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FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESS

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Dissertation submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of
Master of Science in Occupational Therapy

Johannesburg, 2015

DECLARATION

I, Anne Patricia Reynolds, declare that this dissertation is my own work.
It is being submitted for the degree of Master of Science in Occupational Therapy at the University of the Witwatersrand, Johannesburg.

It has not been submitted before for any degree or examination at this or any other University.

…….[**Anne Reynolds**]

30th day of April, 2015.

Dedicated to my family and friends for their support and encouragement, as well as my wonderful sons, Robert and James, for their unending understanding, as well as their wonderful sense of humour when mine failed during this research.

PRESENTATIONS ARISING FROM THIS STUDY

1. De Witt P; Reynolds AP. *Sustained Employment of People with Chronic Illness.* Work Capacity Interest Group. Johannesburg: Verbal presentation, March 2009.

2. De Witt P; Reynolds AP. *Factors Affecting ability to work in People with Chronic Illness.* University of the Witwatersrand School of Therapeutic Sciences Research Day. Johannesburg: Verbal presentation, August 2009.

3. De Witt P; Reynolds AP. *Putting the Function back into FCEs with Chronic Illness.* RGA Claims Conference. Cape Town: Verbal presentation, October 2010.

4. De Witt P; Reynolds AP. *Function at Work with Chronic Illness.* PPS Claims Group Meeting. Johannesburg: Verbal presentation, May 2012.

5. De Witt P; Reynolds AP. *Putting Work into Rehabilitation.* Chris Hani Baragwanath Hospital Open Day. Johannesburg: Verbal presentation, May 2013

ABSTRACT

Background: Numerous factors influence the employment of people with chronic illness. At some point, these people withdraw from the labour market. This has both a direct and indirect cost to the person, their family and society as a whole.

Aim: To explore the factors affecting sustained employment of people with chronic illness. A second component explored participants' opinions regarding return to work in the future.

Research Methods: The study was done in two phases: 1) The identification and validation of the research instrument; and 2) The administration of the research instrument. Descriptive statistics were utilised to analyse data obtained from the research instrument. Two sets of correlations were run to identify significant differences between the participants expecting to return to work and those who did not expect to return to work.

Results: Descriptive statistics revealed no meaningful trend on self-reported factors. The Mann-Whitney U identified a number of significant differences between participants expecting to return to work and those who did not expect to return to work, in both personal and contextual factors.

Conclusion: A broad range of factors were elicited regarding the barriers and accommodations required for sustained employment within both the personal and environmental constructs. Self-report questionnaires provided some useful information, but a broader understanding of the factors influencing work was obtained from a comprehensive interview. Significant differences were present between people expecting to return to work and those who did not expect to return to work regarding environmental and personal factors as well as factors supporting work.

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NOMENCLATURE

Definitions

The key terms used in this research were defined as follows:

Chronic Illness: Included any illness that has lasted longer than three months and was not self-limiting. The chronic illnesses referred to in this study included mental health conditions as well as physical conditions (1, 2).

Client: Any person referred to the researcher's occupational therapy practice for a functional capacity evaluation. For the purpose of this study, the term "client" referred any person suffering from a chronic illness.

Employee: Referred to any person who worked for another person or for a state organisation. The person received, or was entitled to receive, remuneration (3, 4).

Functional Capacity Evaluation (FCE): This is the objective measure of a person's ability to perform functional work activities (5). It is a systematic approach including observation and reasoning based on purposeful activity that is an actual work movement. It should determine the maximal ability or capability of the person. The evaluation should produce an explanation or outcome statement that is explanatory in addition to the objective measure of the activity (6-9).

Participant: Referred to clients who read the information sheet and signed the consent form to participate in the study.

People with Disabilities: For the purposes of this study, as the research considered disability within a South African work context, disability was defined in accordance with the definition provided in the Employment Equity Act of 1998 which states that

> *" people with disabilities means people with a long term or recurring physical or mental impairment which substantially limits their prospects of entry into, or advancement in, employment"* s1 (10).

Presenteeism: This refers to employees who are present at work despite the presence of illness and are not functioning at their full capacity (11) .

Worker: Referred to clients who have fulfilled a worker role, but may not have been formally employed by an organisation at the time of participation in the study. They may have been self-employed or their service contract with the company may have been terminated.

Throughout this dissertation the term 'he' has been utilised to refer to both male and female participants in the study.

Abbreviations

The following abbreviations were utilised in this study:

ABC	⇨	Accommodations and Barriers Checklist
CRPD	⇨	Convention on the Rights of People with Disabilities
Disability	⇨	An alteration of an individual's capacity to meet personal, social or occupational demands because of an impairment. (11-13)
FCE	⇨	Functional Capacity Evaluation
ICF	⇨	International Classification of Function
MOHO	⇨	Model of Human Occupation
MWLQ	⇨	Modified Worker Limitations Questionnaire
OECD	⇨	Organisation for Economic Co-operation and Development
PLWA	⇨	People living with HIV/Aids
PWDs	⇨	People with disabilities
WEIS	⇨	Work Environment Impact Scale
WHO	⇨	World Health Organisation
WLQ	⇨	Worker Limitation Questionnaire
WRI	⇨	Worker Role Interview

CHAPTER 1: INTRODUCTION

According to The World Bank, chronic illnesses such as diabetes, cardiovascular disease, cancer, injuries, mental impairments, malnutrition and HIV/AIDS are the most common causes of impairment and subsequent disability over the longer term (14). The Organisation for Economic Co-operation and Development (OECD) stated that

> "*Too many workers leave the labour market permanently due to health problems or disability, and too few people with reduced work capacity manage to remain in employment. This is a social and economic tragedy common to virtually all OECD countries. It also raises an apparent paradox that needs explaining: Why is it that the average health status is improving, yet large numbers of people of working age are leaving the workforce to rely on long-term sickness and disability benefits?* " *Page 6* (15).

International research has documented a number of medical and non-medical factors that contribute to failure to successfully remain at work after a work-related injury or a chronic illness (14, 16-20) . These studies tend to be diagnosis specific, considering work in relation to a specific illness (21-24). The work factors reviewed in the studies discuss both medical and non-medical aspects, including employees' motivation, psychological status and social demographics.

Occupational therapists recognise that the categorisation of physical and psychological factors that contribute to humans' participation in the work environment is a simplistic description of a complex problem. Gary Kielhofner developed the Model of Human Occupation (MOHO) in order to describe the multi-factorial nature of human occupation (25). He argued that there are three interrelated components, volition, habituation and performance capacity, that influence participation in occupation, whether it be activities of daily living, play or work activities. He also described performance capacity as the bodily systems, including the musculo-skeletal, neurological and cardiopulmonary systems, as well as the mental and cognitive abilities that are required to interact effectively in occupation. Finally, he describes the complex, multi-layered environment within which all human occupation occurs. He states that "*occupation is always located in, influenced and given meaning by its physical and socio-cultural context" Page 21* (26).

Kielhofner's statement regarding the complexity of the environment in which all human occupation occurs is particularly relevant when considering employment in South Africa.

A wide variety of environmental and psycho-social factors are present due to the unique cultural diversity and the multiple legislative, societal and demographic changes which have occurred over the past 20 years. As a result, the scope of occupational therapy within the private sector reflects the diversity of people in South Africa, including in vocational rehabilitation practices.

The researcher's private practice comprises of predominantly vocational rehabilitation, including functional assessments for insurers, employers and for medico-legal purposes. A variety of diagnoses is encountered, consisting of physical conditions, psychiatric conditions, work-related injuries, as well as motor vehicle and other traumatic injuries. Use is made of an extensive battery of assessments, including a Functional Capacity Evaluation (FCE), to assess the clients and a comprehensive report is prepared that makes recommendations about the client's ability to perform their own job, reasonable accommodations and/or further rehabilitation that may allow them to return to their job, as well as their ability to perform a suitable alternative position (5, 6, 9).

Clients who attend the practice may still be at work or may have recently stopped working. The clients may be submitting a claim for disability benefits to an insurance company, or require the assessment to submit a disability claim to the Workman's Compensation Fund. Alternatively, the employer may be investigating suitable methods of accommodating the client at work or investigating non-performance resulting from a health condition. Fitness to work may need to be determined in the event that the client, the employer or the insurance company has recommended that the client has recovered sufficiently to resume work duties. The FCE is utilised to determine what work functions the client is able to safely perform on re-entering the workplace, and to ensure that a suitable job match is identified which will maximise the client's work functioning within the constraints of the condition.

Many clients are encountered who have been diagnosed with a variety of chronic illnesses, including HIV/Aids, hypertension, cancer and cardiovascular accidents, A number of clients remain at work following the diagnosis of a chronic illness, managing the illness and the daily challenges thereof. However, other clients find the daily challenges in the working environment insurmountable and feel that they are no longer able to contribute meaningfully or to cope within a work environment. When exploring the reasons for clients stopping work during the FCE, responses include: "I take too much time off"; "My team members resent the increased sick leave usage"; "I have a new manager and I cannot explain my illness again"; "I had to take two days a month to

consult the doctor and obtain the medication from the government hospital"; or even on, one occasion, "I have been transferred to another building which does not have a lift and I cannot reach my desk". Thus, the combination of both physical barriers and psychological obstacles may influence the decision to withdraw from productive employment and the worker role.

Withdrawing from the workforce has significant financial and social consequences for both the employer and employee (27) . Instead of receiving temporary or permanent disability benefits from insurers, better financial security and sustained quality of life would be ensured for the employee if they were successfully accommodated or re-integrated into the workplace (15, 28-30) . Unfortunately, clients often have limited insight into the factors which affect them in the workplace and contribute to them either remaining productively employed or leaving the workplace.

Thus, this study aimed to examine the factors which affect clients with chronic illnesses in the South African work context in order to better tailor the services delivered to the clients in the private practice described above.

1.1 STATEMENT OF THE PROBLEM

Chronic illnesses have been associated with varying degrees of work limitation but there has been little examination of the relationship between chronic illness and work limitations as experienced by the South African employee. There is international research regarding the factors which may prognosticate work withdrawal as well as a successful return to work after a work injury or illness (31-33) (34-36). However these research findings may not be applicable in the South African work context due to the unique challenges associated with the work environment and skills demands in this country.

Low levels of education, high levels of unemployment, and culture-specific attitudes and beliefs pose unique demands in South Africa in relation to successful sustained employment in the context of chronic illness (37). Accommodating employees with disabilities in the workplace is difficult as they may not have the educational background required for alternative positions in a technologically demanding labour environment. Furthermore, they may have limited work experience and skills, which restrict their suitability for redeployment in alternative positions which may provide a better job match for the disability associated with the chronic illness in question.

1.2 PURPOSE OF THE STUDY

The purpose of this research was to gain a better understanding of the barriers and accommodations that clients with chronic illnesses perceived to inhibit or support their worker role in the work environment. This research aims to contribute to the professional body of knowledge used by occupational therapists in vocational practice to ensure that clients with chronic illnesses remain productively employed for as long as possible. Understanding the accommodations employees require will ensure that relevant accommodations are implemented in accordance with the requirements of South African legislation (3, 4, 10). Labour legislation in South Africa is conducive to the employment of people with disabilities. As many employees work for a period of time after being diagnosed with a chronic illness, their work life could be further sustained if the factors influencing their decision to withdraw from their worker role were better understood.

1.3 AIM OF THE STUDY

The aim of the study was to explore the perceptions of clients with chronic illness of the factors affecting employment.

1.4 OBJECTIVES OF THE STUDY

To achieve this aim the following research objectives were defined:

1.4.1 To determine whether clients expect to return to productive employment within six months of their occupational therapy assessment, and if so, in what context.

1.4.2 To identify the barriers that clients with a chronic illness had experienced in maintaining the worker role.

1.4.3 To identify the reasonable accommodations the clients required to participate in employment.

1.4.4 To explore environmental factors and worker roles that support or inhibit the clients' work functioning.

1.4.5 To compare the information obtained about factors influencing work participation with the client's own expectations of productive employment in the next six months.

1.5 IMPORTANCE OF THIS STUDY

Occupational therapists in vocational rehabilitation practice are actively involved in rehabilitation, which requires formulation of complex return-to-work intervention programmes for clients with chronic illnesses. These programmes include work hardening and work trials, which are implemented over a period of three to six months. However, without an adequate understanding of the physical and psychological barriers that inhibit or support working with chronic illness, or the barriers that a client perceives as being present, the successful outcome of such work interventions will be limited because these barriers will not be addressed sufficiently. Vital opportunities to maintain productive employment may be missed, and negotiations with employers regarding reasonable accommodations will also be jeopardised without this knowledge. Lack of successful and productive reintegration of employees into the workplace may also incorrectly validate employers' perceptions regarding presenteeism by people with disability, thereby justifying any existing discriminatory practices. In addition, there is a paucity of South African research relating to work with chronic illness which makes this study necessary and important.

This study therefore aims to identify barriers to employment for clients with chronic illness that result in some degree of work dysfunction in South African workplaces, the accommodations they required in the workplace and the factors contributing to return to work, thereby taking take the first step towards removing such barriers and facilitating return to work by enhancing awareness and knowledge.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter describes the current literature on the key concepts pertaining to work sustainability that underpin this study. This chapter is organised so that it initially reports on the prevalence of chronic illness and its impact. Next the review considers the theories and frameworks pertaining to work that are used by occupational therapists in vocational rehabilitation. The chapter then examines literature relating to factors influencing employment of people with chronic illness. Finally, the prognostic indicators for return to work of clients with chronic illness are reviewed.

Literature was sourced from the following databases: CINHAL, Science Direct, Medline, EBSCO, OVOID Host and Springer Link. The key words and phrases searched included "chronic illness", "chronic disease", "employment", "barriers", "limitations", "accommodation", "return to work", "psychological factors", "functional capacity evaluation", "vocational rehabilitation" and "return to work". Priority was given to studies published since 2000 although some literature used fell outside of this time frame where no more recent literature could be found. Studies relating to chronic conditions resulting from workplace injuries, musculoskeletal disorders, traumatic brain injury or psychotic disorders were excluded as these conditions were excluded from this research. Literature relating to chronic conditions such as workplace injuries, musculoskeletal conditions such as back pain, traumatic brain injuries and psychotic disorders were specifically excluded as these conditions were not included in the research.

Limited South African literature pertaining to chronic illness and work was found, but unpublished data from insurance companies provided some numerical information. Most of the research reviewed consisted of systematic reviews and descriptive studies carried out internationally.

2.2 CHRONIC ILLNESS AND DISABILITY

Chronic diseases are reported to impact significantly on the health of the world population and there is a increase globally in chronic health conditions due to the aging population (38). Life expectancy is increasing in countries such as the United States of America (USA) because of improved health care and public health care strategies (39). In 2011,

the ten leading causes of death in the USA included eight chronic diseases: 1) heart disease; 2) malignant neoplasms; 3) chronic lower respiratory diseases; 4) cerebrovascular diseases; 5) Alzheimer's disease; 6) diabetes mellitus; 7) pneumonia and influenza; and 8) nephritis, nephrotic syndromes and nephrosis (39). Heart disease and cancer are the leading causes of death, accounting for approximately half of all deaths each year.

Many of these chronic diseases result in some degree of limitation in participation in either one or more occupational domains: self-care, home management, leisure or work functioning (12, 40). The International Classification of Function (ICF) recognises a shift in focus from acute hospital-based care to long-term community-based services for chronic conditions and, thus, makes use of a biopsychosocial model to describe an integration of the medical and social factors influencing function (12, 40). "Disability" as described by the ICF does not solely describe a biological or a social phenomenon. The ICF uses the term "disability" as an umbrella term for impairments, activity limitations and participation restrictions. The ICF recognises the negative interaction between an individual with a health condition - including chronic diseases, disorders and injuries - and their personal and environmental factors (contextual factors) which results in a disability. The ICF describes human functioning at three levels: the human body or body part; the functioning of the whole person; and, finally, the functioning of the whole person in the social context. Disability may occur when there is dysfunction at any one of these levels (40).

The ICF reiterates that *"disability is always an interaction between the features of the person and features of the overall context in which the person lives, but some aspects of disability are almost entirely internal to the person, while another aspect is almost entirely external" Page 9* (40). This ICF description of disability thus expects that, with this broader understanding of disability, most people will at some time in their lives experience some degree of disability, whether it is at the level of the human body due to a health condition, the functioning of the person due to a medical condition, or the manner in which the person is able to interact within their social context. Disability can therefore be considered along a continuum, where the health condition results in functional difficulties ranging from minor to major deficits which impact on a person's life.

According to the WHO and World Bank's Report on Disability

> "*data on all aspects of disability and contextual factors are important for constructing a complete picture of disability and functioning. Without information on how particular health conditions, in interaction with environmental barriers and facilitators, affect people in their everyday lives, it is hard to determine the scope of disability. People with the same impairment can experience very different types and degrees of restriction, depending on the context. Environmental barriers to participation can differ considerably between countries and communities" Page 22* (20).

Understanding the unique context of each person is therefore critical when considering the degree of disability a person experiences as a result of the health condition and its resultant impact on the work functioning of the individual.

2.2.1 Prevalence of Chronic Illness and Disability

The World Bank's Report on Disability in 2011 estimated that 15% of the world's population live with disability and, of these people, between 110 and 190 million adults have significant difficulty in functioning (38). Submissions to the 66th WHO Assembly suggested this is an underestimation and that 19% of the world population experiences some form of disability, with more than 1 000 million people with disability and between 110 to 190 million people with significant limitations in functioning (41).

As can be seen from these statistics, determining the worldwide and national prevalence of disability has been described as complex (42). A number of interrelated factors determine whether a health condition, with its contextual factors, constitutes a disability. The presence of several conditions or co-morbidities further impacts on the extent of disability experienced. The reported prevalence of disability may also be affected by the manner in which data is collected. A number of studies have identified differences in prevalence depending on whether data was collected by self-report measures or other measurement tools (19). Self-report measures require the person to make a judgement call about what they perceive their functioning to be in relation to the context in which they function and, thus, participants may over- or underestimate the degree of function or dysfunction depending on the context in which it occurs. However, measurement of disability by a third party may neglect to consider the full range of impact of the disability on the person's everyday functioning and may, therefore, not be any more accurate in collecting prevalence data (42) .

Further, prevalance data was negatively influenced by the definitions utilised in the research. Grammenos, in his report on "Illness, Disability and Social Inclusion" prepared for the European Foundation for Working and Living Conditions (Eurofound), highlighted that the description of chronic illness or longstanding limiting illness was open to interpretation (42). The term "chronic" implies several months or a number of years since diagnosis, and the inclusion of conditions of shorter duration may alter the statistics significantly. Terms such as severe and moderate may also be used without constant definition (42).

Thus caution must be exercised when comparing prevalence statistics between studies, different data capturing methods and in different communities. The statistics presented below regarding chronic illness must be considered in this context.

The World Bank Report on Disability highlights that disability affects women, older people and poor people disproportionally, with a higher incidence of disability occurring in these populations (20). The prevalence of disability is also greater in low-income countries than in higher-income countries (14, 20). An estimated 80% of people with disability live in developing countries, including South Africa (38, 43). There is no doubt that the prevalence of disability has an impact on employment throughout the world and, more specifically, in South Africa as a developing country but more detail regarding the prevalence of chronic illness needs to be obtained in relation to these broad statistics.

2.2.2 Impact of Chronic Illness on Employment

The prevalence of disability globally has a significant impact on the employment status of people suffering from chronic conditions, which is of particular relevance to this study. The OECD reported that working-aged people with disabilities experienced significant labour market disadvantage, with an average employment rate of between 33% and 44% (15, 27). Falk, Bruce, Burström, Thielen, Whitehead and Nylen, in a study of poverty risks amongst people with and without chronic illness, found that the poverty risks were inversely related to the level of education of people with chronic illness i.e. the lower the level of education, the higher the level of poverty experienced (28). They further noted that between 2005 and 2010 the trends in poverty for people with chronic illness had risen in Sweden, but not in Denmark and the United Kingdom despite the economic recession, possibly due to less favourable changes in the social security system in Sweden.

Not only does the prevalence of poverty risk associated with disability vary according to country, but unemployment rates also vary according to the nature of the disability (14, 19, 20, 28). The highest unemployment rate was amongst those with a mental illness. Estimates state that 75% of those of working age with mental illness are unemployed in the United Kingdom. Mental illness is the most prominent reason for claiming disability benefits in Switzerland, accounting for over 40% of the total disability claims submitted (29).

These studies covered developed countries with well-developed infrastructure, access to good health care systems and effective reporting mechanisms. It is, however, difficult to quantify the extent to which people with disabilities are employed in developing countries as a significant proportion of these people are not reflected in labour market statistics as they work in the informal economy (38). Despite this, it is evident that people with chronic illness and subsequent disabilities continue to experience exclusion from the labour market, thereby heightening poverty risks. If, however, their circumstances are to change, they must have access to some form of employment in order to change their poverty status and resultant social circumstances (28) .

2.2.3 Cost of Chronic Illness and Disability

There are not just poverty risks and social exclusion associated with the unemployment of people with chronic illnesses and disabilities but direct financial costs as well (28). These costs include the financial burden on people with disabilities relating to standard of living, health care costs, as well as items such as assistive devices, special transportation options, special diets or costs of a personal nature (19, 30) . Although there is agreement that there are financial implications associated with disability, there is no agreement in the literature as to how to calculate such costs. Estimates vary from between 11% and 69% of income in the United Kingdom to between 29% and 37% of income in Australia (30, 44).

There have been some attempts to estimate the broader economic implications of excluding people with disabilities from the workplace. Metts, in a study for the World Bank in 2000, found that societies are deprived of between US$ 1.37 to 1.94 trillion in gross domestic product due to the exclusion of people with disabilities (PWDS) from employment (14).

There are also less obvious costs associated with living with a disability. Even when people with chronic illness or disabilities are employed, they often require additional sick leave to attend medical consultations and obtain their medication as well as dealing with direct consequences of the illness such as times of increased pain, fatigue or reduced energy (27). The need to take additional sick leave has a detrimental effect on the individual, their immediate family, the employer, the workgroup or team as well as the health services and disability insurer. Judiesch and Lyness found that increased sick leave usage also has a negative impact on career progression as well as on salary advancement as participants with frequent absences received lower wages and fewer promotions (45).

The literature reviewed reported other indirect costs of an economic nature. These costs include the loss of productivity due to absences from work and reduced work output resulting from the onset of disability (presenteeism) (11, 30, 46) . Indirect costs may be further compounded by insufficient accumulation of human capital resulting from lower levels of skills training or from underutilisation of the person with a disability in their existing position. There is also the loss of taxes generated by a government as a result of the loss of productivity associated with chronic illness and disability. Further indirect costs may also be incurred by family members of people with disabilities as the family member may need to leave work or work reduced hours to care for a chronically ill or disabled family member (38).

It is therefore evident that there are both direct and indirect costs resulting from the barriers to employment for people with disabilities.

2.3 CHRONIC ILLNESS AND DISABILITY IN THE SOUTH AFRICAN CONTEXT

As this research takes place in Gauteng, South Africa, it is important to obtain an overview of chronic illness and disability in the South African context. The Integrated National Disability Policy White Paper published in 1997 recognised that historically,

> *"the majority of South African people with disabilities had been excluded from the mainstream of society and had thus been prevented from accessing fundamental social, political and economic rights. The exclusion experienced by people with disabilities and their families was the result of a range of factors, for example: the political and economic inequalities of the apartheid system; social attitudes which have perpetuated stereotypes of disabled people as dependent and in need of care; and a discriminatory and weak legislative framework which has sanctioned*

> *and reinforced exclusionary barriers. The key forms of exclusion responsible for the cumulative disadvantage of people with disabilities are poverty, unemployment and social isolation" Page 6* (47).

A similar view was expressed in the National Disability Policy and Guidelines for Implementation which stated that

> *"the majority of people with disabilities in South Africa have been excluded from mainstream society and have thus been prevented from accessing fundamental social, political and economic rights and opportunities. This has resulted in widespread poverty, unemployment and social segregation. The exclusion experienced by persons with disabilities and their families is a result of a range of factors such as exclusionary barriers in society, the legacy of the inequalities of the apartheid system and the enduring stereotypes of persons with disabilities that continue to impact negatively on the lives of persons with disabilities" Page 20* (48).

The rights of people with disabilities have been increasingly recognised over the past 20 years at international, regional and country levels and much is being done to promote equality and restore dignity and independence as well as to improve their well-being. South Africa is a signatory to the Convention on the Rights of People with Disabilities (CRPD) and its Optional Protocol (36). The Protocol obliges governments to invest sufficient funds and expertise to remove all potential barriers so as to unlock the potential of persons with disabilities. There is, thus, a heightened recognition in South Africa of the need to address the social inclusion of people with disabilities.

2.3.1 Disability Prevalence in South Africa

As this study took place in South Africa, the Census 2011 provided some important data regarding disability prevalence which will be discussed in more detail (37).

Statistics South Africa used the following definition of disability, which had been adapted from the CRPD, in Census 2011:

> *"the loss or elimination of opportunities to take part in the life of the community, equitably with others that is encountered by persons having physical, sensory, psychological, developmental, learning, neurological or other impairments, which may be permanent, temporary or episodic in nature, thereby causing activity limitations and participation restriction with the mainstream society" Page 7* (37).

Census 2011 indicated that there was a national disability prevalence rate of 7.5%, which is significantly lower than the global prevalence of 15% described by the World Bank and 19% by WHO in 2013 (14, 20) . Census 2011 made use of six domains to determine the presence of a disability, i.e. seeing, hearing communication, remembering/concentrating, walking and self-care. These were then rated on a scale of difficulty, from "No difficulty" to "Cannot do it at all". The Disability Index measure considered a person disabled based on the proportion of the population with at least two activity domains characterised by 'some difficulty' or one domain with 'is a lot of difficulty" or "unable to do at all'. Although valuable data on the prevalence of disability was obtained in the Census 2011, the definition of disability was not consistent with the ICF Classification, the WHO definition or even the definitions provided in South African legislation. This may, therefore, account for the difference in prevalence rates nationally when compared to the international prevalence of disability.

There was some variation in the provincial prevalence rates with the Free State and Northern Cape provinces having the highest proportion of persons with disabilities (11%) whilst the Western Cape and Gauteng provinces had the lowest percentage of persons with disabilities (5%) *Page 57 (37)*. Gauteng and the Western Cape have the highest employment rate but many labour force participants originate from a rural area. It is thus speculated that people with disabilities return to or remain with older family members at the rural family home, thereby lowering the disability rate in these two provinces.

Census 2011 found a higher prevalence rate among females (8.3%) compared to males (6.5%), which is not dissimilar to the international gender rate (28, 49). However, more men were found to be impaired than women. The Census noted that women were more likely to become disabled as a result of chronic illnesses but disability in men was attributed to work-related injuries and greater risk-taking behaviour.

There was no data presented in Census 2011 relating to the prevalence of specific chronic illnesses, merely the possible long-term impact of the physical or mental impairment. As a result, a greater variety of literature was reviewed to obtain more detailed information on the prevalence of chronic illness in South Africa in order to obtain a more specific context for this study.

2.3.2 Chronic Illness in South Africa

South Africa has a high burden of chronic diseases of lifestyle. Statistics South Africa in 2005 reported that 20% of deaths in the 35 – 64 year age group were a result of chronic lifestyle diseases (34). A comparative risk study in 2000 by Norman, Bradshaw and Schneider ranked the risk factors associated with causes of death (35).
Of the risk factors they identified, chronic diseases of lifestyle achieved high rankings: High blood pressure was ranked second, tobacco smoking third, alcohol harm fourth, high body mass index (BMI) fifth, high cholesterol seventh, diabetes eighth and physical inactivity ninth. However, the study did not provide any information on the incidence of disability associated with these conditions, although the life expectancy of people with these conditions is clearly limited (35).

In 2013, the South African National Health and Nutrition Examination Survey (SANHANDES-1) sampled 8 166 households and interviewed 25 532 individuals from a wide variety of communities and socio-economic groups in order to determine a better understanding of the prevalence of non-communicable diseases and the risk factors for chronic diseases. (50). The self-reported rate of disability using the WHO-Disability Assessment Scale was 2.5%, which is much lower than the national prevalence identified in the Census 2011 (7.5%) and the international rate (19%).

However, on examination of chronic illness, the survey reported that 30.9% of participants indicated a family history of high blood pressure, followed by high blood sugar (20.7%). A lower number of participants reported a family history of stroke (8.9%) and heart diseases (7.6%). With respect to the participants themselves, 16.5% reported high blood pressure, followed by diabetes (5.0%), high blood cholesterol (4.2%), heart disease (2.2%) and stroke (1.8%). In the clinical examination, the number of participants who were pre-hypertensive (systolic blood pressure of 120 – 139 mmHg and diastolic blood pressure of 80 – 89 mmHg) was 31.8%. Twenty-four percent participants had raised total serum cholesterol and 18.4% had impaired glucose homeostasis. Diabetes had been diagnosed in 9.5% of participants (50).

The SANHANDES-1 thus details the significant burden of non-communicable diseases present in South Africa and attributes the rising burden of chronic disease to a number of risk factors, including underlying socio-economic-cultural aspects as well as behavioural and environmental factors (50).

Unemployment would contribute significantly to the socio-economic impact of chronic diseases due to financial constraints or an inability to successfully access suitable employment opportunities.

2.3.3 Disability and Employment in South Africa

In South Africa, Census 2011 reported that the level of employment by people with disabilities is only slightly lower (62%) than those people without disabilities (63.4%) (37). More men with disabilities were employed (66.6%) when compared to females (57.8%). These figures do not portray the full picture of unemployment amongst people with disabilities in South Africa as the data only included people with disabilities who seek employment. Hence there is not a significant difference between the employed and unemployed statistics contained in the Census. No differentiation was made according to the severity of the impairment and thus people with mild limitation were also included rather than limiting the data to people with significant functional limitation (37). These statistics therefore provide an incomplete reflection of people with disabilities who are unemployed in South Africa.

