabilitation Research and Development*. 2009;46(6):893-908.
- [27] Corring D, Cook J. Client – centered care means that I am a valued human being. *Canadian Journal of Occupational Therapy*. 2000;67(1):15-21.
- [28] Pansford J. *Cognitive and behavioural rehabilitation*. New York: Guilford Press; 2004.
- [29] LeDoux JE. *Synaptic self: How are brains become who we are*. New York: Penguin Publishing; 2003.
- [30] Townsend E, Wilcock AA. *Occupational justice and Client-Centered Practice: A Dialogue in Progress*. *Canadian Journal of Occupational therapy*. 2004;71(2):75-87.
- [31] Kielhofner G. *Model of human occupation: Theory and application*. 4th ed. Baltimore, MD: Lippincott Williams & Wilkins; 2008.
- [32] Hammel KW. Reflections on well-being and occupational rights. *Canadian Journal of Occupational Therapy*. 2008;75(1):61-4.
- [33] Schultz S, Schkade JK. Occupational adaption. In Crepeau EB, Cohn ES, Schell BAB (Eds.), *Willard & Spackman's occupational therapy*. 10th ed. Philadelphia: Lippincott Williams & Wilkins; 2003.
- [34] Meriano C, Latella D. *Occupational therapy interventions: Functions and occupations*. New York: Slack; 2008.
- [35] Bandura A. Perceived self-efficacy in cognitive development and functioning. *Journal of Educational Psychology*. 1993;28(2):117-48.
- [36] Dickie V, Cutchin P, Humphry R. Occupation as a transactional experience: A critique of individualism in occupational science. *Journal of Occupational Science*. 2006;13:83-93.