Census 2011 did however recognise that unemployment is one of a number of significant challenges facing people with disabilities and their families, considering many people with disabilities do not seek employment. Even amongst the employed population, earnings according to disability status differed significantly, with people with disabilities earning an average annual income of R 27 143 whereas people without disabilities have average earnings of R 49 977 (37).

In order to better understand the statistics relating to disability and unemployment in South Africa presented above, as well as the theoretical constructs of work utilised in this study, the theoretical concepts relating to work were investigated.

2.4 WORK IN THE CONTEXT OF OCCUPATIONAL THERAPY

Work or productivity is a central concept within occupational therapy and is considered a key performance area in the occupational domain of clients (9, 51, 52). Occupational therapists have promoted the active engagement of their clients in “curative work”, particularly in mental health, since the inception of the profession in the 1910s and 1920s (53). During World War II the use of productive occupation was utilised with injured soldiers to return them to their primary occupation of contributing to the war effort.

Lysaght and Wright described how, despite the expansion of the term "occupation" to a broader definition meaning "involvement", it has long been linked with the concept of vocation or work (54). According to Lysaght and Wright, many of the components inherent in the education and practice of occupational therapists are readily applied to work practice, including task analysis, ergonomic analysis, work-site redesign and work performance restoration. Occupational therapists' knowledge of the cognitive, motivational and dispositional aspects of performance and disability further contribute to their understanding of the psychosocial factors which impact on work disability (9, 54).

One frame of reference and two models of work were researched in greater detail because of their frequency of use and relevance to occupational therapy practice in South African settings.

2.4.1 Biomechanical Frame of Reference

The biomechanical frame of reference is frequently used in vocational assessments and rehabilitation. It provides an understanding of work limitations from a biological perspective by utilising the study of forces and their effect on the body which results in impairments of body functions and structures, including joint range and muscle strength (55). Therapists utilise this understanding of pathology and its impact on the body to plan treatment, monitor progress and, ultimately, determine the endpoint of treatment. This frame of reference is probably the one most frequently encountered in the physical field of clinical practice as it underpins most assessment techniques and instruments used in daily practice such as a goniometer or grip strength gauge. Specialised work assessment tools such as the VALPAR Component Work Samples (VCWS) and Functional Capacity Evaluation (FCE) are usually rooted in the biomechanical frame of reference, as they measure specific work performance skills based on mobility, stamina and endurance as well as sitting, standing and lifting (5, 51). A limitation of this approach is that there is little scope for consideration of psychosocial, environmental or job specific factors and hence provides a limited perspective for interventions regarding employment.

2.4.2 Canadian Model of Occupational Performance and Engagement

This model attempts to identify guidelines for occupational therapy practice in Canada. Its key concepts cover the interaction between the person, environment and occupation domains as well as engagement between the three domains (52). It is a client-centred perspective which places the person at the centre and considers the influence of the

cognitive, affective and physical performance components through dynamic relationships between the person and their environment which results in occupation due to these interactions. It also describes the environment in which occupation occurs as having four domains: cultural, institutional, physical and social. This model proposes that occupational challenges arise when there is any change in the person-environment interaction or when imbalance occurs in any one of the domains. The model thus describes the interaction between the person and the environment, as well as how these interactions influence occupational performance.

The Canadian Occupational Performance Measure and Engagement (COPM-E) was developed for application of the model through the use of a semi-structured interview and has been extensively researched (22, 56) This model is not specifically aimed at work but addresses all interactions of the person. Although much research has been done into this model, little of the research has been focused on work but rather on the development and examination of the assessment tool (9).

2.4.3 The Model of Human Occupation

The Model of Human Occupation (MOHO) was initially published in 1980 by Gary Kielhofner and is probably the most intensively researched of all the models of work (26). He used systems theory to describe all human occupational behaviour. He proposed three interrelated systems, namely the internal system, the external system and the feedback/interlinking system. There are four components which specifically influence behaviour, including work behaviour and challenges:

- Volition – Refers to the thoughts and feelings of the individual and includes aspects of personal causation, values and interests. This component takes cognisance of the person's experiences, their interpretation of their experiences and events, and the anticipation associated with activities, and influences the person's choice of activity participation.

- Habituation – Refers to routine patterning of occupational behaviour so that it becomes semi-autonomous and is defined as "*The internalised readiness to exhibit consistent patterns of behaviour guided by habits and roles and fitted to characteristics of routine temporal, physical and social environments*" *Page 18* (26).

- Performance capacity in the lived body – Describes the individual's capacity to perform tasks in daily interactions. It includes the anatomical and physiological ability such as the musculoskeletal, neurological, cardiopulmonary and other bodily systems as well as the mental or cognitive abilities that are utilised for everyday activities. The concept of performance capacity is defined as *"the ability to do things provided by the status of underlying objective physical and mental components and corresponding subjective experience" Page 19-20 (26).* Performance capacity may, therefore, be considered to include the components of the biomechanical model discussed previously, as aspects of pathology will influence the person's ability to perform certain activities as well as their subjective experience of performing that activity.

Kielhofner further emphasised that all occupations, including work, occur within different environments and are influenced by the environment in a multi-faceted and complex manner. The context in which the occupations take place influences the objects they use, the people with whom interaction is required and the possibilities that exist for engagement and the meaning of participation (25, 26).

Kielhofner was of the opinion that the context or *environmental impact* can enable or disable the individual in the process of engagement in occupations and is often the critical element in an individual's occupation (26). Hence, work functioning would need to be considered in relation to the environmental context within which it occurs, as well as the opportunity, support, demands and constraints experienced by a particular individual as a result of the contextual factors including the physical and interpersonal aspects.

Different approaches have been proposed in the literature to describe people's work functioning. The biomechanical frame of reference provides a limited amount of information based on the study of forces and their impact on the human body. The COPM-E provides a more expanded model, but research on the use of the model in describing work functioning has been limited. MOHO is based on systems theory, which is frequently utilised in South African occupational therapy practice. This was the most comprehensive framework reviewed in the literature and thus it was used in this study as a framework for examining participation in work for people with chronic illness.

2.5 LEGISLATION RELATED TO PEOPLE WITH DISABILITY IN SOUTH AFRICA

Another key concept impacting on the employment of PWDs in South Africa is the legislation which dictates the employment conditions within which work function occurs.

Since 1994, many of South Africa's laws have been revised or totally redrafted. Particular consideration was given to disability in the Constitution of South Africa and the Bill of Rights, which prohibit discrimination against a person with a disability (57).

The employment of PWDs is provided for in the Labour Relations Act (Act 66 of 1995), the Basic Conditions of Employment Act (Act 75 of 1997) and the Employment Equity Act (Act 55 of 1998) which includes the Code of Good Practice on Key Aspects of the Employment of People with Disabilities (2002), amongst others (3, 4, 10, 58). Implementation of this labour legislation should, theoretically, have resulted in increasing accommodations for people with chronic illness and/or disabilities (57).

In additional to legislative changes, various strategies have been developed to optimise the environment for PWDs in South Africa, including the Integrated National Disability Strategy White Paper (47) and the National Disability Policy (48) which came into effect in 2010.

One of the challenges associated with reviewing disability and/or chronic illness in relation to work relates to the lack of consensus on the definition of disability. As discussed previously, the ICF recognises that disability occurs on a spectrum including impairments, activity limitations and participation restrictions. The South African Cabinet defined disability by considering activity limitations and participation restriction in society (48). These two definitions are broad and do not specifically relate to employment. The Social Assistance Act (No 13 of 2004) begins to consider employment by taking cognisance of person's ability to provide for his maintenance (59).

The Employment Equity Act has a much more specific definition which takes into account the person's employment options and the possibility of career development and promotion (10). The most specific definitions of disability are encountered when dealing with insurance companies. When employees apply for disability benefits when they stop working, each insurance company has its own specific definition of disability depending on the rules of the scheme or policy. These varying definitions result in confusion and, for the purposes of this study, the definition provided in the Employment Equity Act will be utilised, i.e.

> "*a long term or recurring physical or mental impairment which substantially limits their prospects of entry into, or advancement in, employment"* s1 (10, 60).

2.6 BARRIERS TO EMPLOYMENT

Much of the literature available relates to specific conditions such as multiple sclerosis (23, 31, 61-63), rheumatoid arthritis (64-66) and HIV/Aids (21, 56, 67, 68). Many studies were based in one specific country, or region of a country. These studies will be discussed briefly to obtain a global perspective in developed countries as well as to highlight condition-specific factors identified. This will be followed by review of the findings of studies which have considered the impact of a wider range of conditions on employment.

2.6.1 Personal Factors as Barriers to Employment

Many of the studies reviewed examined barriers to work regardless of their source, i.e. symptoms associated with the illness, the participant's home or social environment, or barriers associated with the work environment or the specific job (15, 32, 64, 67, 69). For ease of discussion, the factors will be discussed according to firstly, the personal factors and secondly, the contextual factors including the specific job and workplace of the participant.

Multiple sclerosis (MS) is one of the conditions that has been studied extensively regarding the impact on work, possibly because this condition is usually diagnosed during the individual's prime working years. Studies by Rumrill in the United Kingdom and Fraser, McMahon and Danczyk-Hawley in USA identified that as many as 30% of unemployed participants with MS attributed their jobless status to the physiological effects of the illness, especially fatigue (61, 70). Studies by Roessler, Rumrill and Fitzgerald (71), Pompeii, Moon and McCrory (72), and Smith and Arnette *et al* (73) found that participants diagnosed with MS who had more intrusive and severe symptoms were more likely to be unemployed than participants with less intrusive symptoms . Participants with progressive forms of the disease were at greater risk for job loss than those whose condition was more episodic and/or less intrusive (74). Participants who held jobs with higher physical demands, who worked in skilled or unskilled labour, or who required more mobility aids were less likely to sustain employment. Similar findings were made by Van der Hiele, Huub, Ruimschotel, Kamminga and Visser in their study of 44 participants with MS in Netherlands (75).

Roessler *et al* further found that employees with multiple sclerosis identified significant career maintenance barriers as a result of thought processing and memory deficits.

Multiple sclerosis sufferers who reported cognitive impairments were four times more likely to be unemployed than those who did not report cognitive impairments (71). However, a review of the literature by Pompeii *et al* indicated that participants with self-reported impairments in physical and cognitive functions were found to be capable of working through a series of independent neurological exams and occupational evaluations, as well as expressing the desire to work. It is therefore evident that independent measures of function, both physical and psychosocial in nature, can aid in the process of evaluating a PWD's functional limitations as self-reported symptoms may not solely determine their ability to work (72).

Smith and Arnette studied a sample of 50 participants with MS who were divided into three groups according to work status: 1) those who were working full-time, 2) those who reduced their hours, and 3) those who were unemployed (73). The non-working group reported that a broader range of physical/neurological symptoms was responsible for their change in work status which was different to the fatigue reported in the working group. The group of working participants, however, reported higher levels of disturbed mood compared with the non-working group.

A much larger study from 18 European countries consisting of 1141 participants with MS performed by Messmer Ucelli, Specchia, Barraglia and Miller also found a significant difference in personal factors between the group of employees who were working and those who were not at work, including cognitive dysfunction, visual impairment and mobility problems (63). This is consistent with the finding of other studies by Smith and Arnett, and Van der Hiele *et al* (73, 75). Interestingly, the study by Messmer Ucelli *et al* found no significant difference in fatigue, urinary difficulties and balance deficits amongst those who were working and those who were not working, although these aspects were cited in a number of other studies (23, 31, 62, 73). This may be due to the larger sample size and the multinational profile of the participants when compared to the other study cited.

Allaire, Li and LaValley examined the barriers to work reported by 121 participants with rheumatic disease at risk of leaving work in Eastern Massachusetts (64). More than two thirds of the participants reported experiencing 10 or more barriers in the workplace. Most participants reported barriers directly associated with the disease process that affected the performance of task handling. Other barriers identified related to the work context and physical demands. These authors found that disease symptomatology was a barrier that affected work performance, for example, material handling (56% of participants),

prolonged sitting for eight hours (50%), energy-related barriers (46%) and writing (41%). Interestingly, these authors found that although the functional limitation of the sample was mild, all participants reported difficulty in working and reported a large number of work barriers (mean = 15.11) with a maximum of 44 barriers reported out of 99 possible barriers.

A self-report study of 432 patients with systemic lupus erythematosus by Al Dhanhani, Gignac, Su and Fortin reported that 85% of their sample were initially working but only 63% were still employed after a mean of 5.5 years (76). They found that individuals with a lower level of education, and those with comorbid conditions such as hypertension or fibromyalgia, and more disease activity at baseline were most likely to stop working. Work disability was also reported more often amongst participants with a younger age of diagnosis as well as those who experienced greater levels of physical and mental impairment.

A number of studies have researched the relationship between managing a chronic illness at work and psychological status. Munir *et al* identified that participants with depression and/or anxiety demonstrated higher levels of psychological distress in the workplace when compared to workers without chronic conditions (77). They also identified a trend that participants with musculoskeletal pain, arthritis and rheumatism similarly reported raised levels of psychological distress compared to the rest of the workforce.

The same researcher also studied work limitations and work adjustments among a sample of 610 chronically ill employees with arthritis, musculoskeletal pain, diabetes, asthma, migraine, heart disease, irritable bowel syndrome and depression working at a UK University (78). They studied three distinct job characteristics: physical, cognitive and social work demands. Their results indicated that almost 40% of the sample reported a current work limitation. Depression had the highest effect on all three job characteristics, whilst musculoskeletal pain tended to impact the physical work demands. Diabetes and migraine generally impacted the cognitive demands of work. Multiple concurrent conditions presented a wider range of work limitations that require work adjustments (78).

The above studies indicate that there are factors directly related to the illness which negatively influence work participation. However, these are not limited to the physical limitations associated with the disease, and the impact of depression and the cognitive implications of the condition need to be considered.

2.6.2 Contextual Factors as Barriers to Employment

Environmental and workplace factors often play a considerable role in influencing the sustained work of people with chronic illnesses over and above the personal factors associated with the condition.

Martz studied 316 adult Russians with various disabilities, both physical and mental, using self-report questionnaires (69). The study identified the most frequently reported barrier to employment to be the loss of disability pension or insurance benefits, followed by the residential physical environment preventing people accessing the workplace.

A smaller, more recent study in the Netherlands by Varekamp and Van Dijk found that almost 90% of the 121 participants, who had been ill for 10 years on average, identified that it was problematic to find a balance between life at home and work and this was reported as a severe problem for over fifty percent of the participants (79). The study participants also identified problems interacting with supervisors or colleagues as barriers to work. Interestingly, almost seventy five percent of the participants with chronic physical conditions were so fatigued that they were considered to be high risk for illness or work disability. This may be due to the disease itself but may also be attributed in part to psychological distress. The physical layout of work equipment was the least reported issue in the study. Problems in interactions with the supervisor or with colleagues and commuting was more frequent than performing and finishing work tasks. Therefore both physical barriers to work and the social context of work precluded the participants from working (79).

Physical barriers to employment include working hours, the work environment and the physical demands of the job. Allaire, Li and La Valley's study found that the most prominent contextual barriers described by people with rheumatoid diseases were working an eight-hour day, handling the demands of the job and prolonged sitting (64). Working conditions, tasks such as repetitive work and writing, and various workplace accessibility barriers were the next most prevalent physical barriers reported in this study.

Social barriers to employment, including reactions of employers and co-workers, have been reported to impact on workers with MS's ability to retain employment (23, 31, 62, 70, 71, 73). Munir *et al* found that both practical and emotional support from employers was required or desired by employees who remained at work, including employers demonstrating sympathy and understanding (80). These aspects were also reported to

contribute to the development of self-efficacy in managing symptoms within the work environment.

Social barriers have also been reported by workers with HIV/Aids. Discrimination (both real and perceived) and stigma attached to the disease in the workplace were identified as social barriers in a study of 51 workers with HIV/Aids by Glenn, Ford and Moore (68). The most prominent contextual issues relating to maintaining work or returning to the workplace in Glenn *et al*'s study included (in rank order) fatigue, fear of exposure to disease, requirements for vocational training, issues surrounding disclosure of the condition, loss of disability benefits, flexible work scheduling requirements, concerns regarding health and the length of time out of formal employment. Brooks, Martins, Ortiz and Veniegas identified similar social barriers in his study of people with HIV/Aids who were considering re-entering the workplace (67). The study by Brooks *et al* highlighted additional contextual barriers including taking antiretroviral medication during working hours and requiring time away from work for doctor consultations (67).

Contextual barriers to employment have thus been described in the literature as consisting of physical barriers in the workplace as well as difficulties in accessing the workplace, and social barriers such as supervisor and colleague interaction, possible discrimination as well as practical and emotional support for people with chronic illness. These factors further influence the development of self-efficacy in managing a chronic illness.

2.7 ACCOMMODATIONS REQUIRED FOR EMPLOYMENT

Evidence suggests that many individuals with chronic illnesses want to remain active and in productive employment (81). South African labour legislation places a responsibility on employers to provide disabled and chronically ill employees with reasonable accommodations in the event that they disclose their illness (10, 58). Exploration of the nature of the accommodations required to remain employed is thus important as the concept of reasonable accommodation is central to SA labour legislation governing PWDs.

Section 1 of the Employment Equity Act defines reasonable accommodation as "*any modification or adjustment to a job or to the working environment that will enable a person from a designated group to have access to or participate or advance in employment*" Page 5 (10).

The concept of reasonable accommodation is clarified in the Technical Assistance Guidelines on the Employment of People with Disabilities as "*modifications or alterations to the way a job is normally performed, should make it possible for a suitably qualified person with a disability to perform as everyone else. The type of reasonable accommodation required would depend on the job and its essential functions, the work environment and the person's specific impairment" Page 13* (60).

The nature of accommodations required by people with chronic illness in the workplace has been investigated in various studies in the literature. Martz determined that the two most frequently required accommodations perceived as necessary by 121 employed and unemployed Russians with disabilities, were both tangible accommodations, such as a reduction in the physical aspects of work tasks, and intangible accommodations, including a flexible work schedule (69). This finding may be due to the mixed diagnoses and employment status in the sample. Martz concluded that the identification of tangible and intangible accommodations were suggestive of specific points of intervention required during a vocational rehabilitation programme i.e. negotiation with employers regarding the performance of work tasks specific to the position and the innovative use of assistive devices to accommodate physical job-related tasks (69).

Varekamp and Van Dijk found that, of 121 Dutch participants who had worked for ten or more years with various chronic illness and participated in the study of workplace problems and solutions, 84% had experience of one or more accommodations (79). This is higher than the results obtained by Baanders, Rijken and Peters, and Allaire *et al* (33, 64). This may, however, be due to sampling bias as the people involved in the study had remained employed for ten years or more following the diagnosis of the chronic illness. The most common accommodations identified in Varekamp and Van Dyk's study consisted of intangible accommodations including the opportunity to plan tasks oneself, assistance from colleagues, flexible work schedules, reducing challenging tasks, a slower pace of work, and work from home options. Twenty percent of participants had tangible accommodations ranging from a customised chair or desk to computer equipment such as speech recognition software, a special keyboard, an ergonomic mouse and a headset for the telephone.

Munir, Leka and Griffiths' study indicated that negotiation with employers is a crucial aspect of obtaining reasonable accommodations in the workplace (82). However, such negotiations require the disclosure of the chronic illness.

Studies by Glenn, Ford, Moore and Hallor (68) and Brooks *et al* (67)of men with HIV/Aids suggest that fear of stigmatisation and discrimination may affect such disclosure and thereby negatively affect people's ability to access both tangible and intangible accommodations .

A number of factors may influence an employee's choice to disclose an illness including stigma, the type and severity of illness, and perceived organisational support. Munir *et al* studied 610 employed people with chronic illness in the UK with regard to self-disclosure of their illness in the workplace (82). They found that the employer's practical and psychological support for chronic illness has to be one of the components to be considered in the successful management of chronic illness in the workplace. They reported that past research had suggested that workplace disclosure of personal information may result in psychological distress, discrimination and increased harassment, but recent studies indicate that if employees are experiencing health-related distress at work, they are now more likely to disclose the condition, thereby facilitating accommodation in the workplace in the long term. Munir *et al* (78) in their study at a UK university also found that disclosure of chronic illness was an important predictor of reasonable accommodations.

Within the South African context, labour legislation only requires an employer to provide reasonable accommodations for a condition if the employee discloses that they have such a condition, although the precise diagnosis does not have to be disclosed. The only exception to this requirement occurs when the physical or mental impairment is readily visible to the employer, such as occurs in someone dependent on a wheelchair for mobility (58). Although the regulatory environment may provide for the tangible and intangible accommodation of people with chronic illness, this may not actually happen in practice.

Baanders *et al* identified that, when accommodations were present, intangible accommodations, such as revised job assignments or adjusted working hours were more common than tangible adjustments, such as assistive devices or adjusted furniture. This suggested that intangible job accommodations could be provided more readily, on an informal basis and with less effort. Alternatively, such solutions are more apparent to managers as they are more overt. This may also have been due to lack of knowledge of assistive technology or limited access to expert advice in the provision of tangible accommodation (83).

Similarly, in the USA Glenn *et al* found in their study of men with HIV/Aids that the accommodations most frequently required were intangible including flexible work hours, scheduling and a supportive sick leave policy (68). The tangible accommodations required included reduction of physical demands, part-time work requirements and close access to restrooms. These findings differed to the findings by Allaire *et al* (64). People with rheumatoid arthritis most commonly reported accommodations that were tangible, particularly the use of special equipment. Changes in seating positions were common, as well as shades on lighter windows, back supports, a cushioned mat for standing activities, computer wrist supports and earphones. This difference may be accounted for by the overt nature of the deformities associated with rheumatoid arthritis, while the difficulties may be less obvious in hidden disabilities such as HIV/Aids.

Munir *et al*'s study however, found that disease characteristics such as the severity of illness and fatigue were not found to be predictors of work accommodations (78). The strongest indicators for tangible work accommodations were musculoskeletal pain, arthritis and asthma, while the disclosure of chronic illness to a line manager was the strongest indicator for intangible adjustments, including social support. The researchers concluded that health conditions requiring tangible adjustments are more easily identified and the adjustments are made available to employees earlier. This, however, is not consistent with the findings of Baanders *et al* discussed previously (83). Munir *et al*'s study further indicated that, unless disclosure of chronic illness took place, work adjustments and social support were unlikely to be received for cognitive limitations. One exception appears to be depression. Munir *et al* found that people suffering from depression were less likely to receive a cognitive work adjustment despite disclosure of the illness (78). The authors were of the opinion that this implies line managers and organisations may not be fully aware of the nature of depression and its impact on work performance. Secondly, it may be due to the stigmatisation of depression.

The above studies highlight the variety of both tangible and intangible accommodations available to people with chronic illness in the work environment. However, the literature does not identify any specific trends associated with the type of the chronic illness, although disclosure of the chronic illness is more likely to result in the provision of reasonable accommodations in the work environment.

2.8 RETURN TO WORK WITH CHRONIC ILLNESS

The last consideration in this literature review concerns the perceptions of people with chronic illness as to whether or not they would be able to return to work within a six-month period. Available literature was reviewed to determine the factors, both personal and contextual, that influenced perceptions of whether or not people with chronic illness could return to work. Factors which predicted successful return to work with a chronic illness were also examined. Much of the available literature on this topic is reported in qualitative with a small number of participants (16, 17, 22). Most studies focused on factors related to specific illnesses or groups of illnesses that influence return to work rather than identifying factors across a variety of conditions or in specific work settings.

In 2012, South Africa had the highest prevalence of people with HIV/AIDS compared to any other country in the world: 6.1 million people living with HIV, and 240,000 HIV-related deaths (84). As a result of the national roll-out of anti-retroviral therapy, the more than two million people living with HIV/Aids (PLHA) have received heightened attention in South Africa. Many studies in the international literature have documented factors influencing employment of PLHAs. Reasons provided by PLHAs for the desire to return to work include the wanting to be productive, to feel normal and for financial gain (21). However, concerns raised around return to work included worries about the disclosure of their status, the possibility of job-related discrimination, requirements for flexible employment which would allow medical needs to be managed, change or the loss of their medical benefits, as well as needing to address the practical aspects of re-entering the labour force after a lengthy absence (21, 24, 56, 67, 68).

Brooks and Klosinski examined further the factors associated with returning to work among 757 unemployed PLHAs in the United States (21). A number of personal factors were perceived to be barriers to work including: the need for time off for doctors; consultations, taking medications during working hours; concern over changes in health as a result of working; meeting the physical demands of the position; concerns about lack of job skills; fears that increased work stress will negatively affect health; improvement in health if working; and finally a lack of skills required to secure employment. These findings are consistent with those of Martin, Steckart and Arns (24). Almost half of their participants also experienced depression as a barrier to re-entry. A third of the participants also reported a lack of employment-related skills, including job experience, work skills and education (24).

In South Africa, readiness to return to work is usually decided by the employee's treating doctor as labour legislation requires the presentation of a medical certificate signed by the treating doctor to justify sick leave or determine fitness for work (3, 4, 10). However a medical practitioner may not be best suited to accurately determine readiness to return to work. Schweigert, McNeil and Doupe used focus groups to explore treating physicians' perceptions of the barriers presented to their patients when returning to work (85). The most important issues identified by the physicians were 1) the lack of accommodated work and 2) the differences in how absences from work were treated when compared to non-work-related absences. The authors were of the opinion that this supports the view that physicians have a simplistic view of the complex personal and contextual barriers to employment and the requirements for intangible and tangible accommodations faced by their patients with chronic illness when returning to work.

Research on physicians' ability to determine return to work was also done by Schreuder, Roelen, de Boer, Bouwer and Groothoff (86). Physicians were asked to rate written vignettes of 132 employees. The results indicated a wide variability in the physicians' opinion regarding the people with chronic illness's readiness for return to work, regardless of the illness. Agreement between the physicians on people's readiness to return to work was poor when considering work ability and motivation to resume work. It was reported that the physicians' attitudes and beliefs informed their decision on people's readiness to return to work rather than clinical information.

A better approach than the physician's perspective for predicting return to work is thus required. A number of standardised instruments, including The Worker Role Interview (WRI), were used by Ekbladh, Haglund and Thorell, and Ekbladh, Lars-Hakan and Haglund to identify environment and psychosocial factors that influence return to work (87, 88). In their two studies eight of the 17 items on this scale were predictive for returning to work in the future in a sample of 53 chronically ill people with a variety of diagnoses. The most important items for predicting return to work after six months and two years were "Expectations of job success" and "Daily Routines". These two items together correctly indicated whether the participants would fall into the working or non-working group two years after the WRI was administered for 96% of the participants. The authors were of the opinion that determining people's motivation to work, particularly their own belief in their ability to work, is important for returning to work after sick leave. This finding has been supported by other studies (32, 89).

Ekbladh, Haglund *et al* reported that the following items showed a significant difference between the working and non-working groups: Expectations of success (p=0.003) Assesses abilities and limitations (p=0.043); Takes responsibility (p=0.018); Appraises work expectations (p=0.034); and Perceptions of work setting (0.020). Although the initial study examined people who had been out of work for between 60 and 90 days, a later study by the same authors revealed similar findings when examining 48 people who had been away from work for an average of two years (87).

Hansen, Edlund and Henningson used a combination of five different questionnaires with 121 adults on sick leave (89). Similarly, the strongest predictive factors for return to work were: 1) expectations of success at work, 2) a high sense of life satisfaction and 3) a sense of coherence. They also identified that intervention early in a period of sick leave and the amount of sick leave taken in the past were also predictive of return to work. Other positive factors not identified by Ekbladh *et al* included a higher education level and being employed in a white-collar job in the private sector. Hansen *et al* further found significant gender-related differences regarding return to work. They noted that it was easier to identify factors that would indicate a return to work for the men than women but easier to identify factors that would indicate an inability to return to work for the women. Dekkers-Sanchez, Wind, Sluiter and Frings-Dresen similarly found themes that promoted return to work included working conditions, personal characteristics as well as the social environment (16).

All these studies found that people with chronic illnesses identified both personal factors and contextual factors as a stronger predictor of return to work than the diagnosis provided by a doctor's certificate.

Dekkers–Sanchez *et al* examined this issue from the perspective of health professionals in order to gain their perspective on the factors promoting return to work (17). Twenty-three vocational rehabilitation professionals in the Netherlands participated in focus groups. The study found that effective communication and language are promoting factors. It highlighted the importance of a client-centred approach including a multi-disciplinary team interested in the return to work process as well as working towards a common goal because of the complexity of problems experienced by employees requiring different specialist intervention. The study also found that return to work interventions should target obstacles at different levels simultaneously. The vocational rehabilitation professionals who participated in the study also emphasised the importance of the personal characteristics of the employee, including having a positive attitude towards

going back to work, and social support in the workplace as promoting factors. The researchers concluded that work-related and personal factors (such as work environment, cognitions and work motivation) are decisive for the employees' return to work success. The professionals agreed that the use of combined interventions including a holistic approach involving the employee and the workplace are the best way to address the multi-dimensional nature of work disability and maximise return to work outcomes.

A recent study by Laaksonen and Gould in Finland examined return to work for residents whose temporary disability benefits started in 2008 and whose causes of disability varied (90). They identified that younger age and higher education increased return to work, but gender, private and public sector employees, occupational classes and diagnostic category did not discriminate between the participants who expected to return to work and those who did not expect to return to work. Return to work was more probable amongst participants who were employed before receiving the temporary disability pension and who participated in vocational rehabilitation while receiving the disability pension. They concluded that return to work after receiving a temporary disability pension was relatively uncommon in Finland, but that the strong association between vocational rehabilitation and return to work suggested that increasing vocational rehabilitation with this cohort may promote return to work (90).

Finally, a report of the South Australian WorkCover Corporation concluded that the literature up until 2006 indicated that there are multi-dimensional outcomes associated with work disability and return to work cannot be accurately predicted based on the medical knowledge or an understanding of the physical aspects of the illness or injury (32). The report identified that a number of factors, including the personal traits of the ill/injured worker, the medical and rehabilitation intervention, job factors including the psychosocial and physical characteristics, factors in the work environment, the worker's compensation or insurance scheme as well as the societal influences such as labour market conditions and the legislative framework, all have an influence in to work outcomes, regardless of the underlying diagnosis. This is consistent with the bio-psychosocial approach utilised by occupational therapists, which considers more than just the diagnosis of the condition and places significant emphasis on personal and contextual factors and their relationship with the nature of the individual's employment. The report concluded that there is insufficient knowledge about the variety of factors influencing the return to work in any individual or group. It recommended that further research designed around the examination of almost endless combinations of demographic, injury and individual psychosocial variables without a thorough understanding of contextual factors in

the work environment, cannot improve the knowledge base or expect to enhance return to work strategies.

2.9 CONCLUSION

Review of the literature indicated there is a high prevalence of disability worldwide, ranging from 15% to 19%, depending on the definition of disability and the data collection process (14, 19, 20). Disability has been described as having an impact on poverty risks, as well as unemployment. Unemployment rates also vary according to the nature of disability. It has, however, been difficult to quantify disability in developing countries as a significant portion of people are employed in the informal sector. They thus do not reflect in labour market statistics. Both direct and indirect costs have been described as a result of the exclusion of people with disability from formal employment (19, 42). Even when employed, people with chronic illness and disability earn significantly lower incomes than people without disability.

In South Africa, disability prevalence of 7.5% is markedly below the international rate (37). Chronic illness has significant prevalence in South Africa, although the self-reported rate of disability was 2.5%. A significant number of people suffer from chronic illnesses that are associated with disability at some point, including high blood pressure (16.5%), diabetes (5.0%) and hypercholesterolemia (4.2%) (50). Employment rates amongst people with disabilities are only slightly lower than people without disabilities in South Africa, but this is attributed to the large number of people with disabilities who do not seek employment.

Labour legislation in South Africa since 1994 was reviewed in order to outline the legal framework within which people with disabilities function in the workplace. Overall, the legislative framework in South Africa supports employment of people with disabilities, but implementation of the legislation may be difficult due to the differing definitions of disability utilised in the various acts (3, 4, 10, 59).

Work in the context of occupational therapy was reviewed, including one frame of reference and two models of work frequently utilised by South African occupational therapists. The Model of Human Occupation is the most extensively researched model of work and utilises systems theory to describe the interaction of the various domains which influence occupational functioning, as well as work functioning as it considers factors far beyond the diagnosis of the chronic illness (25, 26, 91).

A number of barriers to employment were explored, including personal factors and contextual or environmental factors. The psychological stress of managing a chronic illness at work as well as the higher rate of stress identified in people managing depression and anxiety in the workplace when compared to workers without chronic illness was highlighted. Contextual barriers included physical barriers to employment such as work hours, physical demands of the job and work environment. Social aspects of the work environment were also determined to pose a barrier to employment. These included reactions of colleagues and supervisors to disclosure of chronic illness, as well as the extent of practical support and emotional support provided to the person (64, 67, 69, 85).

Factors influencing the provision of accommodations for employment suggested that self-disclosure of illness in the workplace had a significant impact on the employer support for chronic illness. A number of factors influence employees' decision to disclose an illness including the nature of and severity of illness, stigma and the employees' perceptions of support from the organisation. Accommodations for chronic illness in the workplace may be either tangible or intangible. Literature varied regarding the frequency of provision of either tangible or intangible accommodations and no specific trend could be identified relating to the nature of the chronic illness, although disclosure of the illness was more likely to result in the provision of reasonable accommodations in the workplace (64, 69).

Finally, the factors associated with predicting and promoting return to work were considered. Literature suggested that physicians' perceptions of people's readiness to return to work was not always accurate. The literature suggested that use of standardised assessment instruments was more likely to identify the broad variety of environmental and psychosocial factors influencing a person's ability to return to work (85, 86, 92, 93).

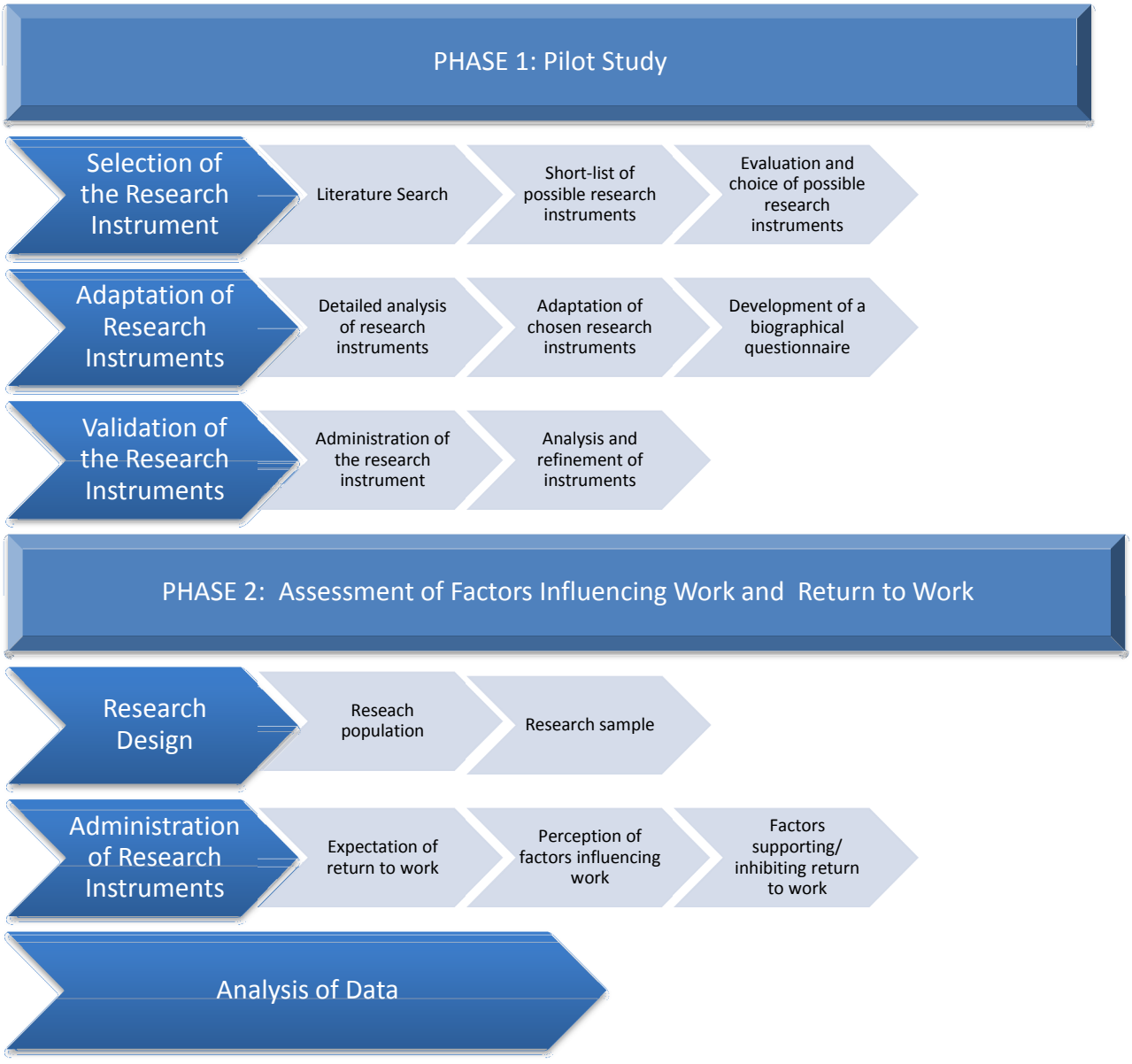
Overall, the literature indicated the complex nature of work disability and return to work. It cannot be predicted accurately from a knowledge base of the physical or medical aspects of the illness. Both personal and environmental factors impact on a person's ability to work, as well as broader social aspects such as fear of stigmatisation and discrimination. As a result of this literature review, the current study was undertaken in order to identify factors within the South African context which influence people with chronic illnesses' perceptions of their ability to work.

CHAPTER 3: METHODOLOGY PHASE 1 - PILOT STUDY

3.1 INTRODUCTION

The purpose of this research was to gain a better understanding of participants with chronic illnesses' perceptions of factors influencing employment in the South African work environment. The study further aimed to gain an enhanced understanding of the accommodations they believed would assist them in sustaining their worker role.

Figure 3.1 - Schematic Representation of Research Process



The research was organised into a number of phases and figure 3.1 describes the research process that was undertaken.

As no suitable research-specific instruments could be found, the research was conducted in two phases:

1. Pilot study: The identification and validation of research instruments to collect the data. This process will be discussed in this chapter
2. The main study, which will be discussed in the next chapter.

3.2 SELECTION OF THE RESEARCH INSTRUMENT

A literature review identified a number of quantitative measures which have been utilised internationally to gather data to measure clients' perceptions of the impact of chronic health problems on the execution of work functions. Data that needed to be collected to meet the research objectives of this study included:

- Biographical information including demographics and medical data
- The impact of the condition on work function
- Identification of barriers to work
- Accommodations required for work, and finally
- Participants' expectation for return to work within six months of participating in the study.

The measures that were documented in the literature were predominantly self-reports and, therefore, subjective in nature. Objective information was limited but was necessary to collect in order to determine the psycho-social and environmental variables that may influence the participants' ability to work. The instruments identified in the literature had all been developed and utilised in other countries and it was thus necessary to ensure that they were valid in South Africa.

The South African labour force has diverse demographic characteristics, including language, gender, race, socio-economic circumstances and educational background (35, 37, 57). The skills level encountered within the labour market also varies greatly. Thus participants encountered in the vocational rehabilitation setting come from differing socio-demographic backgrounds and have differing economic status, educational levels as well as work experience. Thus, there are a broad range of factors which will influence employment status and potential return to work over and above the nature of the condition with which they been diagnosed.

The research instruments therefore needed to enable the participation of diverse participants of varying literacy and educational levels, as well as allow for a wide range of environmental and psycho-social factors to be evaluated.

Figure 3.2 describes the steps followed by the researcher to select and test the research instruments.

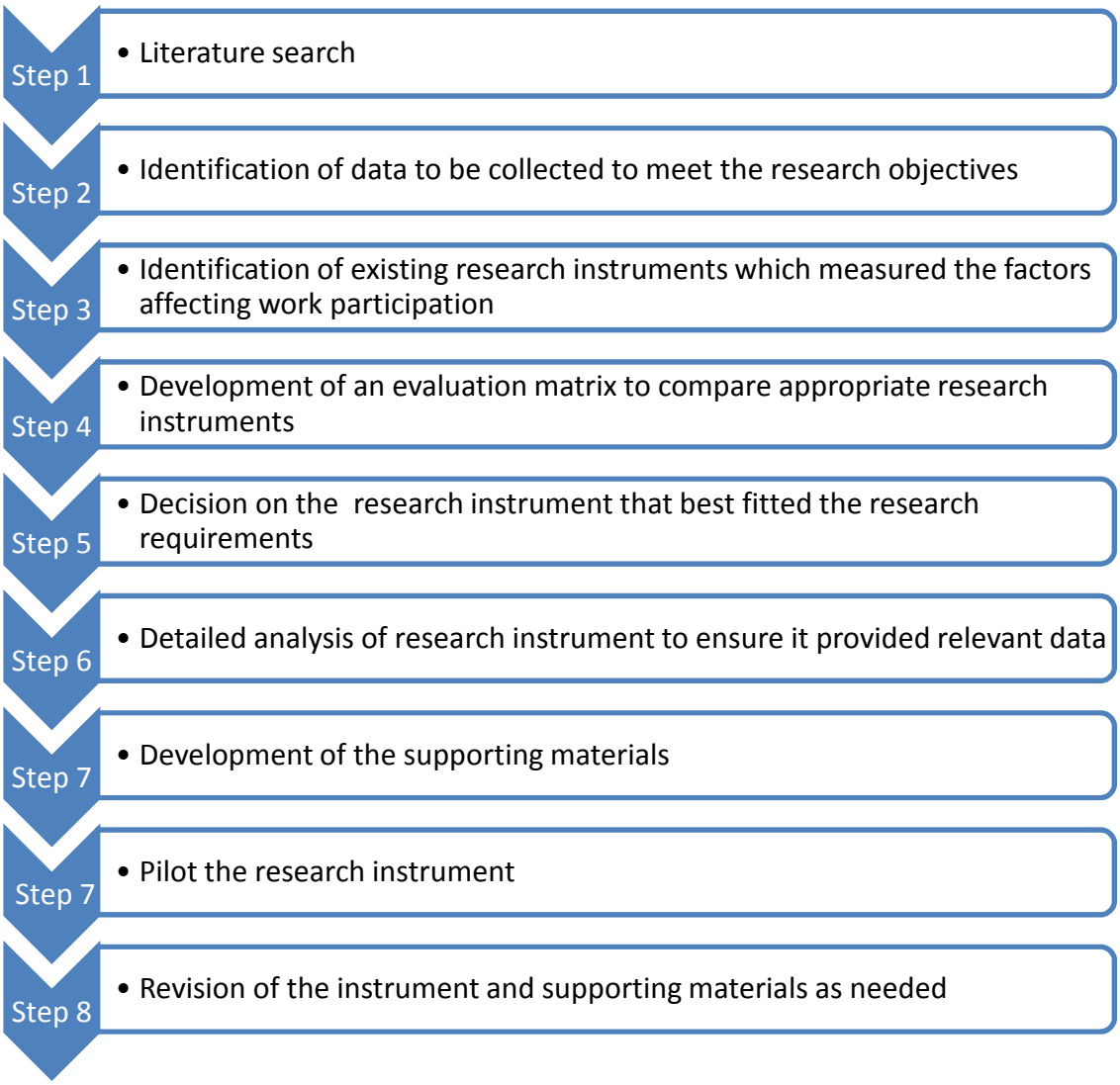


Figure 3.2 - Procedure used to select research instruments

3.2.1 Literature Search

A review of the English medical literature relating to occupational therapy and vocational rehabilitation after 2004 was undertaken to establish the measurement scales which have been used to obtain descriptive data about a participant's specific work context as well personal factors influencing work participation. A computer-based search of similar databases was utilised, as discussed in the literature review. Initial keywords included "vocational rehabilitation", "perceptions of work", "barriers to work", "self-report tools/instruments", "work measurement", "work environment" and "return to work measures".

A search of the bibliographies/reference lists of the identified articles was also conducted in order to obtain additional articles on possible research instruments. References to specific tools or instruments were followed. Some instruments identified had been developed in languages other than English and then translated into English for further studies. If the instrument had been standardised in English, it was then included in the search. Identified articles were critically examined to determine whether the research instruments were based in a relevant practice framework.

Gary Kielhofner, developed the Model of Human Occupation to describe the interrelated way in which people interact with their environment in the pursuit of all occupations (25, 26). This was the most researched framework identified during the literature review and, thus, it was decided to use this framework for examining participation in work for clients with chronic diseases.

The MOHO emphasises that all occupations, including work, occur within and are influenced by the environment, which is complex and multi-faceted. All human occupation is influenced by the spaces in which occupations take place, the objects utilised and interactions with people (26). Kielhofner also described the effect the interaction between the opportunities, support, demands and constraints of the physical and social environments has on a particular individual, calling it *environmental impact Page 21 (91)*. He was of the opinion that this impact can enable or disable the individual in the process of engagement in occupations. Environmental impact is described in the model as frequently being the critical element that either aids or detracts from an individual's occupation. Hence evaluating factors influencing work function needed to consider the internal factors, the external environment or context, as well as the feedback/interrelating factors.

These aspects would need to be accommodated in a comprehensive research instrument, including the participants' values and interests, the volitional process, their habits and roles, their sense of effectiveness as well as information on their performance capacity to participate in work. Objective information regarding the multi-dimensional environment within which the participant worked would also be required.

Factors contained in the research instrument would therefore include:

- *Personal demographic information*, including age, medical condition, education level, occupation and an overview of the employment history.
- *Disability-specific information*, including the nature of the disability, length of time since diagnosis, treating professionals and sick leave utilised.
- *Volitional components* including the client's perception of whether they would be able to return to work in the future and their motivation to work.
- *Performance capacity* to perform the job.
- *Habituation components* including information on the participant's routines, habits and roles that would enhance or hinder work functioning.
- *Contextual information including:*
    - Environmental factors, including the physical workspace, travel arrangements to and from work, and specific illness-related barriers such as wheelchair accessibility.
    - Employment factors such as sick leave availability, interpersonal relationships, satisfaction with income and management style.
    - Job demand factors, including both the physical demands and the psychological demands of the most recent job. The extent of job satisfaction was also deemed to be relevant.
    - Psychosocial factors including family support, financial situation, family stressors and the support of colleagues and management.

The next step was to determine whether there was an existing research instrument which would provide this data.

3.2.2 Identification of Existing Research Instruments

The literature search identified many instruments designed by different professionals, including industrial and clinical psychologists, social workers and occupational therapists. The instruments had been utilised to evaluate the limitations experienced by people with disabilities in the workplace as well as their perceptions of their function in the workplace.

Many instruments had been developed for use by human resource practitioners, rather than health professionals. The majority of instruments identified were self-report questionnaires or semi-structured interviews, which could be administered either individually or in groups. The instruments thus needed to be evaluated and prioritised based on their relevance to the information which was being sought to meet the objectives of this study.

3.2.3. Evaluation of Possible Research Instruments

Thirteen questionnaires on chronic illness and worker disability that had been utilised in international research were critically reviewed to determine if they would be suitable research instruments for this study. A matrix was developed against which all the possible instruments could be evaluated, taking into consideration good research practice, the objectives of this study, the theoretical framework of MOHO as well as the information in the literature relating to the psychometric value of each instrument.

All possible instruments were critically evaluated against the following criteria:

- ☐ The instrument should have been cited in research between 2004 and 2014.
- ☐ Must provide **quantitative data regarding** demographic, disability and work factors.
- ☐ **Must be consistent with the inclusion** criteria for this study i.e. the participant should have been actively at work within the last twelve months.
- ☐ May consist of **self-report questionnaire, structured or semi-structured interview**.
- ☐ **Good reliability and construct validity** should be demonstrated.
- ☐ Limitations of the instruments had been researched.
- ☐ The instrument and/or its rating scale should not be copyrighted or expensive to purchase.
- ☐ The data should be readily extracted from the scale, without use of patented tools or computer programmes.

Each research instrument was then plotted on a table. Once the table had been completed, the instruments were critically reviewed based on the extent to which each would contribute meaningful information to this study.

The table containing the detailed review of the possible instruments can be found in Appendix A.

3.2.4. Results of Evaluation of Possible Research Instruments

Seventeen possible research instruments or methods for collecting data were identified. Preliminary evaluation of the instruments resulted in a number being excluded for the following reasons:

- The instrument required the participants to be actively at work at the time of completion.
- The instrument required participants to have been at work within the last 30 days.
- No information was included on the various contextual factors, but only on one aspect of the personal and contextual factors described above.
- Data was based on the participant's formal job description or employer rather than their own perceptions of factors affecting work.
- A number of instruments were copyrighted and thus could only be obtained at significant cost.
- Several of the instruments did not provide for the multi-dimensional nature of disability.
- Psychometric properties of the instruments had not been demonstrated.

Many of the research instruments described considered either the physical or the psycho-social domains, but did not provide for a holistic overview of disability. Physical disabilities such as mobility limitations, and speech and hearing impairments were the primary focus of several instruments, whereas psychological and stress-related factors were the predominant focus of other instruments.

From the literature search and evaluation matrix, it became evident that no one single research instrument that was appropriate for collecting data specific to the research objectives could be found in the literature.

3.3 ANALYSIS OF THE CHOSEN RESEARCH INSTRUMENTS

Once the initial list of possible search instruments had been reviewed, a short list of suitable instruments was identified, taking into account the best match to the research criteria.

Each of these short-listed instruments was then tabulated against the factors affecting work participation discussed in 3.2 to determine which of the questionnaires provided the most comprehensive information in relation to the theoretical framework of the research.

Table 3.1 – Comparison of Research Instruments against Work Factors

FACTORS	POSSIBLE RESEARCH INSTRUMENT
1. *Personal Demographic:* Age, condition, gender, education, occupation, time with employer	↳ WHO Health and Work Performance Questionnaire(94) ↳ Functional Capacity Evaluation (5)
2. *Disability Specific Information:* Date of diagnosis, treating professionals, medication, sick leave taken prior to stopping work, absenteeism	↳ Health and Work Performance Questionnaire ↳ Functional Capacity Evaluation
3. *Job Demands:* Physical demands: work hours, working postures, work breaks Psychological demands: stress levels, time pressures, monotonous tasks, job control & decision making, job satisfaction, employer support	↳ Work Limitations Questionnaire (95, 96) ↳ Worker Role Interview (97) ↳ Work Environment Impact Scale (98)
4. *Employment Factors:* Physical work space, sick leave policies, workplace accommodations, interpersonal relationships, satisfaction with income, management style, disclosure of illness, harassment, discrimination, productivity	↳ Worker Role Interview ↳ Work Environment Impact Scale
5. *Work Limitations:* Physical accessibility, ergonomics, technology, output measures, training participation, management style, work hours,	↳ Accommodations and Barriers Checklist (69) ↳ Work Environment Impact Scale
6. *Psychosocial Issues:* Family support, transport, financial situation, family stressors	↳ Worker Role Interview ↳ Work Environment Impact Scale

The following two self-report questionnaires were identified as suitable research instruments as they covered a number of the required factors:

- Work Limitations Questionnaire (WLQ) (95, 99, 100)
- The Accommodations and Barriers Checklist (69)

The original questionnaires are contained in Appendices B – 3 and C – 2. Although these two self-report questionnaires would provide useful subjective information, broader, less subjective methods were also required to determine less overt internal factors such as the participant's motivation to work, the attitude of the participant to reintegration into the

workplace and the support systems available to the participant. The literature search identified two semi-structured interviews which addressed the participant's worker role as well as evaluating the impact of the work environment on work functioning.

The use of semi-structured interviews would allow for a more detailed exploration of the participants' perceptions of the barriers present with their workplace that limited or facilitated their worker role in relation to their chronic illness.

- The Worker Role Interview (WRI) (97, 101)
- The Work Environment Impact Scale (WEIS) (98, 102)

These two different standardised interview formats were used to determine suitable interview questions. The interviews had a number of overlapping questions and were combined into one comprehensive interview. On completion of the interview, a four-point Likert rating scale was utilised to record the participants' responses and obtain quantitative data on each interview. Each rating scale was completed independently despite the combination of the semi-structured interviews into one comprehensive interview.

Detailed analysis of each instrument was then done to ensure that all relevant data would be collected as well as ensuring the psychometric properties of consistency and reliability.

3.3.1 The Workers Limitations Questionnaire

The Workers Limitations Questionnaire (WLQ) is a 25 item questionnaire which is self-administered *(95).* It was developed by Lerner, Arnick, Rogers, Malspeis, Bungay and Cynn for use in the pharmaceutical industry in the USA to obtain accurate information concerning the work and productivity impact of employee health problems. It was designed to measure the extent to which health problems interfere with the ability to perform job roles. It was utilised with participants who are currently employed to determine which health problems limit specific aspects of job performance and the productivity impact of these work limitations. It has also been utilised by employers to study, monitor and record changing employee health demographics. Managed care organisations and public health offices use the WLQ to survey and monitor the impact of interventions on employee health. It therefore measures the impact of disease on work tasks, including time factors, physical and mental demand, requirements for interpersonal relationships and output demands associated with the job.

The WLQ requires participants to rate the level of difficulty experienced in performing 25 specific job demands (96) (Appendix B – 3). These demands have the following defining features:

- ✧ Are associated with a wide range of jobs
- ✧ Efficiency in these jobs demands is affected by a wide variety of physical and emotional health problems
- ✧ The job incumbents rate these job demands as important/not important from their perspective
- ✧ The job demands will influence losses in individual work productivity if there is limitation present.

Most jobs comprise numerous tasks. This is reflected in the multi-dimensional nature of the task demands described in the questionnaire. The responses on the WLQ to the 25 items are combined into four work limitation scales:

- ♦ *Time management scale* contains five items addressing difficulty performing a job's time and scheduling demands.
- ♦ *Physical demands scale* covers a person's ability to perform job tasks that involve bodily strength, movement, endurance, co-ordination and flexibility.
- ♦ *Mental/interpersonal scale* consists of six items which pertain to cognitive job tasks and/or tasks involving the processing of sensory information. Three items relate to difficulties interacting with people in the work environment.
- ♦ *Output demands scale* contains five items relating to the ability to meet demands for quantity, quality and timeliness of completed work.

Responses are recorded on a five point ordinal scale. There was an additional category of response (the sixth point) for "does not apply to my job".

The WLQ, therefore, was considered to cover a number of factors regarding productivity in the workplace which may be negatively influenced by chronic illness.

The WLQ has been determined to be a valid self-report instrument which measures the impact of chronic disease and accurately portrays the role of a worker's health in work-related productivity (95). It has been utilised in a number of research studies and has been determined to be a reliable, valid measure (95, 103-105). The literature indicated that the questionnaire has high construct validity and internal consistency as well as good reliability ($p \leq 0.05$).

One of the limitations of this scale documented by Allaire was that the direction of responses to the items on the Physical Demands scale is opposite to that of the other scales (99). This may cause confusion for participants and would need to be clearly marked.

A further limitation with regard to this specific study was that the WQL was developed to measure limitations of participants who were active in the workplace at the time of completing the questionnaire. The participants were asked to rate their work participation in the two weeks immediately prior to completion of the questionnaire. Each sub-section was thus worded to focus on productivity over the "past two weeks" (95, 96, 103).

For this study, the participants were required to have stopped working within the twelve months prior to completion of the questionnaire to be included in the study. The time frame required for the WLQ was therefore not appropriate for participants in the study because the participants in this research would not have been active in the workplace at the time of administration. The phrase "in the last two weeks" was therefore considered misleading and inappropriate. Permission was obtained to utilise the questionnaire. Permission was also obtained to modify the questionnaire so as to make it appropriate to participants who had left the workplace over the past twelve months (Appendix B - 1). The license agreement was signed and returned to the developer (Appendix B- 2).The questionnaire was retyped and the phrase "in the past two weeks" was replaced with the wording "in the last two weeks at work" (Appendix B – 3). The remaining wording and structure of the scale remained unchanged from the original questionnaire.

3.3.2 The Accommodations and Barriers Checklist

The Accommodations and Barriers Checklist (ABC) was also identified as a suitable instrument to obtain details regarding the employee's perceptions of the barriers present in the workplace and the accommodations that they require for their illness to be able to work productively *(69)*. This instrument, developed by Martz (2007), was used in a study of Russian PWDs. This instrument was determined to be a valid instrument to obtain information regarding barriers to employment and the accommodations required. Written permission to use the ABC was obtained from Dr Erin Martz (Appendix C - 1). This checklist contains 20 types of accommodations and 25 types of barriers that commonly occur within the workplace (Appendix C – 2). It was noted that no external reliability had been determined for the Checklist.

3.3.3 The Worker Role Interview

The Worker Role Interview (WRI) *(Appendix D)* is a semi-structured interview developed by Kielhofner in 1991 to measure psychosocial variables influencing work success. It was revised in 2010 to be relevant to any person with a disability and includes both the psychosocial and environmental variables that may influence the ability of the person to return to work. It consists of an interview with recommended questions (Appendix D – 1). On completion of the interview, a standardised rating scale is completed (Appendix D – 2). The User Manual consisting of the interview questions and rating scale was purchased from the MOHO Clearing House.

The WRI was considered useful as it collects data according to the MOHO, including information on the participants' personal causation, values, interests, roles, habits and perceptions of the environment.

Internal validity, test-retest and inter-rater reliability of the instrument have been established (101, 106-109). It has also been found to be valid across culture and language. Participants' responses are recorded by the interviewer on the standardised rating scale. No modification of the instrument was necessary, as it was believed to be suitable for use in South Africa as it had already been found to be valid across cultures and languages.

It was the most appropriate instrument identified to quantify a broad range of psychosocial and environmental data which was unique to each participant in the study.

3.3.4 The Work Environment Impact Scale

The Work Environment Impact Scale (WEIS) (Appendix E) measures 17 items related to the work environment such as time demands, task demands and physical work environment (98) . It was developed in 1998 and is still under revision. The items intend to measure the environmental impact on the participant as well as to discriminate between different levels of impact (110). It has been determined to have overall construct validity and to be cross-culturally relevant (102, 111). The User Manual was purchased from the MOHO Clearing House. The recommended interview questions and standardised rating scale are contained in Appendix E – 1 and E - 2.

These two rating scales were completed after one comprehensive interview to cover the participants' role performance at work as well as to explore the impact of the work environment on the participant.

3.4. DEVELOPMENT OF A BIOGRAPHICAL INSTRUMENT

Although two potential self-report questionnaires and two interview formats had been identified, no instrument for collecting biographical information pertinent to this study was identified. Thus a questionnaire to collect the required biographical information had to be developed

Using the research objectives, clinical reasoning and clinical experience, the researcher identified the required demographic information required on *The Brief Demographic Questionnaire* (Appendix F - 1).

Three sections relating to personal information, employment information and medical history were included to obtain specific participant-related information to be recorded by the participant. Check boxes were utilised to capture defined options relating to the type of work to ensure more uniformity of responses. Occupational classes were selected according the classes described in the Dictionary of Occupational Titles (127). A fourth section, consisting of check boxes, captured the participants' self-reported perceptions of their ability to return to work. All identifying personal data was excluded from the questionnaire to ensure confidentiality was maintained.

Based on the literature search and a detailed analysis of existing research instruments, it was decided that a biographical questionnaire, two modified self-report questionnaires, the MWLQ and ABC, followed by a comprehensive interview consisting of the WRI and WEIS, would be the most suitable research instrument to generate the quantitative information required to answer the research questions.

3.5 PILOTING THE RESEARCH INSTRUMENTS

Due to the changes which were required in the format of the original self-report questionnaires, a pilot study was conducted. This was to ensure the adapted questionnaires collected valid and reliable quantitative data which was relevant and meaningful to this specific study within the South African context.

Piloting the research instrument followed the process outlined in Figure 3.3:

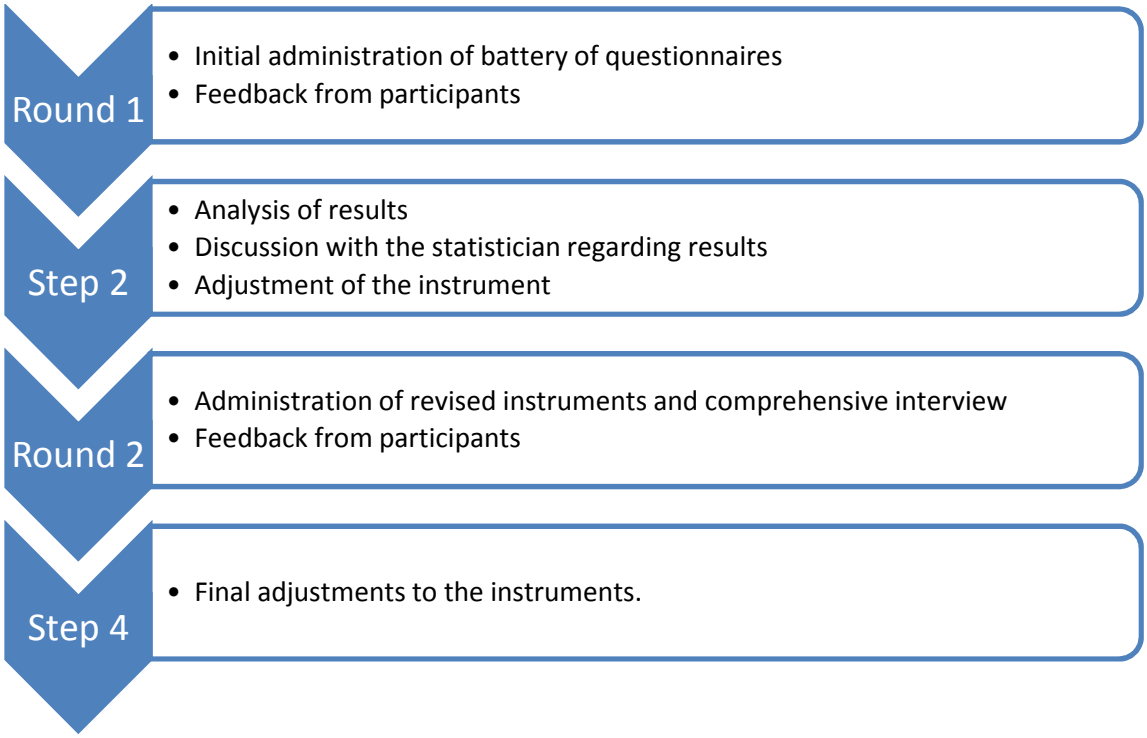


Figure 3.3 - Piloting of Research Instruments

3.5.1 Methodology of the Pilot Study

Pilot Population

The sample of participants for the pilot study was drawn from individuals referred to the researcher's practice for a FCE as a result of a chronic illness.

Pilot Sample

Ten participants who met the inclusion criteria were invited to participate in the pilot study. These clients were provided with an information sheet (Appendix G - 1) and consent letter (Appendix G - 2).

Inclusion criteria included:

- All participants had been diagnosed with a chronic illness; and
- They had been actively employed for at least two years.

Participants who had been referred to the researcher's practice for a Functional Capacity Evaluation (FCE) and who provided informed consent to the study were included in the pilot study group.

The questionnaires were administered prior to the FCE in order to preclude any interviewer bias.

Ethical Considerations

The ethical considerations for the study were the same for the pilot study and the main study. Informed consent was obtained from all participants prior to their participation in the pilot study. The ethical considerations are elaborated further in Chapter 4 under section 4.8.

Round 1: Initial Administration of the Questionnaires

The battery of questionnaires was initially administered to five participants. On completion, participants were asked to give verbal feedback and provide any comments on the questionnaires. Discussion with the participants revealed that there were areas of concern in the Brief Biographical Questionnaire as well as the ABC as follows:

- *Brief Biographical Questionnaire*: They expressed concern that too much information was requested. Information such as the medication which a participant was taking was considered to be irrelevant to the perceptions of barriers to work.
- *ABC:* Clarity was requested by four of the participants on the ABC. The instructions were clear, but the rating scale was ambiguous for the Accommodations portion of the Checklist.

Review of the completed questionnaires revealed that a number of participants failed to tick the check box on the left hand side of the accommodation section of the ABC, despite completing the right hand side.

Discussion with the statistician revealed that the Brief Biographical Questionnaire neglected to determine the participants' perception of whether or not they were able to return to work. This question was therefore included as well as information about the nature of the job they perceived themselves to be capable of performing i.e. their own job, their own job with changes or a different job.

Changes were made to the questionnaires as follows:

1. *Brief Biographical Questionnaire:* The information regarding medication was removed from the demographic questionnaire (Appendix F – 2).

2. *The ABC:* was revised so that the barriers component was administered first, followed by the accommodations section. The rating scale was modified to reduce ambiguity and the check boxes on the left side of the text were removed. It became apparent that different concepts had been mixed in the rating scale by the developer, probably in an attempt to obtain continuous data reflecting the degree of satisfaction the employee had with the accommodation. The existing Likert scale was considered not suitable for the context of this study.

   The rating scale was therefore changed to obtain dichotomous data e.g. did the employee think that they require the accommodation; had they requested it and were they satisfied with the accommodation (Appendix C – 3).

3. No difficulties were experienced in the administration of the MWLQ despite a change to the wording from the existing scale where the participant was asked "In the past two weeks at work" to "in the last two weeks that you were at work". No further modification was deemed necessary.

<u>Round 2: Administration of the Revised Questionnaires and Semi-structured Interview</u>

Round 2 consisted of the administration of the revised questionnaires to a further five participants. These participants were also requested to complete the semi-structured interviews. The battery of questionnaires was administered prior to the FCE. The semi-structured interview was administered after completion of the three hour FCE.

For administration of the two semi-structured interviews, a standard set of 98 questions was prepared, based on the recommended questions contained within the original instruments (Appendices D – 1 and E - 1). The purpose of the interview was to obtain sufficient information to complete the standardised rating scales after the interview. This interview was conducted after completion of the 3 to 4 hour FCE. On completion of the combined interview, the rating scale for each semi-structured interview was obtained (Appendices D – 2 and E – 2).

3.5.2 Results of Piloting the Research Instruments.

Participants were asked to provide verbal feedback on the completion of the questionnaires, FCE and semi-structured interviews.

Post-interview feedback with the participants indicated the following:

- High levels of fatigue were reported after completing the questionnaires, followed by the administration of the FCE for which they had been referred in the first place and, finally, the semi-structured interviews. This resulted in diminished concentration and sub-optimal detail was provided during the interviews.

- Participants reported much duplication of questions with information obtained during the interview component of the FCE being repeated during the administration of the semi-structured interview.

- The items on the battery of questionnaires were reviewed by three independent therapists. They were deemed to be relevant to both the chronic condition as well as the work issues that impacted on their ability to work.

- Content validity of the Brief Biographical questionnaire was therefore deemed sufficient when reviewed with the statistician.

When evaluating the information obtained from the feedback by the participants, the following was noted:

- Many of the questions asked in the WRI had already been asked during the interview component of the FCE – this confirmed the participants' perception of duplication of information. The interview component of the FCE is already a semi-structured interview and would easily allow incorporation of additional questions.

- Duplication of responses and some attrition of detail in the answers were confirmed to be present in a number of areas when considering the participants' responses.

- Review of the instructions for the semi-structured interview confirmed that the questions are not a defined part of the semi-structured interview, but the rating scale is the standardised component. This allows for the therapist to make judgements about less tangible concepts obtained through the interview as well as information obtained through assessment activities (97). As a result, it was decided that the information

obtained over the full FCE should be utilised in the completion of the rating scale e.g. "The client's ability to assess their own strengths and limitations" is observed as part of the full FCE as well as their responses on the interview questions. Incorporation of the FCE observations into the completion of the rating scale is allowed in the instructions for the research instrument and thus allowed for a more holistic rating.

- Overall information obtained from the interviews remained reliable and valid, but the administration of the interviews needed to be adjusted to optimise participation.

Following discussion with the statistician, it was agreed that the WRI and WEIS questions would be structured within the FCE interview to reduce fatigue and prevent duplication. Both rating scales allow for the utilisation of open-ended questions in accordance with the therapist's level of experience. A standard battery of questions is *not provided* as part of the instrument, instead the rating scale is the standardised component of the instrument. Therefore the use of existing interview questions is within the accepted mode of administration of the WRI and WEIS and was considered to have no impact on its validity and reliability.

These changes were expected to reduce the levels of fatigue experienced by the client. Endurance should be sufficient to obtain accurate reliable information with these changes.

3.6 CONCLUSION

This chapter described the identification, modification and piloting of the battery of research instruments which were identified as suitable for collecting the information within the South African context. The battery of research instruments was considered to be valid in obtaining the data required to meet the research objectives. Revisions to the questionnaires were made in order to ensure content validity based on feedback from a pilot study and expert review by a statistician. The final modified instrument was then utilised in the data collection. The research method used in the study will be discussed in Chapter 4.

CHAPTER 4: METHODOLOGY PHASE 2 - MAIN STUDY OF FACTORS INFLUENCING EMPLOYMENT

4.1 INTRODUCTION

This chapter describes the research design and procedure of the main study. The main study aimed to identify perceptions of participants with a chronic illness regarding a wide variety of factors influencing employment. Secondly, these perceptions were correlated to the participants' perception of whether or not they would be able to return to work in the next six months.

4.2 RESEARCH DESIGN

This research used a quantitative, descriptive, cross-sectional and correlation design to evaluate the perceptions of participants who have a chronic illness of the workplace factors that influenced their expectations of returning to work with a chronic illness.

A descriptive method was utilised to identify and describe the wide range of possible factors which may influence active work participation across a variety of different chronic conditions, occupations and employers.

The battery of self-report questionnaires which had been identified and piloted in Phase 1 of the study were used and scored to provide nominal data. These results were combined with a comprehensive interview in order to collect data on the participants' perceptions of the worker limitations, barriers and accommodations they required, and with objective data regarding the factors influencing work participation. This allowed for collection of both subjective and objective data. Both the subjective and objective data was analysed in view of the independent variable of the participants' opinion as to whether or not they would be able to return to work within the next six months. The participants' perception of their own ability to work was used as the correlation for the other data collected.

4.3 RESEARCH POPULATION

The population was all the clients referred to the researcher's occupational therapy practice for an FCE from the practice referral sources, i.e. insurance companies or employers.

4.4 RESEARCH SAMPLE

Non-probability, convenience sampling was utilised in this study to select the sample of participants (112). Convenience sampling was chosen as it allowed for the use of the existing referral base of insurers and employers who refer clients to the researcher's practice for FCE assessments. The majority of clients were referred because of the presence of a chronic illness or injury which had a deleterious impact on their work functioning. All potential participants who met the inclusion criteria were invited to participate in the research. There was therefore a known non-zero probability of selection as all clients referred to the practice were invited to participate in the research and no pre-screening occurred (112). Thus the sample consisted of participants who were readily available, were scheduled for an FCE and would already be participating in a comprehensive interview and assessment protocol, thereby minimising the time and expense, as well as the inconvenience to the participants.

Inclusion Criteria

The following criteria were used to select the study sample:

- ⇨ Ages of between 25 and 55 years
- ⇨ Both male and female
- ⇨ Active employment for at least two years in a permanent position requiring at least 25 hours of work a week prior to stopping work due to a chronic illness
- ⇨ Diagnosis of a chronic illness confirmed on the medical reports which had been received from the referral source prior to the FCE. The participant must have consulted a medical doctor regarding the symptoms of the condition for at least six months prior to participation in the study.
- ⇨ Had to have been active at work in the past twelve months.

Exclusion Criteria:

- ⇨ Full-time students as they were expected not to have been actively employed for the required duration prior to participation in the study.

- ⇨ Participants suffering from conditions which were easily reversible and did not result in long-term impairment, as the condition did not meet the definition of "chronic".
- ⇨ Participants who suffered from an uncontrolled psychotic disorder or traumatic brain injury which impaired cognitive and psychological functioning at the time of the assessment. In order to obtain reliable and valid results, the participants were required to have insight into their own work participation and functioning within life roles.

All participants who met the inclusion criteria were provided with the information sheet and were invited to participate in the study.

Initially, following discussion with the statistician, a sample size of 100 participants was determined to be suitable based on the previous years' research site practice statistics. The power of the study was set at 0.95 (i.e. the p value will be >0.05) to minimise the Type 1 error. However, the number of the participants who were referred to the research site practice and met the inclusion criteria over the research period were fewer than anticipated. Therefore the sample was reduced to a sample size of thirty participants, which is the figure recognised as the minimum requirement for a sample size for a correlation study. (49, 112, 113).

4.5 DATA COLLECTION INSTRUMENTS

The data for this study was collected using the data collection instruments described in Chapter 3. The development of the questionnaires, as well as the use of the rating scales, is described in detail in Chapter 3.

After obtaining informed consent, the participants were asked to complete the research tools prior to the FCE:

- The Brief Biographical questionnaire
- The modified Worker Limitations Questionnaire
- The Accommodations and Barriers Checklist.

A comprehensive interview was completed in conjunction with the FCE. The rating scales for the WRI and WEIS were completed after completion of the FCE.

4.6 RESEARCH PROCEDURE

The research process involved a number of steps: those which occurred prior to the data collection; those which occurred during the data collection process and finally those which occurred after the data collection had been completed.

4.6.1 Steps Prior to the Data Collection Process

The research site practice secretary was appointed as the research assistant. The research assistant had an undergraduate degree in industrial psychology and was familiar with the participants attending the research site practice. She was responsible for administering the self-report questionnaires prior to the FCE.

The researcher conducted a training session with the research assistant as the research assistant had not participated in research previously although she had theoretical knowledge of standardised testing.

Training addressed the following issues:

- Purpose of the study
- The inclusion and exclusion criteria, so she could identify if a participant did not meet the inclusion criteria. If she became aware the participant might not be a suitable candidate for the study, she was instructed to consult the researcher before administering the questionnaires.
- The importance of the confidentiality and anonymity of the participant information was emphasised so as to maintain anonymity of the research data. The need to still maintain the usual client confidentiality regarding medical information and assessments findings was also reinforced.
- The content of each questionnaire and the order in which they needed to be administered
- The procedure to be followed if a participant needed a question to be repeated. She was instructed not to provide any additional information or explanation that would influence the participant's response to a specific question.

On completion of the training, the research assistant was required to sign a confidentiality agreement regarding the research, the research participants and the data to which she had access during this study. This was kept with the research questionnaires in a safe.

4.6.2 Data Collection Process

This aspect described the research procedure which was used consistently throughout the research. The research assistant introduced herself to the participants on arrival at the research site practice for their FCE. The research assistant confirmed that the participant met the inclusion criteria and invited them to participate in the study. The participants were given the information sheet (Appendix G - 1) and provided with time to read it. The participants were provided with the opportunity to ask the researcher additional questions once they had read the information sheet. The research assistant emphasised to the participant that participation in the study was voluntary. The participants were informed that they could withdraw from the study at any time.

If participants agreed to participate in the study, they were invited to sign the consent form (Appendix G – 2). Each participant was then allocated a participant number by the research assistant, which was recorded on all questionnaires as well as on the subsequent interview rating scales.

The participants were shown into a private interview room in the research site for completion of the questionnaires: the Brief Biographical Questionnaire, the MWQL and the ABC. Instructions for completion of the questionnaires were provided by the research assistant and supplemented by written instructions on the forms. The questionnaires took approximately twenty to thirty minutes to complete. The research assistant was available throughout to answer any questions.

Face-to-face interviews were utilised to collect data from participants whose first language was not English. More complex questions were explained to ensure understanding as the research assistant was able to translate questions to the participants' home language.

The battery of questionnaires were specifically administered before the commencement of the FCE assessment in order to minimise the impact of specific questioning regarding work functioning on the participants' own perceptions of their work functioning.

The research assistant identified three participants who needed to be excluded due to the nature of their illness. She informed the researcher, who then met the identified participants and confirmed that they were not suitable for the study.

On completion of the questionnaires by the participants, the research assistant checked that all sections had been completed. The questionnaires were then scored by the research assistant, using the prescribed scoring system, before being placed in an envelope which was kept by the research assistant until completion of the comprehensive interview by the researcher which followed. This prevented researcher bias.

The researcher introduced herself to the participants and provided participants with the opportunity to ask any questions regarding the study. She then explained the purpose of the FCE and the procedure which would be followed. The comprehensive interview, including the FCE interview and the questions for the rating scales, took place in the interview room where they had already completed the questionnaires. The interview was followed by the administration of the standardised testing component of the FCE.

On completion of the full FCE, the responses to the comprehensive interview were scored by the researcher using the standardised rating scales. The researcher completed the rating scales within 24 hours of completion of the interview. The rating scales were handed to the research assistant, who placed them in the participant's envelope with the battery of self-report questionnaires and sealed it. The sealed records were locked in a safe until the data collection process was completed.

4.6.3 Steps on Completion of the Data Collection Process

Once all the data had been collected, the envelopes containing the data for each participant were removed from the safe, opened and a second check was done by the researcher to ensure all questions had been answered. If any questions had not been answered completely, the questionnaire was discarded and the participant excluded from the study. An exception for completeness was made on the ABC. On review, it was evident that four of the participants had only answered the first section i.e. did they require the accommodation stated. The second question – had they asked for the accommodation – and the third question – were they satisfied with the accommodation – had not been completed. A further six participants had answered question 3, but had not indicated that they had asked for it. It was decided not to discard this questionnaire, but only utilise the answers to the first question in the results. The questionnaires and rating scales were then handed to the research assistant for electronic capture on an EXCEL spreadsheet.

4.7 DATA ANALYSIS

On conclusion of the data collection process, each participant's questionnaires were removed from the envelope. Responses to the biographical questionnaires were coded according to the occupational class, education level and expectation of return to work. Data was tabulated using Excel for statistical analysis.

Descriptive statistics were used to describe the sample using calculations of frequency and measures of central tendency (mean) and variability (standard deviation)(112, 114).

Response items on the barriers section of the ABC were grouped into four categories:

- Personal Environment
- Work Environment
- Worker Abilities, and
- Job Demands

This was done to facilitate consistent reporting between the different scales. Choice of categories was broadly based on the constructs of the WEIS.

Similarly, for ease of discussion, data on the accommodations section of the ABC was grouped into five categories, the first four consistent with the barriers section, with the addition of a fifth category, Assistive Devices.

Frequency and range of the data as well as the mean and standard deviation were determined for each questionnaire and rating scale. Due to the small sample size (n = 37), responses on the rating scales was condensed from four possible scores (supports, strongly supports, inhibits, strongly inhibits) into 2 scores, reflecting whether the item supported or inhibited return to work.

Response items were ordered on the WRI according to the 8 constructs described by Kielhofner in MOHO i.e.:

- Personal Causation
- Values
- Interests
- Roles
- Habits, and
- Environment

The WEIS did not categorise response items. For ease of reporting and comparison between the different research instruments, response items were allocated to six categories chosen by the researcher to be consistent with the other research instruments, i.e.:

- Personal Environment
- Job Demands
- Interpersonal Demands,
- Work Environment, and
- Company Environment

On both the WRI and the WEIS, items where more than 50% of participants scored in the *Supports* range were considered clinically meaningful (87, 88).

Ability to return to work was set as the independent variable. Participants were divided into two groups on the basis of their responses to Section 4 on the Brief Biographical Questionnaire: Group 1 – *will return to work* - and Group 2 – *will not return to work* - for correlation. Data collected about the factors influencing work was set as the dependent variables. Two sets of correlations were run between the perception of return to work against firstly, the self-report data captured on the questionnaires, and secondly the data collected through the rating scales.

The Mann-Witney U test was utilised to determine any significant difference between the factors identified by the group of participants who believed they would return to work and the group who believed that they would not return to work in the future (115). Items with a p value ≤ 0.05 were considered significant, but items with a p value ≤ 0.1 were also discussed due to the small sample size.

4.8 ETHICAL CONSIDERATIONS

The research protocol was approved by the University of the Witwatersrand's Faculty of Health Sciences Post Graduate Committee (Protocol number MO8O54). Ethical clearance to carry out this research was granted by the University of the Witwatersrand Ethics Committee for Research on Human Subjects (Ethical Clearance number: Certificate No: M080546/R14/49) (See Appendix H).

Permission was requested from five insurance companies to invite the clients that they referred for FCE assessments to participate in this study. Insurers were provided with an information letter explaining the purpose of the research (Appendix I – 1). Each insurance company provided consent for referred clients to be invited to participate in the study (Appendix I 2 - 6).

The research included participants with chronic illnesses who were applying for disability benefits from their employer or insurer. The participants would thus be considered a vulnerable group under the Helsinki Declaration(116) and thus needed be provided with comprehensive information regarding the research as well as the opportunity to participate voluntarily in the research .

Each participant who met the inclusion criteria was provided with the Information Sheet to read prior to participating in the research, and was given the opportunity to ask any questions to ensure they understood the study and what their participation involved. Participants were informed that withdrawal from the study would also have no impact on the FCE findings or report. They were informed that they could stop at any point during the administration of the research battery without any consequence.

Participants were advised in the Information Sheet that the information obtained in the study would not be utilised in the FCE or affect the assessment findings for which they had been referred. They were assured that the researcher has no decision-making ability regarding their eligibility for disability or other benefits.

Participant anonymity was maintained by excluding the participant's name. Instead, participants were identified by use of a participant number. Demographic detail, including the participant number, was captured on a master list which was locked in a safe during the course of the research.

Questionnaires and rating scales were not analysed by the researcher until all data for the study had been collected. This ensured that there was no bias between the FCE recommendations and the study data. This, therefore, limited the possibility that research results would influence information provided to the referral source from the FCE findings.

No charge was levied on the referring agent for the time taken to participate in the research and the standard practice fee for the standard FCE was maintained throughout the data collection process, thereby ensuring that there was no financial incentive or

burden to either the participants who participated in the study or the insurers who gave permission for their clients to participate.

4.9 CONCLUSION

This chapter described the research design for the study. The methods utilised to collect the data as well as the approach to the analysis of the data has been described. Biographical information and expectation of return to work was collected on self-report questionnaires. Participants' perceptions of work limitations, barriers to work and accommodations required in the workplace were also collected on self-report questionnaires. More objective data on work functioning and the work environment was collected through the use of rating scales for the comprehensive interviews. The subjective data and the objective data collected was then analysed to determine if there were any significant differences between the group of participants who believed they could return to work and those who were of the opinion that they could not return to work. The following chapter will describe the detailed findings of the research.

CHAPTER 5: RESULTS OF MAIN STUDY

5.1 INTRODUCTION

The results of this study are reported in four sections. Firstly, the demographics of the sample that participated in the study are described, including relevant background information and the medical condition. Secondly, the results documenting the factors influencing work are reported. These factors were examined descriptively in two ways: the participants' perceptions of factors influencing their work functioning, followed by the factors supporting or inhibiting employment as rated by the researcher. Thirdly, the participants' responses as to whether or not they believed they could return to work within six months were analysed. Finally, the factors influencing work were compared to the participants' perception of whether they could return to work within the next six months.

Forty-one participants took part in the study, but the questionnaires of four participants were discarded as it was subsequently found that they had not completed the questionnaires in full once the second check was performed when the questionnaires were removed from the safe for data capturing. This was a loss of 10% of the sample. Thus, the data of 37 participants was analysed

5.2 DEMOGRAPHIC INFORMATION

Demographic data in terms of age, gender, highest level of education and occupation of participants was documented.

The sample included 17 (46%) males and 20 (54%) females, and the mean age of the subjects was 42.59 years, with an age range of 25 to 55 years. Nearly a third of the sample (n=11; 30%) had achieved a Grade 12 level of education and just over half (n=19; 51%) had some post-secondary school qualification. The exact details are recorded in Figure 5.1 below.

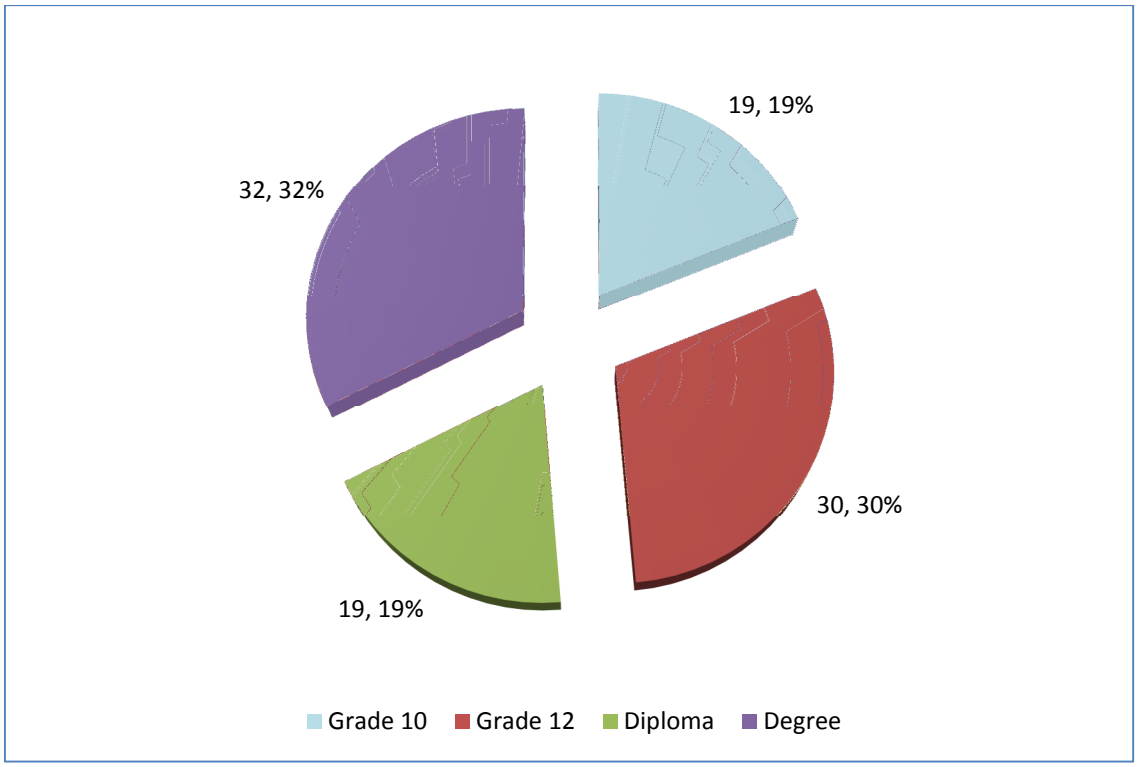


Figure 5.1 – Educational background of the sample (n=37)

The occupational class of the participants can be seen in Figure 5.2.

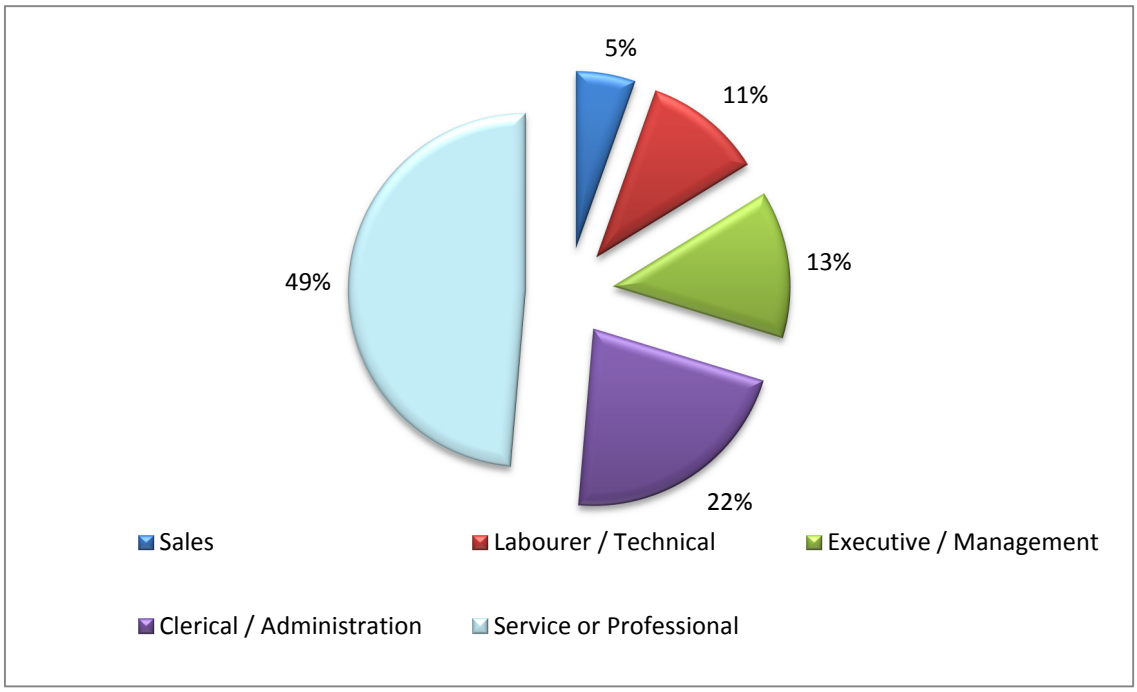


Figure 5.2 – Occupational class of participants (n=37)

The largest number of participants (n=18; 49%) came from the service and professional occupational class, with small numbers coming from a sales position (n=2; 5%) and a labourer or technical position (n=4; 11%).

The participants in the study presented with a wide variety of medical conditions which can be seen in Figure 5.3. The largest number of participants had been diagnosed with a psychiatric illness (n=12; 32%) such as major depression or bipolar disorder, whereas the smallest number had a variety of co-morbid conditions (n=7; 19%), consisting of retroviral disease and CVA, melanoma and osteoporosis.

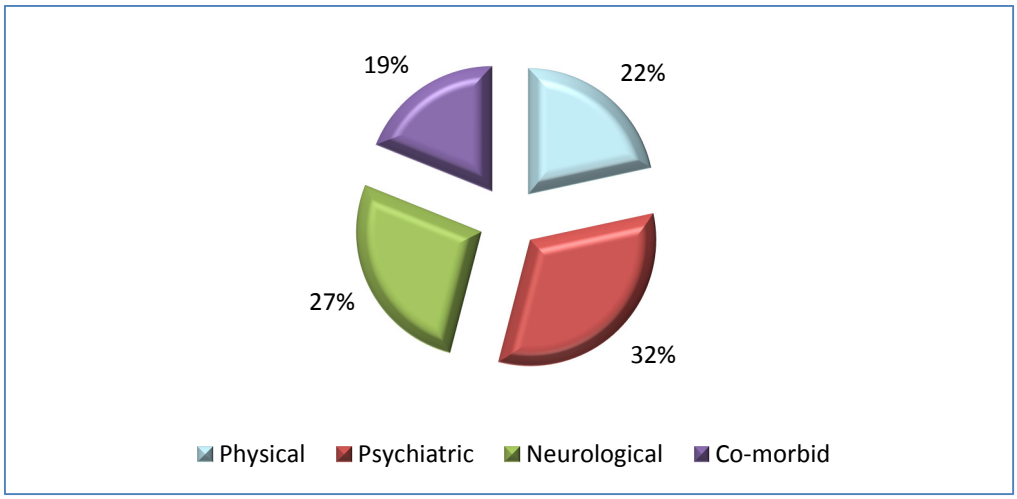


Figure 5.3 – Broad Group of Medical Conditions (n=37)

Ten participants had neurological conditions such as a CVA or MS (n=10; 27%). Cardiac conditions, i.e. myocardial infarction and endocrine disorders, e.g. diabetes, constituted only 3% of the sample respectively (1 participant with each condition).

5.3 PERCEPTIONS OF ABILITY TO RETURN TO WORK

All participants were asked whether they expected to be able return to work within six months of participation in the study.

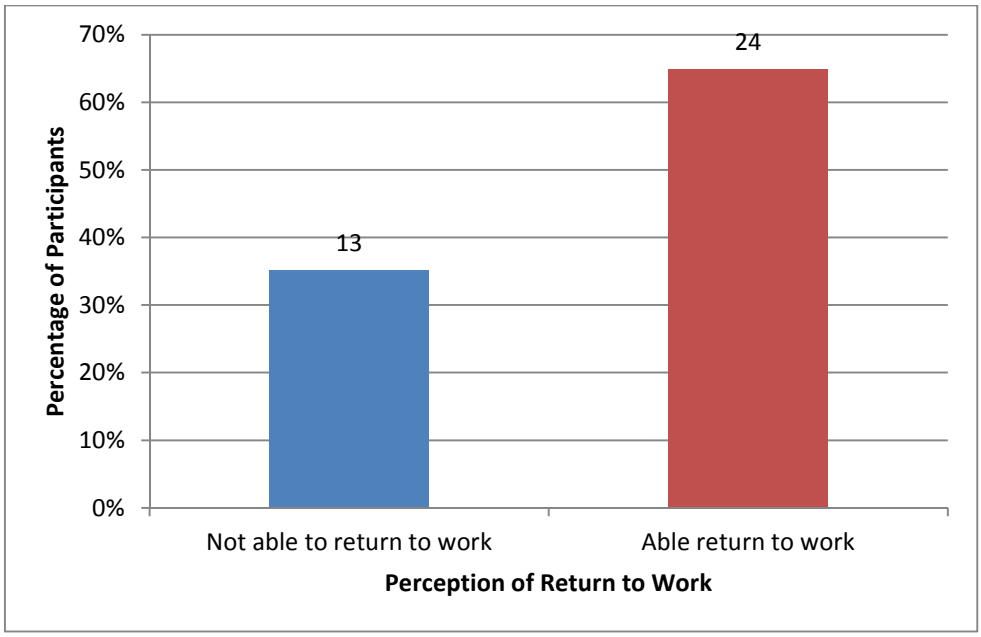


Figure 5.4 – Perception of Return to Work in 6 months (n=37)

Figure 5.4 indicates that 32% percent of participants (n = 13) perceived that they would not be able to return to any form of employment within the next six months whereas 65% (n = 24) expected to be able return to work within the same time frame.

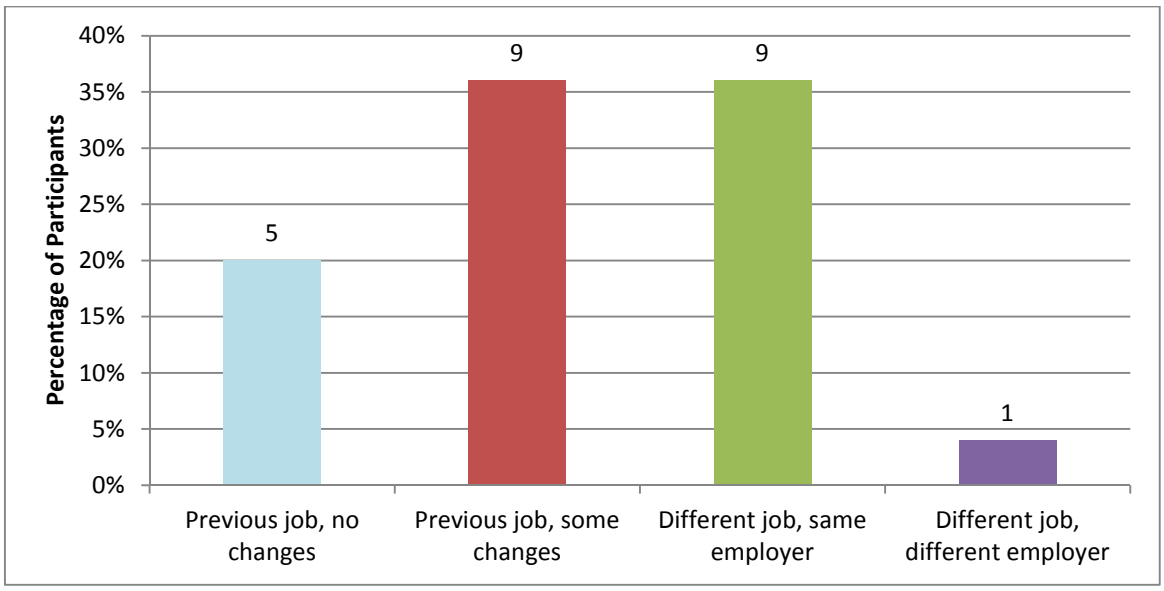


Figure 5.5 – Position on Return to Work (n=24)

Figure 5.5 shows that, of the participants expecting to return to work within 6 months (n = 24), an equal number were of the opinion that they would be able to return to their previous job with some changes, or to a different job with the same employer (36%; n = 9). Only one participant (4%) expected that he would return to work in a different job with a different employer.

More detailed analysis of participants' perceptions of return to work was done when considering their educational status. Correlations were done between the participants who expected to return to work and those who did not expect to return to work within six months. The group who expected to return to work were then analysed further to identify if there was any relation between their education level and the nature of the position to which they expected to return.

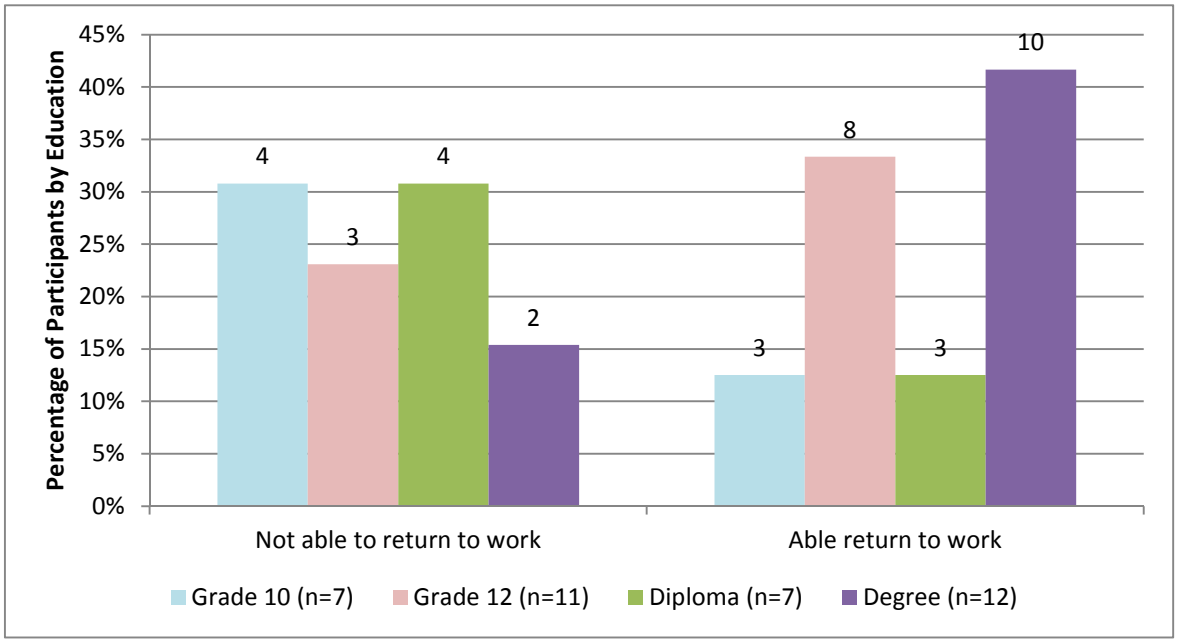


Figure 5.6 – Perception of Return to Work compared to Educational Status
(Not able to work: n=13; Able to work: n = 24)

Figure 5.6 indicates that the majority of participants who perceived that they would not be able to return to work had a Grade 10 level of education or a diploma (31%; n = 34) whereas only 15% of participants who held this belief (n = 2) had a degree.

Conversely, the participants who expected to be able to return to work in the future mostly had a degree level of education, (42%; n = 10) and only 13% (n = 3) had a Grade 10 or a diploma level of education. The level of education thus had some bearing on the participants' perception of their ability to work in the future.

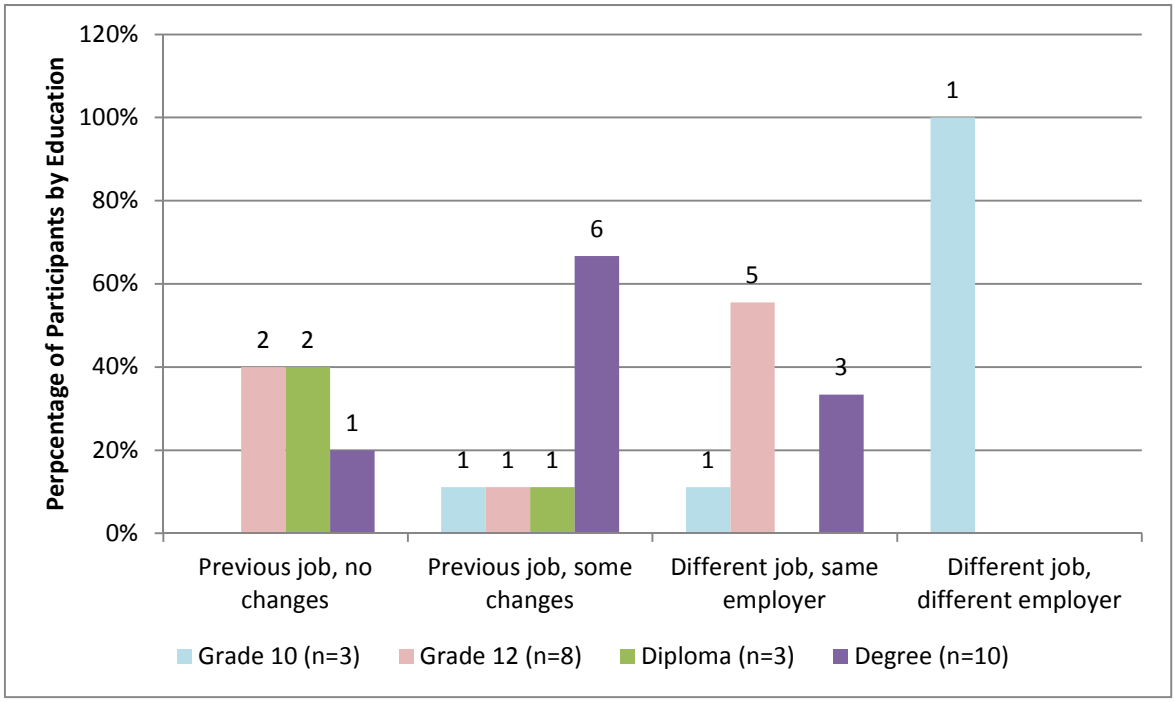


Figure 5.7 – Position on Return to Work compared to Educational Status (n = 24)

Figure 5.7 considers the nature of the position to which the sub-group of participants expected to return according to their educational status. Sixty-seven percent (n = 6) of the participants with a degree expected to be able to return to work in their previous position, albeit with some changes. The only participant (100%; n=1) who expected to return to work at a different job at a different employer had a Grade 10 level of education. It therefore seems evident that education has some bearing on the position to which the participant expected to return to work.

Figure 5.8 indicates that 75% of participants in the technical or labour occupations (n = 3) and 60% (n = 3) of participants in executive or management positions were of the opinion that they would not be able to return to work. Conversely, the majority of participants working in a clerical (88%), or in a professional or service occupation (72%) were of the opinion that they would be able to return to work. There may, therefore, be some common factors in the clerical and professional/service occupations which influence the perception of the participants regarding future work participation.

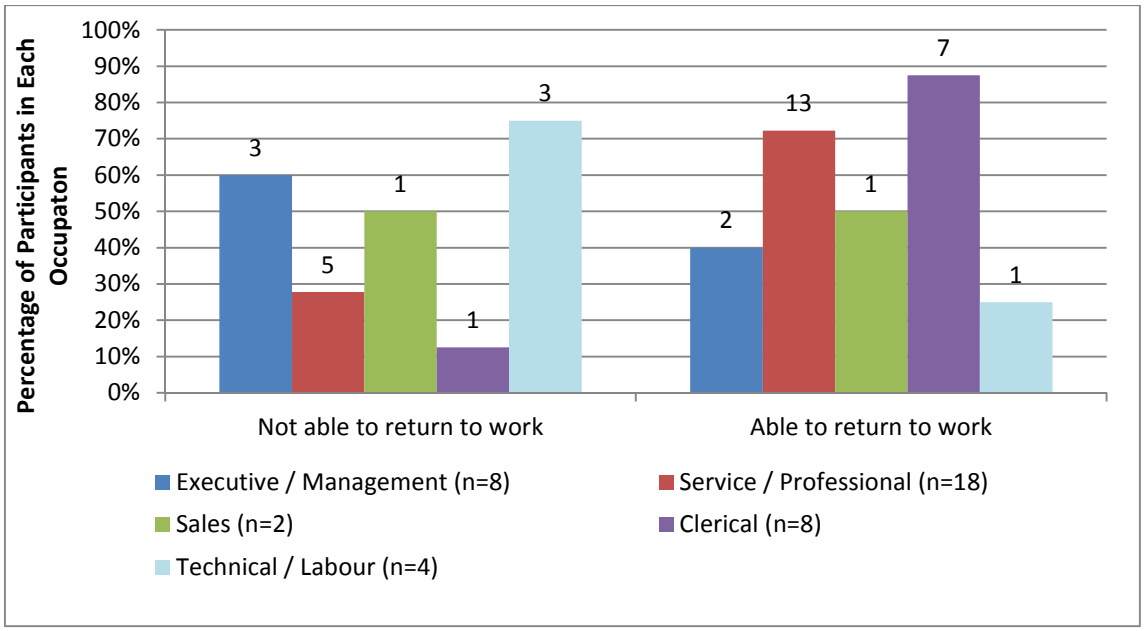


Figure 5.8 - Perception of Return to Work by Occupational Class (n=37)

Figure 5.9 reports the expectations for return to work in the future of participants in different occupational classes. All the participants in the executive or management positions who expected to return to work believed they could return to their previous position with some changes (100%), as did participants in the service/professional field (46%).

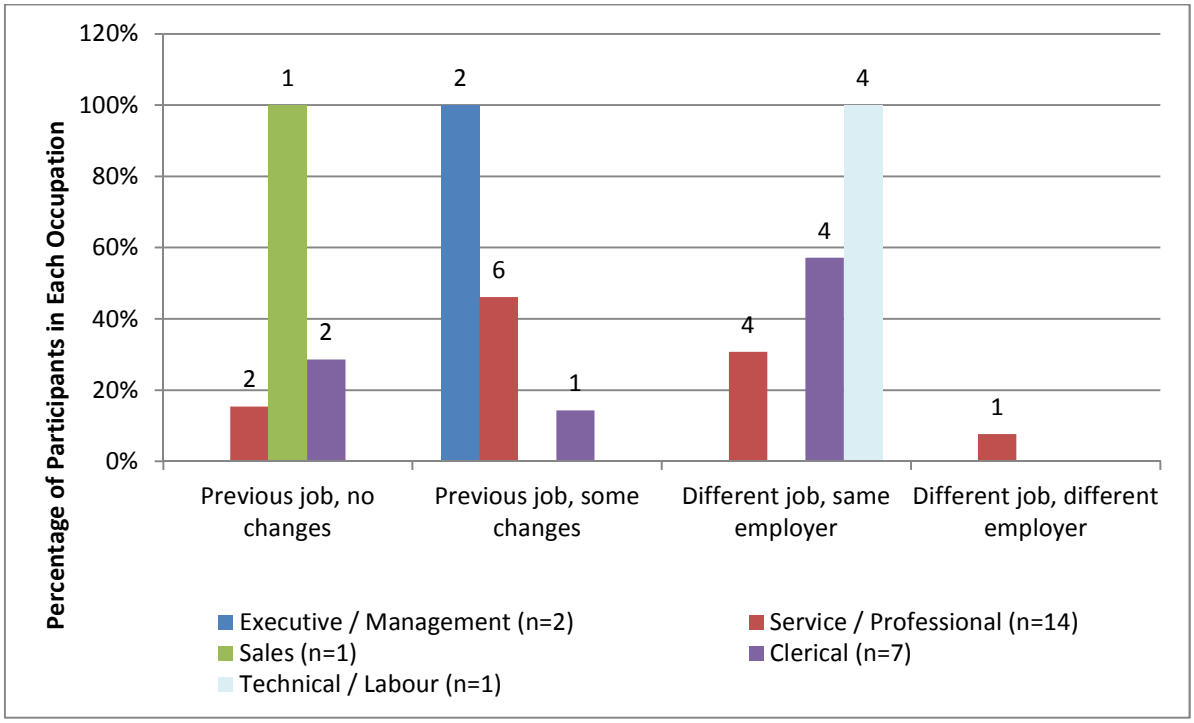


Figure 5.9 – Position on Return to Work by Occupational Class

One participant in the service/professional field expected to return to a different job with a different employer. No other participants identified a different position with a different employer as an option for returning to work, regardless of the occupation they had performed prior to stopping work.

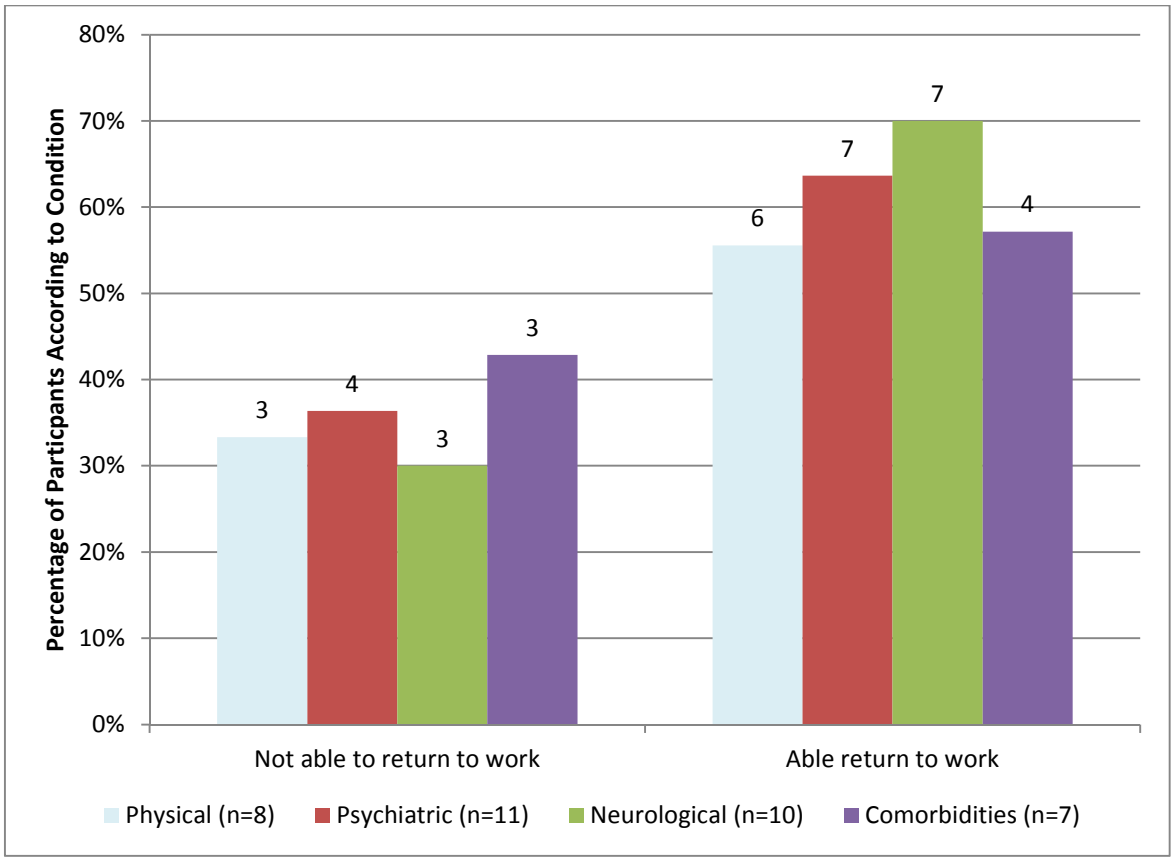


Figure 5.10 – Perception of Return to Work according the Medical Condition

From Figure 5.10 it is noted that more than half of the participants in each group of conditions expected to be able to return to work in the future.

Seventy percent (n = 7) of participants with neurological conditions and 64% (n=7) of participants with psychiatric conditions believed that they would be able to return to work. Forty two percent of participants with co-morbid conditions perceived that they would not return to work.

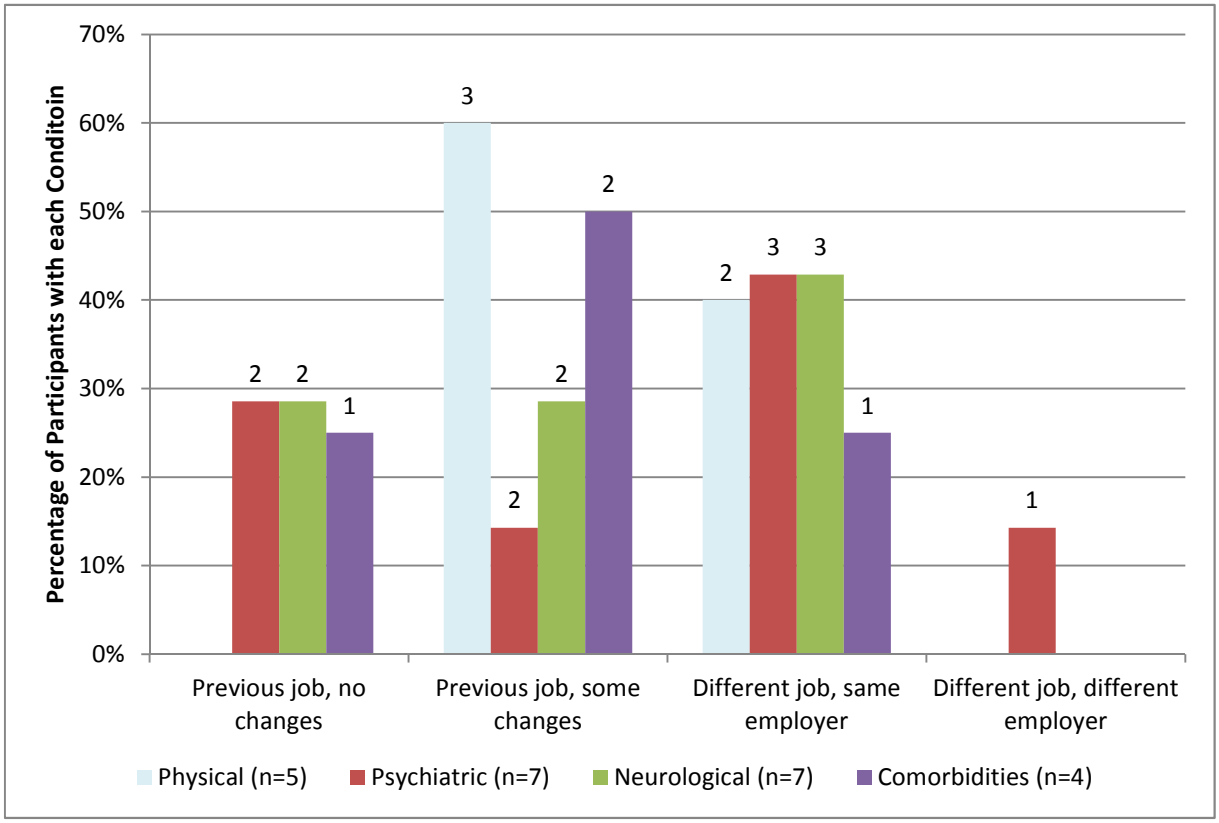


Figure 5.11 – Position on Return to Work by Medical Condition

Figure 5.11 indicates that 60% of participants with a physical condition and 50% of participants with co-morbidities expected to be able to return to their previous positon with some changes. Forty-three percent (n = 3) of participants with psychiatric conditions and 40% (n=2) of participants with physical conditions expected to perform a different job. Only one participant diagnosed with a psychiatric condition (14%) indicated that he would be able to return to work in a different job at a different employer.

5.4 FACTORS WHICH INFLUENCE SUSTAINED EMPLOYMENT

The results of the responses on the MWLQ and the ABC were analysed in order to identify the factors which participants believed would influence their return to employment. Participants identified barriers to employment, the accommodations they required at work, work environment factors which impact on their work participation, as well as the effect of their medical condition on their worker role as factors which would influence their sustained employment

5.4.1 Barriers to Work

The items identified as barriers to participation in the workplace are documented in Figure 5.12. Only the items which were marked as a barrier to employment are reflected. Data related to the degree of barrier was not reported due to the small sample size, i.e. responses were categorised as either it was a barrier or it was not a barrier to employment.

Figure 5.12 indicates that, in the personal environment, the highest number of participants (24%; n=9) participants perceived that the physical environment at their residence was a physical barrier to work. The lowest response was the fourteen percent of participants (n = 5) who indicated that their significant other did not want them to work.

With regard to the work environment, 54% (n = 20) of participants indicated that limited promotion or development opportunities in the workplace were a barrier to employment. The lowest response was participants who were concerned that they would lose disability benefits or pension (8%; n = 3).

When considering job demands, 35% (n = 13) of participants indicated that they did not have the job accommodation they required, and 32% (n = 12) indicated that they had not received the necessary training to do their job adequately due to their condition. Finally, only 22% of participants indicated that they were afraid to work because of job expectations.

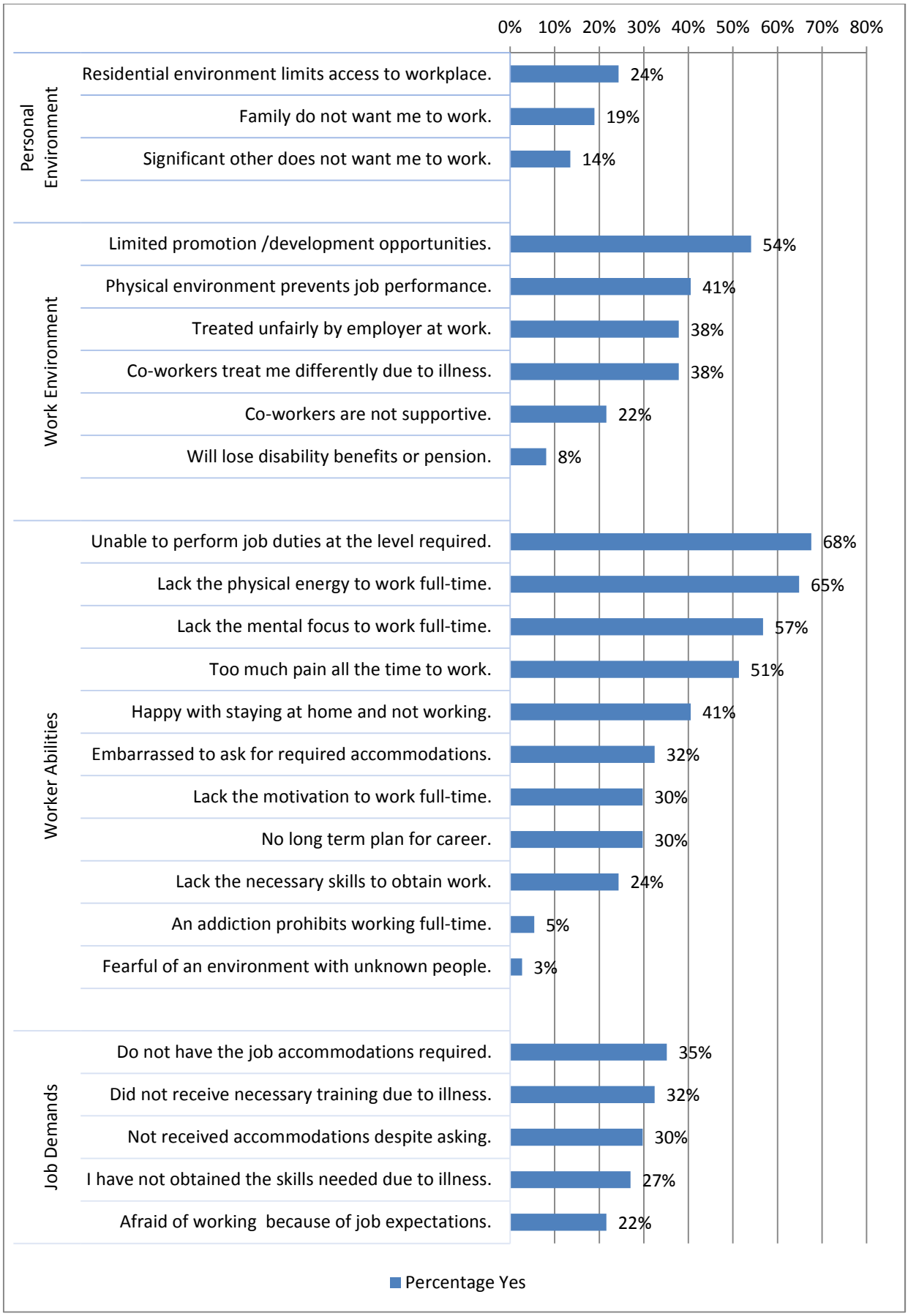


Figure 5.12 – Barriers to Work as perceived by Participants (n=37)

5.4.2 Accommodations Required to Work

The accommodations section of the ABC was used to allow participants to identify the reasonable accommodations that they required in order to continue in their job prior to stopping work. All participants identified some form of accommodation that was required.

Figure 5.13 indicates that the most common job accommodation that was required were regular rest breaks. This was requested by sixty-two percent of participants (n=23), followed by 49% (n=18) who required an alteration in their job duties or function. Seventeen participants (46%) believed the accommodation they required was additional rest breaks, and the same number believed they would require additional sick leave due to their condition.

Only one participant (3%) required the use of a communication device, whereas 14% (n = 5) were of the opinion that they needed special adaptive devices for the computer as well as special physical equipment for working.

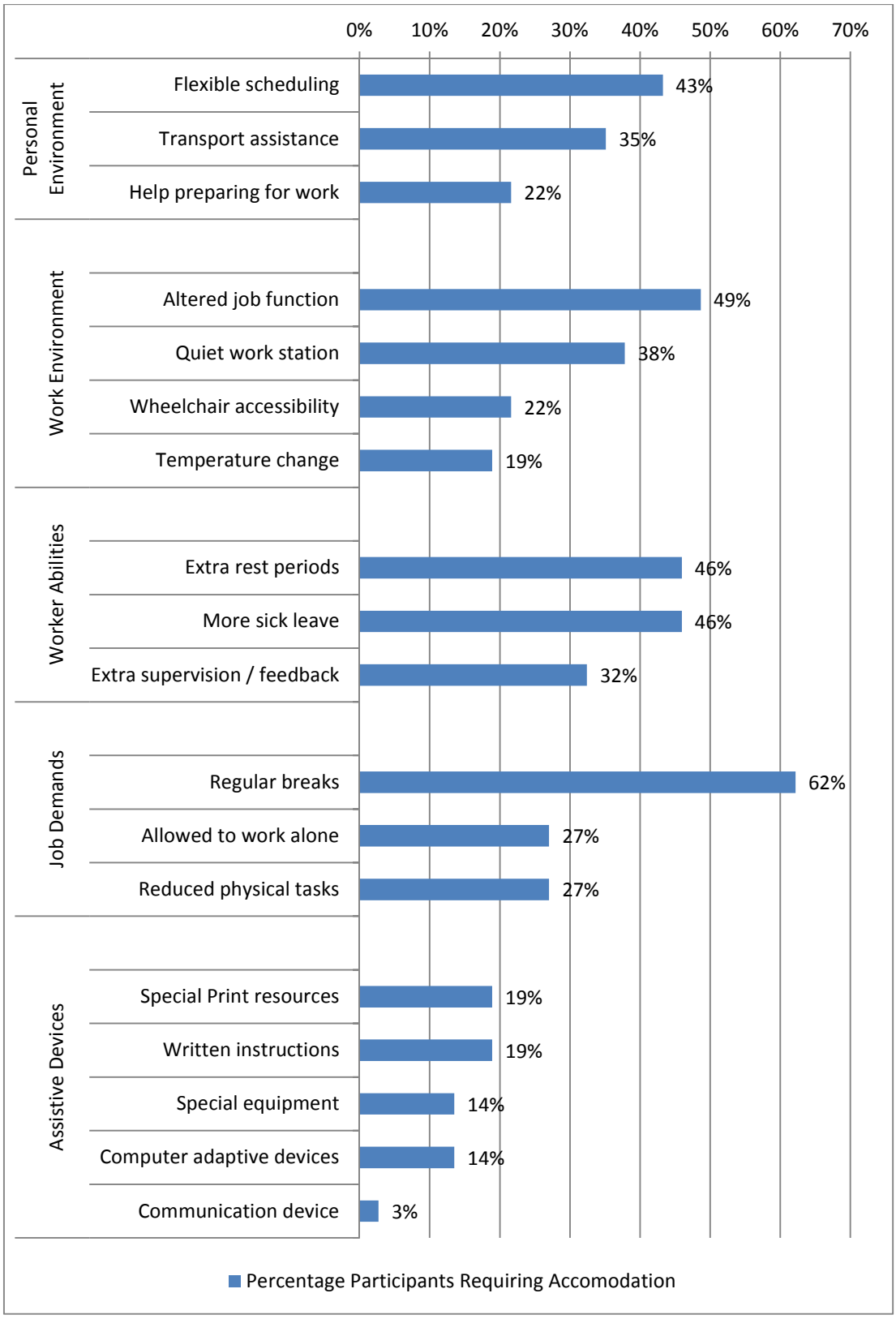


Figure 5.13 Participants requiring Specified Accommodation

5.4.3 Work Productivity

5.4.3.1 Impact of Chronic Condition on Work Productivity

The standard scores (SS) for each of the four domains (Time Management, Physical Demands of their Jobs, Mental and Interpersonal Demand) are presented in Figure 5.14. A low SS indicates little limitation whereas a high SS (between 50 and 100) indicates substantial loss of productivity in each domain.

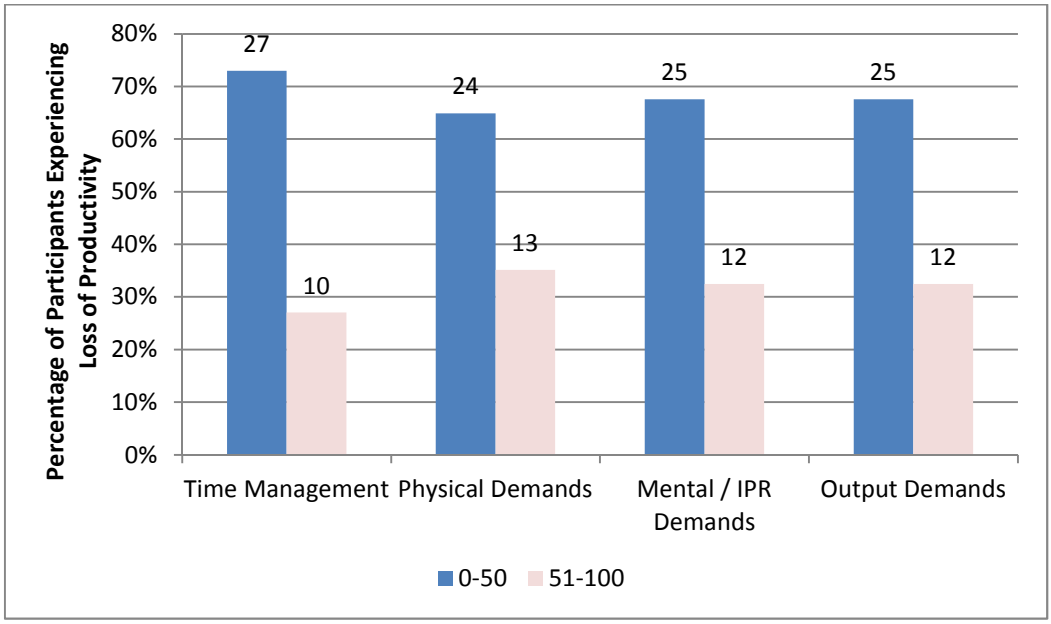


Figure 5.14 – Limitation at Work according to Modified Work Limitations Questionnaire (n=37)

Figure 5.14 indicates that in the Time Management Domain, 73% (n = 27) of participants believed that their time management had been mildly affected (SS between 0 – 50) by their condition, whereas 27% (n = 10) of participants were of the opinion that time management had been significantly influenced before they stopped working (SS ranging from 51 – 100).

Sixty-five percent (n = 24) of participants thought that they were able to meet the physical demands of the workplace (SS ranging from 0 – 50), whereas 35% (n = 13) were of the opinion that they had difficulty meeting the physical demands of their job (SS ranging from 51 – 100).

Sixty-eight percent (n = 25) of participants were of the opinion that neither mental/interpersonal demands nor output had suffered substantially (SS ranging between 0 – 50), whereas 32% (n = 12) believed that there had been a substantial impact in the same domains.

5.4.3.2 _Analysis of Work Productivity Results according to Demographics.

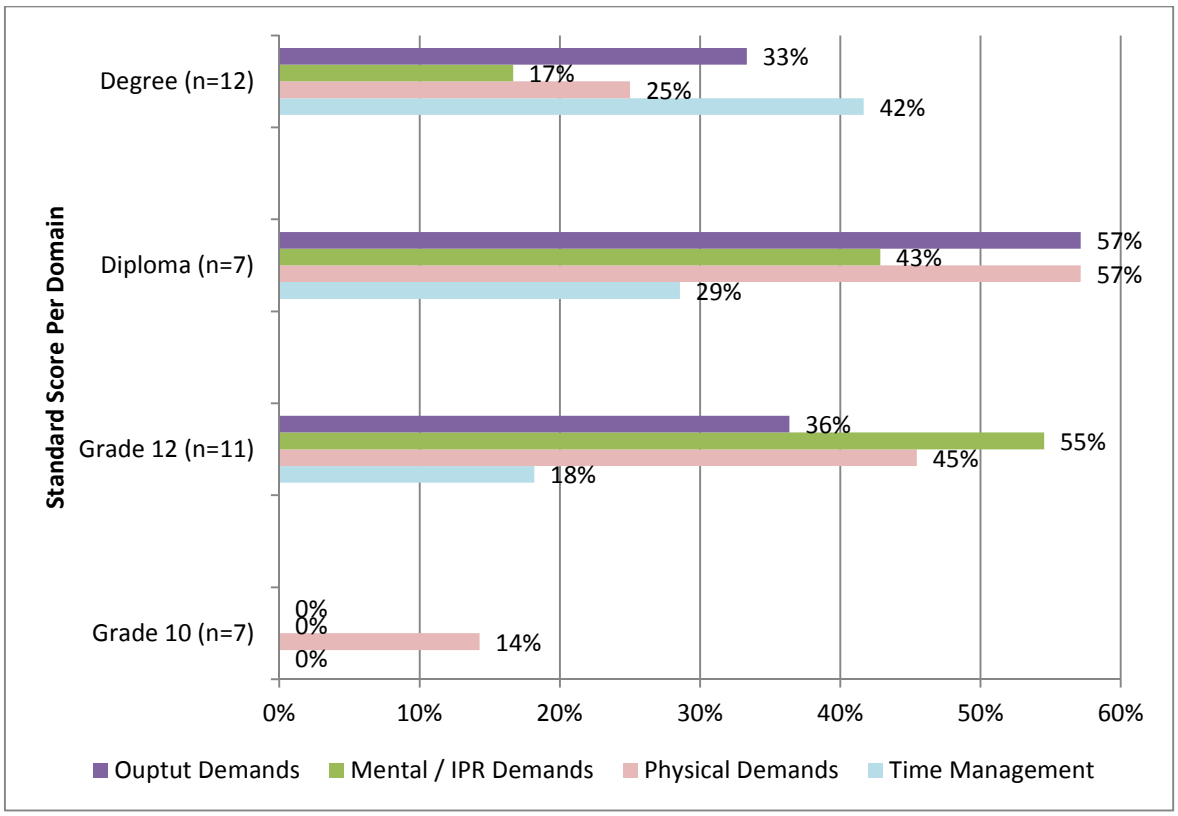


Figure 5.15 – Modified Work Limitations Questionnaire by Education Level

Figure 5.15 indicates the participants with each education ;level that experienced a loss of productivity with a standard score above 51. It indicates that none of the participants with a Grade 10 level of education experienced serious loss of productivity in the Time Management, Mental/Interpersonal Relations and Output domains. One participant (14%) indicated a serious loss of productivity in the Physical Demands domain with a standard score above 51.

A wider range of responses was evident in the participants with Grade 12 (n = 11) and diploma (n = 7) levels of education across the different domains. Forty two percent of participants (n = 5) indicating a high level of loss of productivity in Time Management. Fifty seven percent of participants with a diploma (n = 4) indicated a higher loss of productivity in the Physical and Output Demands domains (SS >51).

Participants with a degree indicated that the Mental/Interpersonal Relations demands domain was less affected (n = 10; 83%) with an SS below 50, whereas 42% (n = 5) of participants indicated that Time Management was affected, with standard scores above 50.

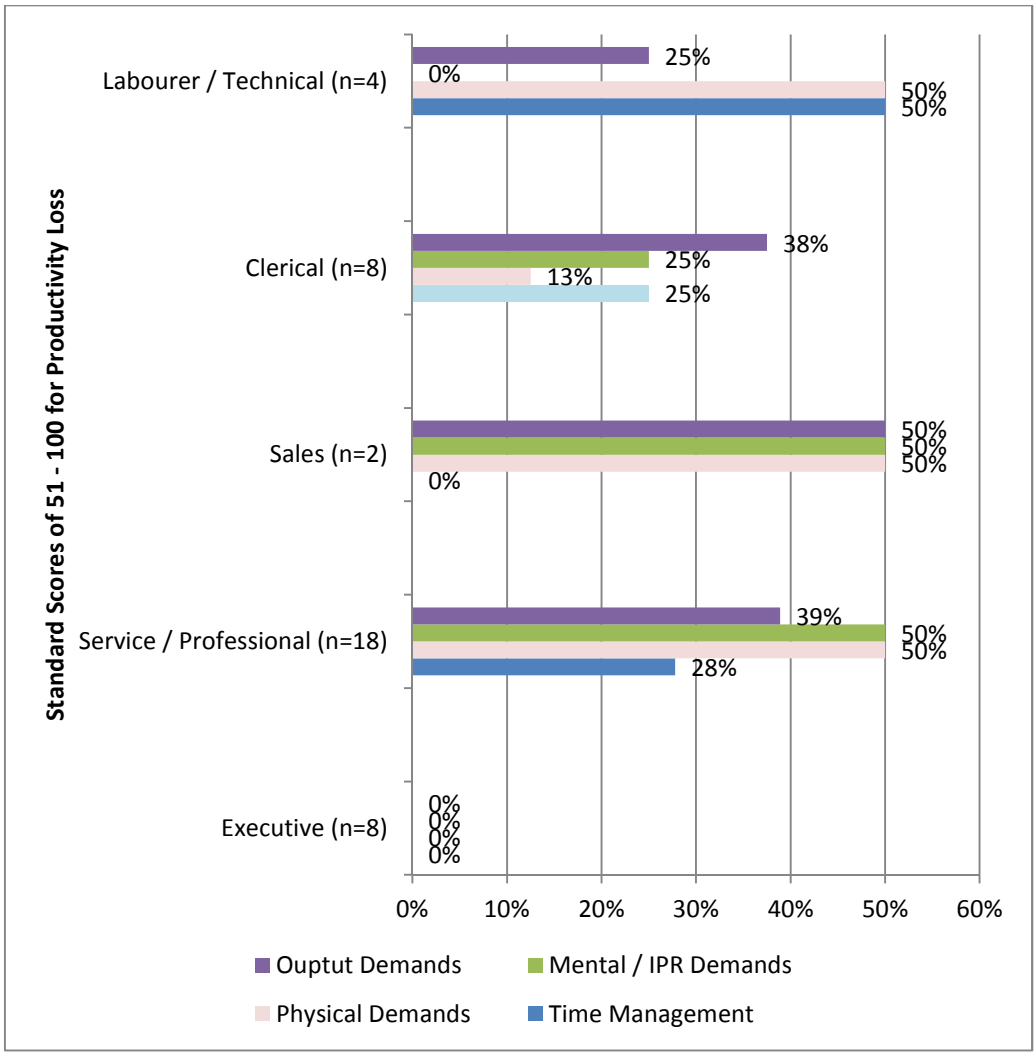


Figure 5.16 – Modified Work Limitations Questionnaire by Type of Occupation

Only items with a standard score above 51 were included in Figure 5.16, as these areas were considered to be clinically relevant. Figure 5.16 reflects that all participants (n=4; 100%) in executive occupations indicated low levels of loss of productivity in all four domains, with no participant achieving a standard score above 51 (SS > 51). One hundred percent of participants (n = 4) in the labour/technical fields indicated limited loss of productivity in the Mental domain (SS ≤50), but 50% (n=2) of participants indicated higher loss of productivity in the Physical Demands and Time Management domains (SS ≥51).

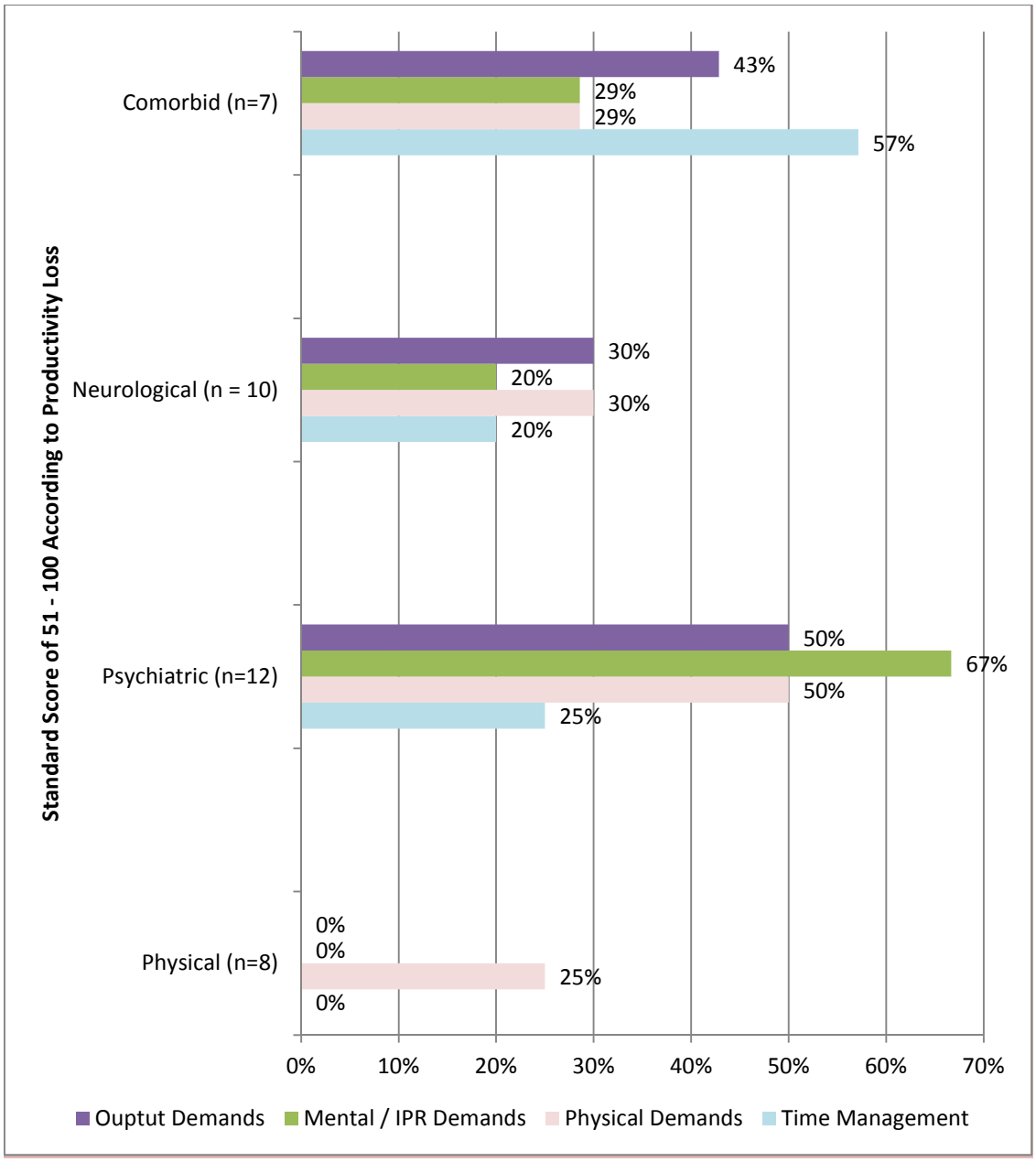


Figure 5.17 – Modified Work Limitations Questionnaire according to Medical Condition

Only two participants with physical conditions (25%) indicated any loss of productivity with a standard score above 50 and that was in the Physical Demands domain, as reflected in Figure 5.17. Conversely, 67% (n=8) participants with psychiatric conditions indicated impairment in the Mental / Interpersonal Demands domain with a standard score above 51.

Fifty-seven percent of participants with co-morbid conditions indicated limitation with a standard score above 51 in the Time Management domain.

5.5 FACTORS SUPPORTING RETURN TO WORK

One semi-structured interview was utilised to determine the factors supporting or inhibiting the participants' return to work in the future. Responses were recorded on two standardised rating scales, the WRI and the WEIS. This aspect relied on the researcher's clinical reasoning and clinical expertise to utilise the information obtained in the interviews to complete the rating scales.

5.5.1 Extent to which Participants' Worker Role Supports Return to Work

The WRI rating scale was utilised to determine whether the participants' worker role participation supported return to work. As described in the Methodology Chapter, this 4 point scale was reduced to two responses (supports/inhibits) on the 17 item scale due to the small sample size.

Results using MOHO constructs are reported in Figure 5.18. In Figure 5.19, the MOHO constructs demonstrated that the Values and Roles of participants generally supported work (84% and 89%), however there was a wider range of responses present in all the other constructs. Individual items which supported work included: *Appraises Work Expectations* (95%; n = 35), *Work Related Goals* (89%; n = 33), *Commitment to Work* (85%; n = 31) and *Work Habits* (84%; n = 31). Items that inhibited work included *Pursues Interest* (59%; n = 22) and *Perception of Co-workers* (57%; n = 21).

Factors inhibiting work did not demonstrate as great a range. *Pursues Interests* (59%; n = 22), *Perception of Co-Workers* (57%; n =21), *Perception of Physical Environment* (54%; n =20) and *Daily Routines* (50%; n =19) inhibited work in the most number of participants. *Expectations of Success* was identified as inhibiting work in 46% of participants (n = 17)

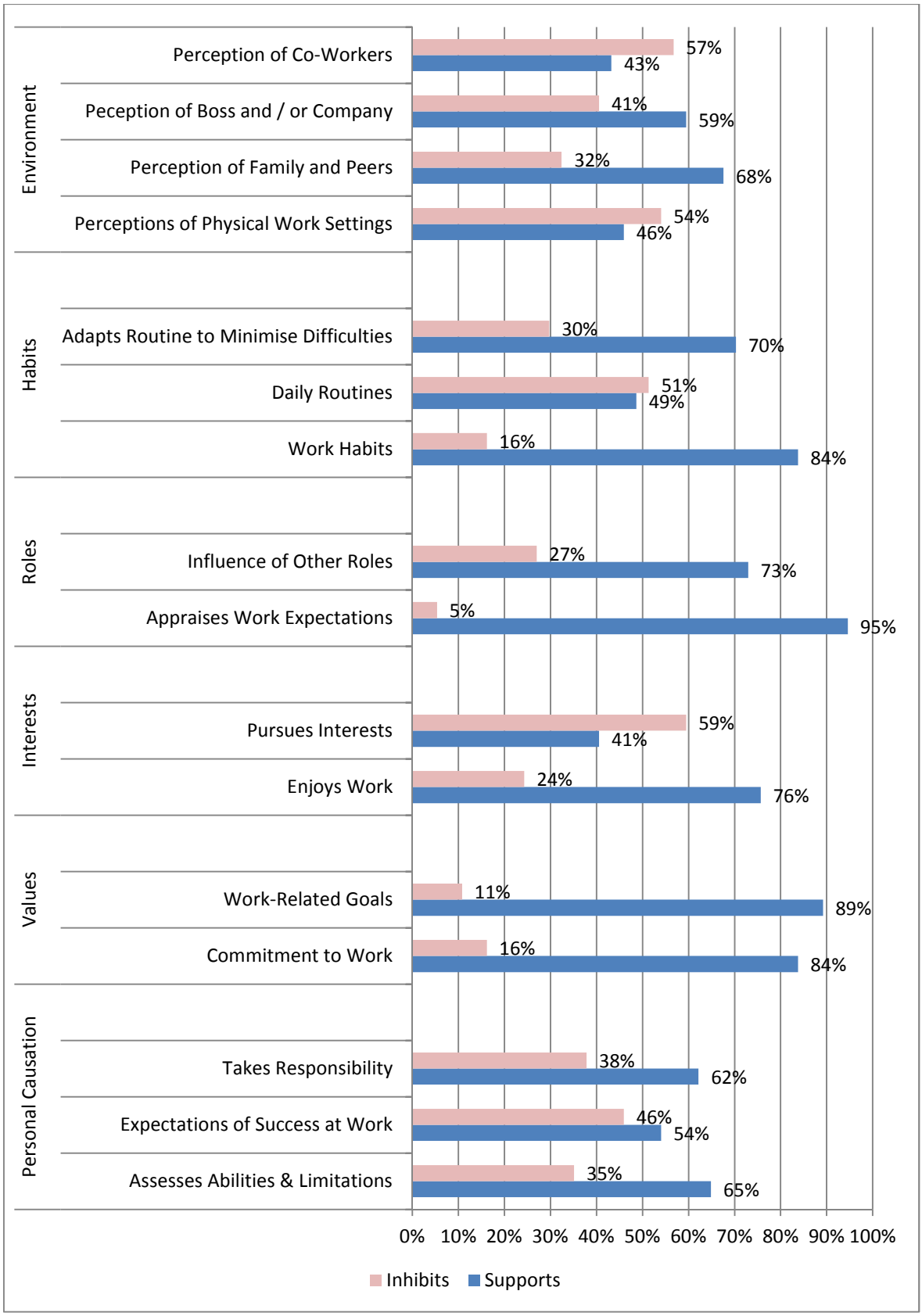


Figure 5.18 – Extent to which Worker Roles support Return to Work (n=37)

5.5.2 Extent to which the Work Environment Supports Return to Work

The Work Environment Impact Scale was utilised to rate the extent to which the work environment supported or inhibited the participants' return to work in the future. Individual response options were again condensed into 2 scores. Results are reported in Figure 5.19:

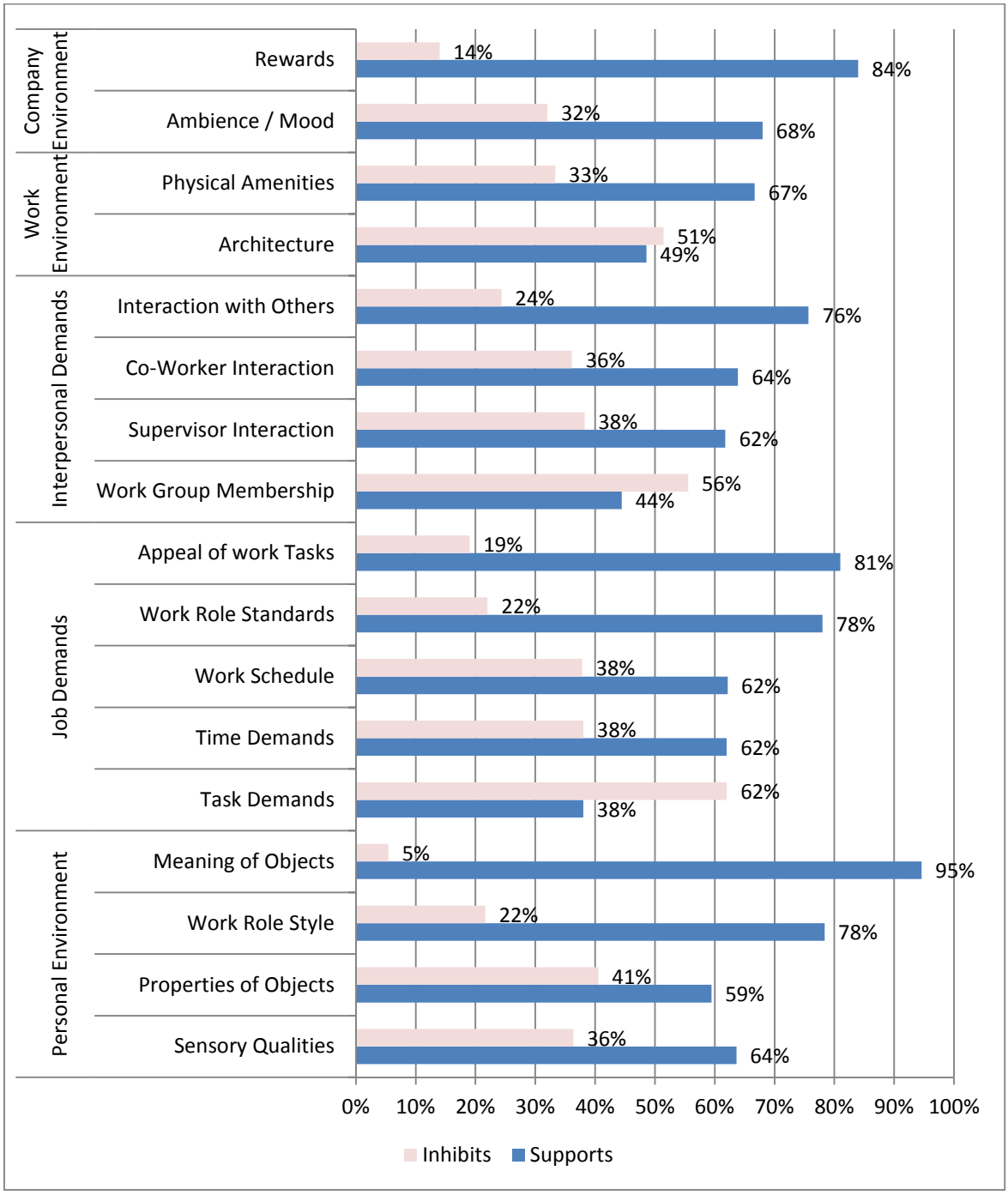


Figure 5.19 – Extent to which Work Environment Supports Return to Work (n=37)

Figure 5.20 indicates that the participants had high levels of support for returning to work in the future in all five areas. For ease of discussion, items were grouped according to the Personal Environment, Job Demands, Interpersonal Demands, Physical Work Environment and Company Environment. With respect to the individual items, Meaning of Objects (95%; n=35), Rewards (84%; n = 31) and Appeal of Work Tasks (81%; n = 30) scored most highly to support return to work. Work Role Style (78%; n = 29) and Interaction with Others (76%; n = 28) also supported return to work but to a lesser degree.

Task Demands (62%; n = 29) and Work Group Membership (54%; n = 35) were the strongest factors inhibiting return to work.

5.6 RETURN TO WORK COMPARED TO THE FACTORS AFFECTING WORK

The second group of correlations between the participants who *will return to work* (Group 1 n=24) was compared the participants who *will not return to work* (Group 2 n=13) was done against the factors identified as influencing work in three areas: 1) Barriers which they perceived to be present at work; 2) Accommodations they required in the workplace and 3) Changes in productivity at work using the Mann-Whitney U test.

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5.6.1. Return to Work considering Barriers Identified

The independent variable was correlated with the barriers section of the ABC. The full results are contained in Appendix J - 1. Table 5.1 contains only the factors where a significant ($p \leq 0.05$) or a meaningful difference was identified ($p \leq 0.1$).

Table 5.1 – Barriers on ABC According to Return to Work

	Variable	Will Return to Work (n=24)		Will not Return to Work (n=13)		
		Mean	SD.	Mean	SD.	P
Personal Environment	Residential environment prevents access to the workplace.	1.33	0.76	2.46	1.33	0.02*
	Family do not want me to work.	1.13	0.74	2.08	1.44	0.09
Work Environment	Physical environment prevents job performance.	1.71	0.95	3.08	1.38	0.00*
	Co-workers treat me differently due to illness.	1.67	1.09	2.92	1.26	0.01*
Worker Abilities	Unable to perform job duties at the level required.	2.83	1.15	3.46	1.20	0.08
	Lack the physical energy to work full-time.	2.33	1.40	3.69	0.63	0.01*
	Lack the mental focus to work full-time.	1.75	1.22	3.77	0.44	0.00*
	Too much pain all the time to work.	2.04	1.33	3.15	0.99	0.02*

* Results with a p< 0.05 are considered significant

A significant difference between the two groups was found in only 6 of the twenty-five possible barriers: *Residential environment prevents access to the workplace* (p=0.00), *Physical environment at work prevents job performance* (p = 0.01), *Co-workers treat me differently due to illness* (p=0.01), *Lack the physical energy to work full-time* (p=0.00), *Lack the mental energy to work full-time* (0.003) and *Too much pain all the time to work* (p=0.02). Two other barriers i.e. *Family do not want me to work* and *Unable to perform job duties at the level required* were not significant, but achieved a p<0.10 and therefore bear some consideration.

5.6.2 Return to Work Considering Accommodations Required.

The results of the accommodations section of the ABC were compared between the two groups of participants according to perceptions of return to work in the future. The table (Table J-2) documenting the results is contained in Appendix J - 2.

There was no significant difference ($p < 0.05$) between Group 1 and Group 2 regarding the accommodations they had required prior to stopping work, and whether they were satisfied with the accommodations they had received. More sick leave was identified as having made a meaningful difference ($p=0.09$) but was not found to be significant.

5.6.3 Return to Work Considering Productivity

The standard score on the Modified Work Limitations Questionnaire for those participants in Group 1 were compared to those in Group 2 using the Mann-Whitney U test.

Table 5.2 – Modified Work Limitations Questionnaire According to Return to Work

Variable	Will return to work (n=24)		Will not return to work (n=13)		
	Mean	SD.	Mean	SD.	p-value
Time Management Demands	26.46	19.64	28.46	26.41	0.97
Physical Demands	27.95	24.47	54.81	39.85	0.02*
Mental-/-Interpersonal Demands	37.50	27.99	37.61	27.14	0.90
Output Demands	37.29	29.85	32.69	32.64	0.54

* Results with a $p< 0.05$ are considered significant

Table 5.2 shows that the Physical Demands domain was the only component in the Worker Limitations Questionnaire which identified a statistically significant difference between the two groups. Participants who were of the opinion that they would not be able to return to work generally experienced greater difficulty in meeting the physical demands of their job prior to stopping working.

5.6.4 Return to the Work Considering Factors Supporting Work

Results on the Work Environment Impact Scale and the Worker Role Scale were correlated between the 2 groups

When comparing the two groups with each other using the Mann-Whitney U test, the following results were obtained:

Table 5.3 – Return to Work According to the Worker Role Interview

Variable	WILL RETURN TO WORK (n=24)		WILL NOT RETURN TO WORK (n=13)		Mann Whitney U test
	Mean	Std. Dev.	Mean	Std. Dev.	p-value
Personal Causation					
Assess abilities and limitations	2.33	0.96	2.15	0.80	0.68
Expectations of success at work	*2.13*	*0.99*	*3.08*	*0.64*	*0.00**
Takes responsibility	*2.00*	*0.83*	*2.69*	*0.85*	*0.03**
Values					
Commitment to work	*1.42*	*0.65*	*2.08*	*0.95*	*0.04**
Work related goals	1.75	0.68	1.62	0.65	0.61
Interests					
Enjoys work	1.92	0.78	1.92	1.12	0.74
Pursues interests	2.67	0.70	2.69	0.75	0.95
Roles					
Appraises work expectations	1.58	0.58	1.69	0.63	0.67
Influence of other roles	1.92	0.78	2.38	0.87	0.12
Habits					
Work habits	2.00	0.59	1.85	0.69	0.54
Daily routines	2.63	0.97	2.62	0.77	0.91
Adapts routine to minimise difficulties	2.08	0.65	2.15	0.80	0.76
Environment					
Perceptions of physical work settings	*2.46*	*0.88*	*3.15*	*0.90*	*0.03**
Perception of family and peers	*1.88*	*0.74*	*2.83*	*0.58*	*0.00**
Perception of boss and/or company	2.33	0.87	2.69	0.85	0.21
Perception of co-workers	2.58	0.72	2.77	0.73	0.56

* Results with a $p \leq 0.05$ are considered significant.

The Mann-Whitney U test indicated a significant difference between the two groups in the Personal Causation, Values and Work Environment variables. Specifically, when looking at the constructs of each variable, there were significant differences between Group 1 and 2 on the following variables: *Expectations of Success at Work* (p=0.005), *Takes Responsibility* (p=0.033), *Commitment to Work*, (p=0.043), *Perceptions of Physical Work Setting* (p=0.030) and *Perceptions of Family and Peers* (0.001).

Table 5.4 – Return to Work According to Work Environment

Variable	WILL RETURN TO WORK (n=24)		WILL NOT RETURN TO WORK (n=13)		Mann Whitney U test
	Mean	Std. Dev.	Mean	Std. Dev.	p-value
Personal Environment					
Sensory Qualities	*2.42*	*1.06*	*3.31*	*1.18*	*0.02**
Properties of Objects	2.42	0.83	2.54	0.78	0.74
Work Role Style	2.17	0.82	2.15	0.38	0.89
Meaning of Objects	1.83	0.64	2.31	0.95	0.19
Job Demands					
Task Demands	*2.54*	*0.78*	*3.23*	*0.60*	*0.01**
Time Demands	2.42	0.83	2.54	0.78	0.74
Work Role Standards	2.29	0.69	2.54	0.88	0.58
Work Schedule	2.29	0.55	2.46	0.52	0.46
Appeal of Work Tasks	1.83	0.64	2.31	0.95	0.19
Interpersonal Demands					
Work Group Membership	2.71	0.75	2.38	0.51	0.18
Supervisor Interaction	2.61	0.99	2.46	1.05	0.55
Co-Worker Interaction	2.29	0.69	2.69	0.95	0.31
Interaction with Others	2.29	0.55	2.08	0.28	0.29
Work Environment					
Architecture	2.61	1.12	2.92	0.95	0.35
Physical Amenities	*2.54*	*0.78*	*3.23*	*0.60*	*0.01**
Company Environment					
Ambience-/-Mood	2.25	0.61	2.31	0.48	0.89
Rewards	***1.83***	***0.38***	***2.54***	***0.97***	***0.01****

* Results with a p< 0.05000 are considered significant

Results of the Mann-Whitney U test indicated a significant difference between the two groups on 4 of the 15 variables. Specifically, when looking at the constructs of each variable, there were significant differences between Group 1 and 2 on the following variables: *Task demands* (p=0.015), *Rewards* (p=0,019), *Sensory qualities* (p=0.025) and the *Physical Amenities* (p=0.004).

5.7 SUMMARY

This chapter describes the results of the data analysis of the factors associated with work status relative to chronic illness. The sample consisted of 37 participants who had been referred for an FCE. Demographic information of the participants was analysed. There were 17 male and 20 female participants and their mean age was x = 42.59 years.

A high proportion had a post-school education, with only 2% having an education level of Grade 10.

The majority of participants (32.32%) had a psychiatric diagnosis, whereas a minority had co-morbid conditions (19.19%). Thirty-five percent of participants expected that they would not be able to return to work in the future, whereas 65% expected to return to work in some form in the future.

Participants were asked whether they would return to work within the next six months and, if yes, in what position. Sixty-five percent of participants expected to return to work. Of those participants expecting to return to work, an equal number expected to return to their previous job with some changes or to a different job with the same employer (36%). Only one participant expected to return to a different job at a different employer. Most participants expecting to return to work had a degree level of education (42%). The type of medical condition did not appear to influence expectations of return to work, with more than half of participants with all conditions expecting to return to work.

Barriers that clients had experienced in sustaining the worker role were explored. The most frequently identified barriers were:

- Not able to perform job duties at the level required (68%)
- Lacked physical energy to work full-time (65%)
- Lacked mental focus to work full-time (57%)
- Limited promotion or development opportunities (54%)

Participants were asked to identify the accommodations that they required to continue working. The following were the accommodations most frequently identified:

- Regular rest breaks (62%)
- Alteration in job duties or functions (49%)
- Additional rest breaks (46%)
- Additional sick leave (46%)

Using the Modified Work Limitations Questionnaire, 30% of participants reported a meaningful loss of time management; 35% reported difficulty in meeting the physical demands of their job; and 32% of participants reported difficulty in meeting the mental/interpersonal demands and output demands before stopping work.

Factors supporting the worker role were explored using the WRI, with the following results:

- Appraises work expectations (95%)
- Work-related goals (89%)
- Commitment to work (84%)
- Work habits (84%)
- Enjoys works (76%)
- Influence of other roles (73%)

Inhibiting factors that were identified on the WRI included:

- Pursues interests (59%)
- Perception of co-workers (57%)
- Perceptions of physical work settings (54%)
- Daily routines (51%)

Factors in the work environment which supported employment were identified using the WEIS. The following factors were considered to support employment:

- Meaning of objects (95%)
- Rewards (84%)
- Appeal of work tasks (81%)
- Work role standards (78%)
- Work role style (78%)

Finally, all the factors identified were compared to participants' perceptions of whether or not they would be able to return to work in future. The Mann-Whitney U test indicated a significant difference between the group of participants who believed they could return to work and the group who did not think they could return to work on the WRI. The following items showed a significant difference between the group who expected to return to work and the group who did not expect to return to work:

- Expectations of success at work
- Takes responsibility
- Commitment to work
- Perceptions of physical work setting
- Perceptions of family and peers

On the Work Environment Scale, the following variables were significant:

- Task demands
- Rewards
- Sensory qualities
- Physical Amenities

These factors are thus found to be important in determining participants' perception of their ability to return to work in the next six months.

These factors will be discussed further in the next chapter. The interplay between these factors and return to work will be explored in greater depth.

CHAPTER 6 – DISCUSSION

6.1 INTRODUCTION

The aim of this study was to explore the perceptions of clients with chronic illnesses, of the factors affecting sustained employment. To achieve this aim a number of objectives were established to inform the data collection and analysis process:

- To determine whether participants expected to return to productive employment within six months of their FCE assessment, and if so, in what context
- To identify the barriers that participants had experienced in maintaining the worker role
- To identify the reasonable accommodations the participants required to participate in employment
- To explore environmental factors and worker roles that supported or inhibited the participants' work functioning
- To compare factors influencing work participation with the participants' own expectations of productive employment in the future.

The results of the study were presented in chapter five. This chapter will discuss the findings, relate them to other studies, evaluate the study methodology and contextualise the findings in the South African setting, especially for vocational rehabilitation practitioners. Figure 6.1 describes the structure of this chapter:

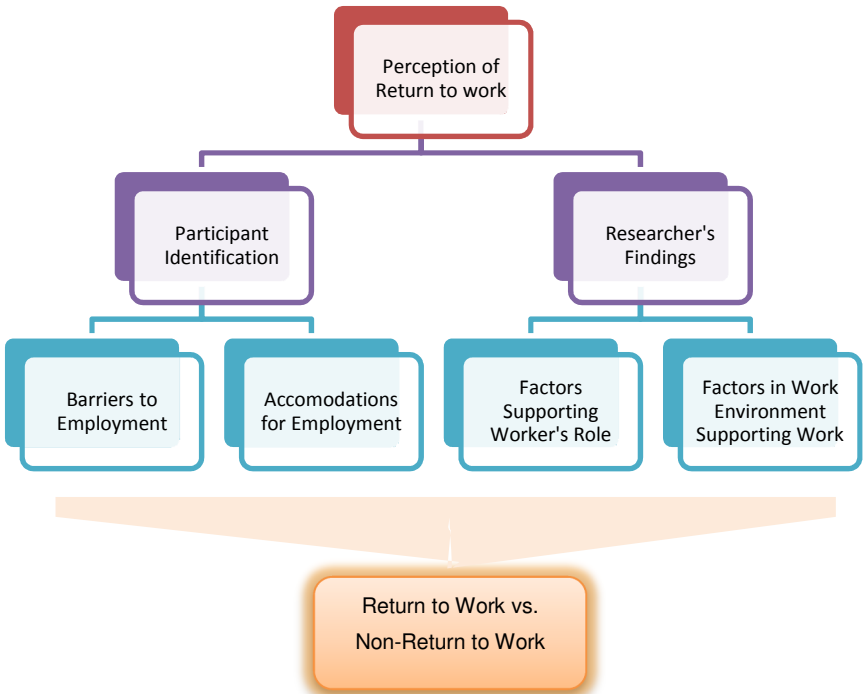


Figure 6.1 – Overview of Factors Affecting Return to Work

6.2 STUDY POPULATION AND SAMPLE

A convenience sample was obtained from the researcher's private practice. Study participants had been referred by four insurers for FCEs to determine their capacity for work after being diagnosed with a chronic illness which had required treatment for more than six months. The FCE contributed objective information so that the insurer's claims consultant or committee could determine whether or not the participant would receive disability benefits in accordance with the rules of the insurance scheme.

Over a three year period, only 37 clients who met the inclusion criteria were referred to the researcher's practice. The narrowness of the inclusion criteria contributed to the low number of participants:

- Many of the clients had stopped working more than 12 months prior to referral for an FCE
- Clients fell outside the age range specified, particularly above the age of 55 years;
- A number of clients were still acutely ill.

In addition, the number of clients referred for FCEs dropped dramatically over the study period, possibly due to cost-saving measures implemented by insurers following the global economic crisis.

After the three year period the researcher, in consultation with the research supervisor, decided to utilise the data which had already been collected rather than prolonging the study in an attempt to attain the required 100 participants. Literature indicated that a minimum sample size of 30 participants was needed for a correlation study, and data from thirty seven participants had already been collected (49, 112, 113). Although a small study size was considered a limitation of this study, a review of similar published studies confirmed that many published studies had sample sizes ranging from 15 to 50 participants (21, 56, 81, 93).

The small sample influenced the data. On several of the research instruments, responses had to be consolidated to have sufficient numbers for the analysis of results, resulting in some specificity being lost. As a result, it was difficult to obtain significant results between the sub-groups of participants.

Thus caution must be taken with the interpretation of the results due to the small study size and the findings also cannot be generalised to the South African population.

However, the results are of clinical relevance to occupational therapists in similar private practices.

Demographics of the study sample were not reflective of the South African population, but are more consistent with clients encountered through the private health care system as well as the employed population who have access to group insurance benefits through an employer. There was an almost equal spread according to gender in the sample, with a mean age of 42.59 years. Conversely, a wide range of ages and medical conditions were reflected. This influenced comparison with the literature as many of the larger studies reviewed in the literature were condition-specific (21, 31, 61-63, 65, 68, 76). The definition of chronic illness also varied between the different studies, with no consistent criteria for the length of time the condition had been present or whether the participant was receiving active treatment, again making it difficult to compare findings with published studies (42).

The education levels did not demonstrate a wide range, with few participants having low levels of education and most participants having a Grade 12 or tertiary qualification. Consistent with the higher education level of participants, a low number of participants were employed in a manual or semi-skilled position.

This study also differed from those in the literature in terms of the clients referred to the researcher's practice. The clients were generally employed in medium to large organisations, with sufficient resources to provide disability insurance to their employees. The nature of the disability benefit is usually a monthly benefit rather than a lump sum payment when the employee stops working. Lump sum disability benefits are generally associated with lower income earners as the benefit is cheaper for the employer (117). The insured salary earned by the employee is also often above the minimum level set internally by the insurer in order to justify the cost of further investigations in conjunction with payment of the disability benefits. Hence it is a select population that is generally referred for an FCE evaluation.

A number of disability schemes have a waiting period which requires the client to be absent from work from between three and twelve months (6, 117). Other schemes are designed so that members initially receive a monthly payment, followed by a lump sum payment after a period of time. Referral for the FCE assessment occurs at a variety of points according to the scheme structure e.g., during the three to twelve month waiting period, or when the lump sum is due to be paid.

Hence there was no consistency in the length of time that participants had been absent from work. A six month time frame was taken in this study, which is the mid-point in the various waiting periods. This contributed to the small sample size.

Functional Capacity Evaluations of people with chronic illness are often performed for the purpose of determining residual functional abilities or whether the client has reached maximal medical improvement, rather than to determine their potential and motivation to return to work. The FCEs thus happen when the client has been out of the workplace for a longer period of time than those with injury or traumatic conditions (6-8). It was thus important to identify which participants reported that they expected to return to work in the next six months so that the factors identified by these participants could be compared to the factors identified by the participants who did not expect to return to work.

These contextually important factors which influence the inclusion criteria in this study contributed to difficulty in comparing the results of this study to the literature, as a number of studies included participants who were still in active employment (76).

6.3 PERCEPTIONS OF ABILITY TO RETURN TO WORK

In the Brief Biographical Questionnaire, participants were asked if they believed that they would return to work within the next six months and, if yes, in what position. Six months was chosen as the time frame as there is strong evidence that the earlier there is vocational intervention (118-120), the more likely it is that the participant will return to work, although this is reported more frequently in studies of musculoskeletal conditions rather than chronic illness.

Almost one third of participants indicated that they would not be able to return to work within six months.

Literature indicated that three demographic factors have an impact on return to work, i.e. gender, age and level of education (121). No specific trend was identified in this study with regard to age and gender, although slightly more female participants took part which is consistent with the Census 2011 findings that women were more likely to be disabled due to illness when compared to men (37). Feuerstein suggests that the lower rates of return to work in females may be related to greater physical, stress and time demands related to domestic and home duties (121).

Literature indicated that younger male participants with musculoskeletal conditions demonstrated a better return to work (122, 123). Younger age in particular has been identified as increasing return to work in participants with chronic illness, but gender was not significant (90)

In this study, most participants expecting to return to work had a degree level of education (42%). This finding is supported by Hennessy & Muller, who reported that the likelihood of disability insurance claimants returning to work increases with every additional year of education (124). Most participants who expected to return to work stated that they would return to their previous job with no changes, or to the previous job with some changes. Most of the participants with a degree indicated that they would return to the previous job with some changes. This suggests that these participants believed that they had job knowledge or skills that could be utilised in a different context by their employer, rather than having a set of skills that requires a specific job match. A trend in the type of position the participants expected to occupy on return to work was also noted, with only one participant expecting to return to work in a different position at a different employer. One explanation of this finding may be that participants with a higher level of education have better insight into their limitations and greater adaptability to those limitations (124). An alternative explanation may be that a higher level of acceptance of the limitations and the presence of a broader skills base which can be utilised in different job functions is present with the higher level of education.

The type of position appeared to have some influence on the nature of the work participants expected to do. All participants in the executive or managerial fields expected to return to their previous job with some changes, whereas the participant in the technical field expected to return to a different job at the same employer. This finding may also be due to the nature of positions associated with higher qualifications which are usually less physical in nature, thereby allowing for fewer physical demands. This may be because of the amount of flexibility that the participants have in implementing changes to their job functions. Generally, more senior staff may have more control over their job functions and greater flexibility to delegate tasks which they are not able to perform as a result of their illness. Conversely, the stress levels and expectations to meet performance criteria are higher and, therefore, these participants may be more susceptible to stress-related illnesses.

The majority of participants working in a clerical (88%) or in a professional or service occupation (72%) were of the opinion that they would be able to return to work within six

months. There may, therefore, be some common factors in these occupations which influence the perception of the participants regarding future work participation. Possible factors may include the task demands, the sedentary nature of the work and, perhaps, even a lower level of financial security if they stop working permanently compared to participants in executive/managerial positions.

Participants with a diploma expected to return to work in the same position or in the same position with some changes, but not in a different position at the same employer. This suggests that the participants with diplomas had job-specific skills which they believe may be difficult to generalise or utilise in a different position. It appears that they believed that it would be more appropriate to adapt their position to better accommodate the limitations they experienced, rather than learning a new job in totality.

6.4 FACTORS WHICH INFLUENCE SUSTAINED EMPLOYMENT

This data was collected from the ABC self-report questionnaires regarding participants' perception of the 25 barriers that limited their sustained work and the 20 accommodations that they felt were required to allow them to work within the limitations of their chronic illness.

This instrument had not been well researched in the literature although it had been cited in several studies. One of the limitations in using it was that the reliability had not been established (69). The content validity had been established and, as no other suitable tool was identified in the literature search, it was utilised following the validation of the instrument in the initial phase of this study. One of the items was too condition-specific i.e. "I have an addiction" but no-one with an addiction diagnosis participated in the study. The item "I am scared I will lose my disability benefits" was also not relevant as many participants had not yet started receiving a disability benefit as the FCE was part of the initial evaluation for eligibility for disability benefits. It may have been more appropriate to make use of an instrument with better psychometric properties and that covered a wider variety of barriers more specifically associated with the illnesses.

6.4.1 Barriers to Sustained Employment

The identified barriers to employment were grouped into four categories: Personal Environment, Work Environment, Worker Abilities and Job Demands. No participant identified additional barriers to employment despite being given the opportunity to do so

on the questionnaire. This scale provided some valuable information regarding barriers in the Work Environment and Worker Abilities category, but responses in the Job Demands and Personal Environment were limited. This may be a result of the the small number of items which documented detail regarding job demands. The participants also came from a wide variety of backgrounds, hence a wide variety of personal environmental challenges may have been encountered which were not included specifically on the checklist.

Personal Environment

The Personal Environment options had a low level of responses. This would indicate that participants generally were of the opinion that their home and social circumstances had little impact on their work performance. This is consistent with the literature reviewed as personal environment factors were not frequently identified as major barriers (32, 64, 67, 85). However, in a study of 121 participants Varekamp and Van Dijk found that commuting was a barrier to employment (79). The variation in this finding in this study may be a result of the low number of participants who had significant mobility difficulties or were wheelchair bound due to their illness.

Work Environment

With regard to the Work Environment, just over half of the participants (54%) indicated that limited promotion or development opportunities in the workplace were a barrier to employment. Lack of promotion opportunities and skills development was identified as increasing the indirect cost associated with disability by Judiesch and Lyness (45). Lack of promotion opportunities and skills development may also be identified as a barrier more frequently in the South African context due to employment equity requirements as people with chronic illnesses are not perceived as “properly disabled” because of the hidden nature of many illnesses and they are, therefore not readily visible to employers as having a disability, and thus do not contribute towards equity targets.

The high response on this item of the study was generally consistent with the high number of participants who indicated that they were not able to perform their job duties at the level required (68%). Generally, an employer would not be expected to provide development or promotional opportunities to an employee who is not able to meet their existing job demands. Similarly, lack of promotion opportunities would be associated with lower wages. Lower earnings by PWDs has been identified consistently in both national and international literature (14, 19, 20, 37, 42).

This finding may also be associated with perceptions of discrimination by the employer due to the employer limiting their opportunities for promotion or development as a result of their illness, particularly when considering that more than one third of participants (38%) indicated that they had been treated unfairly by their employer and that co-workers treated them unfairly at work. Brooks *et al* identified that discrimination, stigma about HIV/Aids and issues related to disclosure were in the top 10 barriers identified by participants with HIV/Aids (67). Promotion and development opportunities would also be limited by the lack of physical energy and mental focus which was identified in the Worker Abilities responses.

Forty-one percent of participants identified the physical environment as preventing them from performing their job. This barrier was present across conditions as there were a greater number of responses than participants with a physical condition (32%). Hence the barriers in the physical environment may not be realistically linked to their abilities and performance in the workplace, but rather associated with their needs instead of a true employment necessity.

Very few of the participants (8%) were concerned that they would lose disability benefits or pension. This would be consistent with the context of the study as a number of participants had only just submitted applications for extended sick leave, or temporary or permanent disability benefits to the employer or insurance company. They were, therefore, not receiving disability benefits, hence the low number of responses in this category. Due to the inclusion criterion that participants had to have been actively at work within the past year, it is unlikely that the participants had been referred for termination of disability benefits or case closure by the insurer, as most disability insurers will review claims with independent assessments on initial assessment of the claim, one year after starting benefits or when there is a change in the structure of the benefit or the definition of disability (117).

Worker Abilities

Worker Abilities had the highest number of responses, with 68% of participants indicating that they were unable to perform their duties at the level required and 65% indicting that they lacked the physical energy to work full-time, regardless of the nature of the illness. It therefore appears that lack of physical energy was perceived to be a barrier for

participants with physical conditions, neurological conditions and co-morbid conditions (73% of participants in total).

Lack of mental focus was also perceived to be a barrier by 57% of participants. Again, participants marked this response regardless of the nature of the illness. Considering that psychiatric conditions were reported in only 32% of participants, it is apparent that lack of mental focus is a barrier in other illnesses, such as neurological conditions and some physical disorders such as HIV/Aids (63, 71, 77). The endurance component of managing a chronic illness was, therefore, identified as a barrier with regards to both physical energy and mental focus regardless of the nature of the diagnosis. Studies with people with multiple sclerosis consistently identified fatigue as a barrier to employment although Messmer Ucelli *et al* did not find fatigue to be a barrier in a much bigger study of 1141 participants (61, 63, 70).

Barriers such as being fearful of an unknown environment and lacking the necessary skills to obtain work were rated low. This is consistent with the study sample as most of the participants had been in productive employment prior to stopping work and, therefore, were working in a known environment and had already developed the skills needed to perform their job. These items were not identified as significant in the literature reviewed.

Job Demands

The Job Demands component reflected low levels of response, indicating that the participants experienced low levels of difficulty in meeting the inherent job requirements at work, with only 22% of participants indicating that they were afraid of working because of job expectations. This is different to the difficulties identified with material handling, and writing and finishing tasks which has been identified in the literature (64, 70, 79). Participants may, thus, lack of insight and judgement into the difficulties that they had experienced at work, particularly in the psychiatric and neurological conditions.

Alternatively, there is the possibility that any necessary adaptations for the condition had already been made by both the participants and/or their employers prior to the participant stopping work. Disclosure of an illness has been identified in the literature as being associated with provision of tangible accommodations (80, 82) Unfortunately there was no option available on the self-report questionnaires to identify whether the participant had disclosed their condition to their employer in accordance with employment equity requirements, and if there had been any change in their job demands subsequent to such

disclosure. It is, therefore, not clear whether there had been changes to the job demands as an accommodation resulting from the disclosure of the illness prior to the participants stopping work.

In summary, a number of common barriers across the various conditions in the study were identified as affecting participants' ability to maintain employment. These barriers generally related to job duties, the physical energy and mental focus required to work full-time, and limited promotion opportunities. All four barriers can be considered to be related, because people who do not have physical energy would not be able to perform the physical demands of their job. They would also have difficulty performing the cognitive demands of the job with low levels of mental focus. Finally, an employee who is not able to meet the demands of their position would be unlikely to receive promotion in the workplace or be exposed to development opportunities. Interestingly, physical barriers in the work and personal environment, such as wheelchair accessibility and temperature changes, scored low. This may be a function of the nature of the diagnoses present in the study sample in which physical conditions constituted 22% of the sample while psychiatric conditions comprised 32% and neurological conditions 27%. This finding suggests that a thorough understanding of the illness, as well as the context in which the participant works, is required when identifying the barriers to employment.

6.4.2 Accommodations Required for Work

The Accommodations section of the ABC was used to allow participants to identify the reasonable accommodations that they had requested to sustain employment prior to stopping work. The responses were again grouped according to four categories: Personal Environment, Work Environment, Worker Abilities and Job Demands with an additional category of Assistive Devices. Again, this checklist is not well-reported in the literature which makes it difficult to generalise the findings of this section.

Personal Environment

Although a low number of participants identified any barriers associated with their personal environment, 43% indicated that they required flexible scheduling as an accommodation. The need for flexible scheduling had been identified in a number of studies as an accommodation required for various chronic illnesses, as well as across a range of disabilities (68, 69, 79, 83). A number of explanations for this result can be postulated. Firstly, there may have been an element of suggestibility present when

encountering this item on the accommodations section, and it may have been marked as "a nice to have" rather than a necessity. In the researcher's clinical experience, flexible scheduling is encountered in some departments of large organisations such as human resources and administration departments. It is not often, however, encountered in client-facing functions such as branch staff at a bank because of the nature of the work. Secondly, the participants' insight into the impact of their work functioning may have been limited hence they were not able to make the connection between the barrier to work and a suitable accommodation. Thirdly, this finding may indicate limited understanding of the role of reasonable accommodations in promoting work functioning because of a limitation resulting from the chronic illness. Finally, this accommodation may have been identified not as a function of the specific illness, travel arrangements, home or domestic duties or requiring assistance in getting ready for work, but rather as a result of the lack of physical energy and mental focus present across various illnesses that was identified in the Worker Abilities component. This would then be considered a consistent accommodation for barriers which had been identified in the literature such as fatigue and completing tasks.

Work Environment

Altered job function was highlighted by almost half of the participants (49%). Changes in the work functions and physical environment have been well documented in the literature (69, 79, 125). A number of tangible accommodations such as seating arrangements and writing aids were also identified in the literature, but these options were not available on the ABC which may have resulted in low levels of reporting of these accommodations.

Worker Abilities

The most frequent job accommodation marked was requirement for extra rest periods (46%) and more sick leave (46%). This would be consistent with the lack of physical energy and mental focus which was identified as a barrier to employment in the barrier section of the ABC. It would also be consistent with prolonged periods of work absenteeism which require more sick leave over and above the legislated allocation. In her clinical experience, the researcher has frequently encountered the exhaustion of sick leave as a reason for an employee to apply for disability benefits provided by company policies. The request for additional sick leave as an accommodation would therefore be consistent with this experience. It would also indicate a lack of flexible company policies when addressing chronic illness in the workplace.

Additional sick leave was highlighted as an accommodation required by PLHA and MS (126). This may be due to the unpredictable nature of chronic illnesses with a heightened risk of relapse, which results in higher absenteeism and exhausts the sick leave allowance provided for in the Basic Conditions of Employment Act (3). Sick leave may then not be available for more usual ailments such as viral infections. In addition, the BCEA provides for sick leave over a three year cycle. Should a person with chronic illness exhaust this allowance in a short period of time, it may have disastrous consequences in the remaining time frame of the three year cycle. They will have expected to make use of annual leave, followed by unpaid leave.

Extra supervision and feedback was required by 32% of participants. Diminished cognitive functions in psychiatric conditions would result in the need for increased supervision, as would lower self-esteem, depression and even anxiety and, thus, this accommodation would be expected to promote job functioning with psychiatric conditions. However, good insight is required to identify the need for extra supervision and feedback. Such insight is often not present in psychiatric conditions and, thus, it is unlikely that this item was only identified in participants with psychiatric conditions. Difficulties with memory and the cognitive demands of work have been identified in a number of studies, both in specific conditions as well as across a variety of conditions (71, 73, 75).

Job Demands

The highest number of participants indicated that they required regular rest breaks on the accommodation section of the ABC (62%). This would, therefore, be an accommodation required across conditions regardless of the nature of condition present. It would also be consistent with the reports of diminished physical energy, lack of mental focus and too much pain to work full time. Literature suggests that various intangible accommodations relating to task scheduling, flexible scheduling and working from home options have been identified in several chronic illnesses such as HIV and MS (31, 63, 67, 68, 79). However, few of these options are available in the South African workplace which remains rigid in terms of employee work hours and regular attendance at a workplace.

Assistive Devices

Very few participants indicated requirement need for assistive devices in the workplace. This would be consistent with the low level of responses on the barriers in the physical environment.

Of note however, is that there were some participants who indicated that they required a wheelchair accessible work environment. At the time of participation in the study, none of the participants were wheelchair bound and this would, therefore, indicate that these participants expect long-term deterioration in the condition, to the extent that mobility becomes significantly impaired. At the same time, they would be expecting to return to work in the future, otherwise the requirement for a wheelchair accessible environment would be redundant. In their study, Baanders *et al* found that employers were more likely to provide intangible accommodations such as amended working hours or revised job assignments, than tangible accommodations such as assistive devices or adjusted furniture. They postulated that this may be due to lack of knowledge about assistive technology or limited access to expert advice in the provision of tangible accommodations. This postulation may also be true of the participants in this study as, in the researcher's experience, referral for an FCE is frequently the first contact with an occupational therapist for clients attending the researcher's practice.

6.4.3 Work Productivity

Measures of the participants' perceptions regarding their loss of productivity were gathered from the Modified Workers Limitation Questionnaire and were recorded in four domains: Time Management, Physical Demands of their Jobs, Mental and Interpersonal Demand, and Output. This instrument has been documented as a valid self-report measure, which has been utilised over a variety of conditions.

Overall, fewer than half of the participants indicated a high levels of loss of productivity (standard score above 50) in any of the four domains. This finding was unexpected considering that the participants had stopped working within the last twelve month because of their illness. They had been specifically referred for an FCE assessment, which is utilised to determine their eligibility for disability benefits which are only paid out if they are found to be unfit to work. One explanation of this finding is the sick leave policy that the researcher has encountered in larger organisations during her clinical experience. In order to ensure equity, use of discretionary sick leave is no longer an option available to a manager as such policies are not consistent with South African labour legislation, although temporary disability is provided for in Schedule 8 of the LRA (4). Instead, extensive sick leave and disability policies are in place, particularly in larger organisations. Policies encountered by the researcher state that an employee must submit an application for disability benefits once they have exhausted their sick leave.

Alternatively, they have to take unpaid leave once their annual leave is exhausted. There is, therefore, great incentive, both from a financial perspective and with regard to performance ratings, for employees to submit applications for disability benefits.
Theoretically, the policies aim to ensure early identification and management of sick leave abuse. Conversely, these policies may result in a higher number of employees applying for disability benefits for conditions where provision of additional sick leave as a negotiated reasonable accommodation would have ensured continued employment.

Another explanation for the low reported rate of loss of productivity may have been due to the change in wording. The questionnaire was developed for utilisation with employees who were active in the workplace and thus asked them to document their productivity over the past two weeks. Correspondence with Lerner (Appendix D-1) indicated that the accuracy of responses on the WLQ degrades rapidly if a time frame longer than four weeks is utilised. In this study, participants may have been out of the workplace for up to twelve months, hence there is a strong possibility of degradation of accuracy of the responses.

Despite this, the low identification of loss of productivity would be consistent with the responses on the barriers section of the ABC, where participants provided few responses when identifying barriers to meeting their job demands prior to stopping work. It does, however, pose some questions regarding the high response rate on the ABC with regard to the Worker Abilities, where 62% of participants indicated that they were unable to perform job duties at the level required. This result would again suggest diminished insight by the participants into the extent to which their work performance had been affected by their illness.

In order to examine this result further, the results of the MWLQ was analysed in greater detail according to the demographic profile of participants.

Time Management

This domain had low levels of loss of productivity amongst participants with a Grade 10 level of education. The highest number of participants indicating loss of productivity as a result of time management was the participants with a diploma level of education. Workers with a diploma often have lower levels of independence in structuring their work tasks, and receive regular supervision and feedback on their performance.

Hence, better insight into their performance would be consistent with communication from their supervisor regarding their time management and ability to meet work deadlines.

An unexpected finding was that participants working at an executive level indicated no loss of productivity as a result of time management. One possible explanation of this result is that participants in a more senior position may have stopped working soon after the onset of the chronic illness, prior to any loss of productivity at work. The highest number of participants indicating loss of productivity as a result of time management was participants working in the sales field. Sales positions are usually target driven, with salaries based on a commission structure. Poor time management would soon have become evident in failure to meet targets. This, however, may also be a distortion due to the low number of participants working in this field (n = 2).

When considering the nature of the illness, the greatest loss of time management was indicated by participants with psychiatric conditions (50%) and co-morbid conditions (43%). This would be consistent with the loss of mental focus, lack of physical energy and high levels of pain identified in the Barriers Checklist which would detract from participants organising their work schedule and tasks adequately.

Physical Demands

Participants with a Grade 12 level of education or a diploma scored the highest level of loss of productivity in the Physical Demands domain (55% and 43% respectively).

Surprisingly, when considering the occupations of participants, participants in the labour and technical occupations reported low levels of loss of productivity due to the physical demands of the job. This is an unusual result when considering that labour or technical occupations usually have the highest level of physical demands and would fall within the manual or semi-skilled fields of work (127). There are a number of possible explanations for this result. It may due to participants' lack of insight into their work capacity. Alternatively, they may well have stopped working shortly after deterioration in their condition, and had not experienced a loss of productivity associated with a physical deterioration in their condition prior to stopping work. Thirdly, they may have been feeling better at the time of the FCE and, hence, did not expect a loss in productivity. Finally, it may be due to a limitation of the WLQ which has been identified where the rating scale for the Physical Demands domain is reversed to the other three rating scales (128). Hence, participants with a lower level of education may not have followed the scale correctly.

Conversely, consistent with the low levels of physical demands of their position, participants in the executive field reported no loss of productivity due to physical demands (100%), which would be expected considering that these positions are usually sedentary in nature. Similarly, only 25% of participants working in clerical occupations experienced loss of productivity associated with the physical demands of their position. Again, this is consistent with the nature of their positions which have mainly sedentary physical demands and, thus, a greater degree of deterioration in the condition would be required before the physical demands of the position would be affected compared to labour or technical positions.

Another surprising result was obtained when considering the nature of the condition compared to the Physical Domain of work productivity. No participant with a physical condition indicated a high level of loss of productivity in the Physical Domain. However, more than two thirds of participants with a psychiatric condition (67%) indicated difficulty with the physical demands of their position. This may be attributable to the loss of physical energy, such as psychomotor retardation, or lack of motivation that frequently occurs in psychiatric conditions rather than a primary limitation in a bodily function or structure that would preclude them from performing the physical demands of their position. This finding may also be due to a limitation in this questionnaire which was described by Allaire, who highlighted that the responses in this domain were reversed when compared to the other domains covered (99). Considering the trend regarding lack of physical energy and lack of mental focus reported by participants on other questionnaires, the result appears, rather, to reflect the complex interrelation of the symptomatology of a condition with the context in which employment occurs.

Mental and Interpersonal Demands

Participants with a Grade 12 (45%) or a diploma (57%) level of education (25%) indicated higher levels of loss of productivity with respect to mental and interpersonal demands. Only one quarter of participants with a degree (25%) indicated difficulty in interpersonal demands. This may be because participants with a higher level of education were in a position where they were able to delegate more mentally demanding tasks to subordinates or colleagues, whereas participants with a lower level of education would have had to perform these tasks themselves and, thus, experienced a direct impact on productivity in these areas. No participant with a Grade 10 level of education indicated deficits in this domain.

However, half of participants performing labour or technical occupations indicated loss of productivity due to mental/interpersonal demands as did half of the participants working in the services/professional sector. Very few participants in the clerical field (13%) indicated loss of productivity in this domain but this may be due to the routine, repetitive nature of many administrative tasks and, therefore, little impact on productivity was experienced prior to stopping work.

Surprisingly, no participants working in management indicated loss of productivity in this domain as interaction with staff, supervision of teams, high levels of analysis and decision-making, as well as good interpersonal relationships with both internal and external clients would be expected in executive or managerial positions. This may possibly be due to the participant stopping work as soon as deficits in functioning become evident or because of the higher levels of insight and adaptability described by Hennessey (124).

Output

When considering the Output Domain, reports of loss of productivity clearly increased with increasing levels of education. Few participants with a Grade 10 or Grade 12 (18%) level of education reported loss of productivity, whereas greater loss of output was present in participants with a diploma (29%) and degree (42%) level of education.

Lack of insight and reduced adaptability might have contributed to the low level of output loss described by participants with a lower level of education. More probably, participants with lower levels of education are more likely to perform manual or semi-skilled jobs with greater physical demands. Once compromise occurs in their physical status, the greater is the impact on their output due to the physical nature of the work.

A similar pattern was present in the loss of output when considering the participants' occupation. No executives achieved a standard score above 50 but fifty percent of participants in the labour/technical fields experienced a higher degree of loss of productivity. One explanation may be that participants at a management or executive level stopped working prior to experiencing a direct impact on their output. This level of seniority in a company usually has better benefits, including group disability schemes and individual insurance policies, and they therefore have more financial security in place to sustain them when they stop work.

There may also be legal and reputational consequences for the employer if more senior employees remain in employment without fulfilling their job demands adequately. Another explanation may be that the financial consequences of loss of output are greater at a more senior level in a company and, therefore, the decision to stop working was taken (either by the participant or their manager) before the loss of output had a significant material impact on the company. Finally, a more senior staff member who has worked to develop their personal reputation may choose to leave formal employment before encountering negative performance consequences.

The barriers to sustained employment and the accommodations required to remain in employment discussed above were identified by participants in this research using self-report questionnaires. As responses were subjective in nature, with aspects of suggestibility present as well as the possibility of limited insight, the researcher made use of a more objective tool to gain a broader understanding of the factors which influenced employment of the participants.

6.5 FACTORS SUPPORTING RETURN TO WORK

Factors supporting or inhibiting participants' return to work in the future were gathered from a comprehensive interview that used two standardised rating scales. These standardised rating scales contrast with the self-report questionnaires discussed above as the rating scale was scored by the researcher, and allowed for rating of the psychosocial/environmental component of rehabilitation with the intention of identifying the psychosocial and environmental factors that may influence the ability of the person to return to work (97).

6.5.1 Extent to which Participants' Worker Role Supports Return to Work

The Worker Role Interview was utilised to determine whether the participants' worker role participation supported return to work. Generally, a number of worker roles supported return to work in the future, including *Appraises Work Expectations* (95%), *Work Related Goals* (89%) and *Work Habits* (84%).

Perceptions of Physical Work Settings was considered to inhibit return to work in 46% of participants. This is consistent with the 41% of participants who indicated that the physical work environment poses a barrier to work on the Barriers Checklist.

Perception of Co-workers (57%) and *Perception of Boss/Company* (41%) was considered an inhibiting factor for many of the participants. These responses were generally congruent with the Barriers Checklist where 38% of participants indicated that they had been treated unfairly at work and that their co-workers treated them differently. However, the WRI identified a larger number of participants experiencing perceptions in the workplace as an inhibiting factor. This suggests that participants may have under-reported this factor on the self-report questionnaires, possibly as a result of the structure of the questionnaires. The extent to which this has impacted on them in practice became more evident with the in-depth questioning present in the comprehensive interviews.
Pursues Interests (59%) and *Daily Routines* (51%) were considered to inhibit return to work for more than half of the participants. This again contrasts with responses on the Barriers Checklist, where few participants identified factors in the home and social environment that inhibited work function although many of the interests and daily routines required to support work happen outside of the actual workplace.

6.5.2 Extent to which Work Environment Supports Return to Work

The Work Environment Impact Scale was utilised to rate the extent to which the work environment supports or inhibits the participant's return to work in the future. Overall, *Meaning of Objects* (95%), *Rewards* (84%) and *Appeal of Work Tasks* (81%) scored the highest, indicating high levels of support for the participants to return to work. It is, therefore, evident that the nature of the participants' jobs, and the remuneration and incentive structures in their companies would generally encourage them to return to work. Disability benefits are structured to support return to work from a financial perspective by paying a reduced salary, usually 75% of the employee's basic income if it is a monthly benefit (117). Additional income such as commissions, overtime allowances and subsistence allowances are not covered by the monthly disability benefit, and hence employees experience a financial loss greater than 25% of their income. Some insurance benefits are lump sum payments which are based on their annual salary, for example two or three times their annual salary. This lump sum thus covers only two to three years of loss of income, even with prudent financial management. It is, thus, financially advantageous for employees to remain at work.

Work Role Style and *Interaction with Others* also supported return to work to a lesser degree. Interpersonal relationships with colleagues and managers would also encourage working and have been highlighted in the literature as a significant promoting factor for return to work (77, 80, 82).

Exploring the provision of accommodations for a person with a chronic illness is more likely in an environment which is supportive and with a manager who is sympathetic.

Task Demands (62%), *Work Group Membership* (54%) and *Architecture* (46%) were the strongest factors inhibiting return to work. This finding corresponds with the Barriers Checklist, where the items indicated most strongly by participants were that they were unable to perform job duties at the level required followed by lacking the physical energy to work full-time. Limited promotion/development opportunities, being treated unfairly by the employer and co-workers and being treated differently were marked by more than one third of participants and were consistent with difficulties in work group membership in the work environment. Even *Architecture* has similar results to the responses on the Barriers Checklist, where 41% of participants indicated that the physical environment was a barrier to work.

Overall, the results of the rating scales would suggest that participants were able to identify and report the physical barriers to sustained employment with a chronic illness. However, participants were not particularly insightful regarding the impact of their home and social role functioning on their ability to function within a work context and require some degree of support and insight building in order to be able to address these factors adequately when managing their work functioning. Use of a comprehensive interview by a skilled clinician may thus be more reliable in gathering information regarding the factors supporting sustained employment for people with chronic illnesses.

6.6 RETURN TO WORK COMPARED TO FACTORS AFFECTING WORK

The final step in this study was to determine if there were any correlations between the group of participants who believed they *Will be able to return to work* within the next six months (Group 1) and the participants who believed they *Will not be able to return to work* (Group 2), and the various factors that had been identified as influencing work.

6.6.1 Return to Work according to Barriers

The first correlation was done to compare the results of the barriers and accommodations sections of the ABC between the participants who were of the opinion that they *Will Return to Work* in the future and the participants who were of the opinion that they *Will Not Return to Work* in the future.

A significant difference was found in only 6 of the twenty-five possible barriers: *Residential environment prevents access to the workplace* (p=0.00), *Physical environment at work prevents job performance* (p = 0.01), *Co-workers treat me differently due to illness* (p=0.01), *Lack the physical energy to work full-time* (p=0.00), *Lack the mental energy to work full-time* (0.003) and *Too much pain all the time to work* (p=0.02). Two other barriers, i.e. *Family do not want me to work* and *Unable to perform job duties* at the level required were not significant, but achieved a p<0.10 and therefore bear some consideration. This suggests that the two major barriers to employment are factors in the physical environment (both at work and at home) as well as factors resulting from the disease process itself (energy and pain levels). Participants who experienced difficulty in managing the symptomatology of their illness as well as interpersonal interactions in the workplace were less likely to expect to return to work in the future. The clinical experience of the researcher confirms these findings Literature has identified that disease factors influence employment status, with a number of studies indicating that the more severe the disease symptomatology, the less likely it is that the person would be working (64, 76).

In their study, Munir *et al* found that even people with musculoskeletal pain, arthritis and rheumatism reported raised levels of psychological and health-related distress compared to the rest of the workforce (77). Hence the physical barriers are only one component of the difficulty in sustaining work, with the psychological and interpersonal context, including the support of colleagues and family members, being important across a range of conditions.

6.6.2 Return to Work according to Accommodations

The results of the accommodations section of the ABC demonstrated no significant difference between participants who believed they will be able to return to work and participants who believe they will not be able to return to work. More sick leave was identified as making a meaningful difference (p=0.09) but was not considered significant. This would be consistent with the longer-term nature of a chronic illness, particular at times when it is poorly controlled which results in a higher level of absenteeism from work as well as more frequent time off work to attend doctors' consultations. The process required to access additional sick leave in the workplace in larger organisations often requires the submission of a disability claim and this finding would thus be consistent with the clinical experience of the researcher.

The lack of significant difference in accommodations required may be a result of the range of conditions and occupations included in the study, each of which would require differing accommodations, both tangible and intangible. It further suggests that perceptions of ability to work are not dependent on access to accommodations in the workplace but rather relate to other factors. It does, however, suggest that there is no generic formula which can be utilised to identify accommodations for employment but rather that comprehensive individual assessment is required to ensure that the best fit of accommodation to personal and contextual factors is achieved.

6.6.3 Return to Work according to Productivity

No statistically significant differences were found on any components of the Worker Limitations Questionnaire except for the *Physical Demands* domain. Participants who were of the opinion that they would not be able to return to work had generally experienced greater difficulty in meeting the physical demands of their job prior to stopping working. This is consistent with the Barriers Checklist where 41% of participants indicated that the physical environment of their job prevented them from working and 65% of the participants indicated that they lacked the physical energy to work full time. It is, therefore, evident that the physical demands of a job need to be explored and suitable treatment strategies utilised when implementing a vocational rehabilitation programme.

6.6.4 Return to Work according to Worker Roles

A number of worker roles were explored and rated, then subsequently grouped according to the six constructs of the Model of Human Occupation. Factors falling in the *Personal Causation, Values* and *Environment* domains demonstrated significant differences between participants who believed that they would be able to return to work in in six months and those who did not believe they would be able to return to work.

When examined in more detail, there was a significant difference between participants who expected to return to work and those that did not on the following variables: *Expectations of Success at Work* (p=0.005), *Takes Responsibility* (p=0.033), *Commitment to Work*, (p=0.043), *Perceptions of Physical Work Setting* (p=0.030) and *Perceptions of Family and Peers* (0.001). The first three factors are client-centred, relating to their approach to their work, whereas the last two factors relate to the environment in which the work occurs and the support that they receive from family and peers.

The literature identified *Expectations of Job Success* and *Daily Routines* as the two items that are the most important for predicting return to work after six months and two years (87, 88). In this study, *Daily Routines* was not considered significant, however it was still identified as being meaningful (p = 0.91). *Adapts Routine to minimise Difficulties* was also considered meaningful (p=0.76). It is thus evident that the participants who felt that they were able to manage their chronic illness in the context of their usual daily routine and who had the ability to adapt their routine to minimise the difficulties associated with the illness were more likely to perceive themselves as being able to return to work. The literature reviewed indicated that management of medication at work was considered a significant barrier for PLWAs, possibly because of a lack of flexibility regarding the medication regime associated with this condition (21). A flexible work schedule would also allow for adaptation of the daily routine, both in the personal environment and the work environment in order to optimise work functioning with the chronic illness.

6.6.5 Return to Work according to Work Environment

When considering the work environment, there were four variables which showed significant differences between the participants who expected to return to work and the participants who did not expect to return to work. The significant factors included: *Task Demands* (p=0.015), *Rewards* (p=0,019), *Sensory Qualities* (p=0.025) and the *Physical Amenities* (p=0.004). Ability to meet the demands of work tasks and the physical amenities would both impact on the participants' ability to be productive in the physical aspect of their position. It is, therefore, not surprising that this result is consistent with the loss of productivity identified in the *Physical Demands* domain identified on the MWLQ. No literature could be identified which indicated which items on the WEIS promoted or predicted return to work. However, as discussed above, the physical demands of tasks, including material handling, task demands and written demands, have all been identified in the literature as significant when considering barriers to employment (63, 64, 76, 81). It is thus not surprising that *Task Demands* was significant in supporting return to work. Similarly, *Physical Amenities* would include the use of assistive devices and adaptive equipment such as special seating, computer assistive technology and temperature control mechanisms which have been described in the literature as tangible accommodations provided across a variety of conditions (63, 64, 76, 81)

There may be a link between the participants' *Expectations of Success at Work,* which was significant on the WRI, and the *Rewards* factor identified on the WEIS which also showed a significant difference between participants who were of the opinion that they could return to work and those who believed they would not return to work. This suggests that the existing incentive-driven approach to remuneration adopted by many employers has an important role to play in perceptions of return to work, as a worker's reward structure is usually related to their performance at work. However, when considering intrinsic motivation factors, it would be an important point of negotiation with employers to provide long-term motivation for participants to return to work.

6.7 THEORETICAL FRAME WORK RELEVANT TO THE RESULTS

The findings of this study indicate that the Biomechanical Frame of Reference may provide the occupational therapist of the pathology that impacts on the person but it does not provide the full picture of the impact of the chronic illness on the ability of a person with chronic illness to sustain employment successfully. This frame of reference may provide an initial understanding of the personal factors which pose a barrier to employment but does not provide for the complexity of factors supporting or inhibiting work and return to work.

Similarly, the COPM-E, although more comprehensive than the Biomechanical Frame of Reference, focuses on all the interactions of the person, with only a limited consideration of work. The MOHO is the most comprehensive model as it includes three interrelated systems, namely the internal system, the external system and the feedback / interlinking system. It accounts for highly complex and multi-faceted environment in which work functions take place. The findings of this research confirm the complex nature of factors supporting and inhibiting employment, which were broader than the symptomatology which would have been expected from the chronic illness. Physical and psychological factors both internal and external to the participants, as well as contextual factors such as the work environment and work demands were found to contribute to the participants' expectations of return to work.

6.8 LIMITATIONS OF THE STUDY

The study was conducted in a clinical setting with regular clinical procedures. This had an impact on the study population and the study sample as discussed previously.

Particular sources of concern relate to the small sample size, which was reduced from the initial hundred participants to only 37 participants due to the length of time taken to gather the required data. The select population of clients who are referred for FCE assessments may also have been a limitation to gathering a comprehensive picture of factors affecting employment in South Africa. This prevents the results of the study being generalised to the South African population although they remain relevant to private practitioners working in vocational rehabilitation

Factors relating to the timing of the FCE for which the participants were referred may also have impacted on the findings of the research. The researcher is, however, an experienced and trained clinician with many years of experience in performing FCEs, and the use of the comprehensive interview allowed for a more in-depth exploration of factors than may have been obtained solely through the use of the battery of self-report questionnaires.

The administration of the interview as part of the FCE interview was beneficial as it reduced the endurance required to complete the full battery of research instruments as well as the FCE. Completion of the battery of research instruments at one time was beneficial as it ensured a high response rate. The majority of participants who started the study were able to complete participation as there was no time delay while waiting for completed questionnaires to be returned. The administration of the battery of research instruments was, however, time-consuming. The already lengthy FCE process was extended by an additional one to 1½ hours. At times, the completion of questionnaires was frustrating for participants, particularly when similar questions were asked during the comprehensive interview. This was more evident for participants who were not first language English speakers. It was found that some questions were not answered fully, particularly on the ABC.

Concern regarding the utilisation of self-report questionnaires has been raised in the literature (6, 7, 129, 130). However, validated self-report questionnaires comprise an important part of assessment as they allow the clinical occupational therapist to understand the client's perceptions regarding their personal, social and work environment. They also allow for comparison of progress during the rehabilitation process. Data collected from self-report questionnaires may not accurately reflect the barriers and accommodations experienced by the participant in working as a degree of insight into their condition and the limitations experienced as required.

Self-report questionnaires are frequently utilised by occupational therapists in vocational practice to obtain information which is utilised by the clinician to customise the FCE by the inclusion of tasks that reflect the abilities and limitations claimed (131). Customisation of testing as well as thorough evaluation of performance on the FCE therefore becomes possible. Self-report questionnaires were included in the battery of research instruments in order to obtain participants' perceptions of factors affecting employment. However, the use of a comprehensive interview with the two standardised rating scales allowed for a more objective picture of these factors to emerge.

The explanation of terminology and questions on the self-report instruments by the research assistant, although necessary to ensure completeness of questionnaires, may have introduced a source of interviewer bias as participants may have answered questions based on how they thought the research assistant would like them to answer.

The Physical Demands section of the WLQ raised a concern as the rating scale was reversed when compared to the rest of the domains on this questionnaire. However, although results initially appeared lower on the Physical Demands domain, a significant difference was still obtained when the correlation with return to work was done.

All participants had an interest in financial compensation for the chronic illness, and this was the reason they had been referred for evaluation. Although the information sheet clearly explained that the results of the questionnaires would not be utilised in determining the eligibility for disability benefits, there may have been an indirect concern that this may not happen in practice. Participants may have felt some form of pressure to indicate that they expected to return to work in the future, particularly as they knew that the evaluation had been requested by the insurance company to evaluate their fitness to work.

Data was collected on a wide range of factors which were identified as influencing participants' perceptions of the ability to work. However, data focused predominantly on personal and environmental factors, with little emphasis placed on social factors. Information related to disclosure to the employer and/or work colleagues, and disclosure of the chronic illness as a disability for employment equity purposes, was not gathered. These aspects may have influenced participants' perceptions of the ability to return to work in the future. In addition, although volition was explored during the WRI component of the comprehensive interview, participants were never asked directly if they wanted to work.

The extent of workplace conflict and the events leading up to the participants applying for disability benefits and thus being referred for an FCE, was explored during the comprehensive interview, but was not recorded for research purposes. This may also have influenced participants' perceptions of their ability to work.

Examination of additional data would have provided a more comprehensive picture of the factors influencing employment but was deemed beyond the scope of the study. For example, completion of questions two and question three on the accommodation section of the ABC would have allowed the researcher to obtain a better understanding of the extent to which participants had requested accommodations in the workplace and received them, and whether or not this had influenced the participants' perception of their ability to work.

6.9 CONCLUSION

This study examined the factors affecting the sustained employment of people with chronic illness. Data on barriers to employment and accommodations for employment was gathered using self-report questionnaires. Data on factors supporting employment was gathered using standardised rating scales. Although a number of limitations regarding the sample population and size were identified, several important findings of relevance to vocational rehabilitation practitioners were made:

- Perceptions of ability to work and factors influencing work participation are highly complex. The nature of the chronic illness does not necessarily determine the extent of barriers to employment experienced, nor does it predicate the type of accommodations required for employment.

- Self-report questionnaires to determine participants' perceptions of personal and environmental factors influencing employment have a place in vocational assessments, but may provide a limited perspective on a complex situation.

- Use of a comprehensive interview by a skilled vocational practitioner provides a greater depth of knowledge and understanding of the factors influencing employment. These factors may need to be addressed by a multi-disciplinary team, for example to optimise the disease symptomatology that forms a barrier to employment, or to address the psychological distress associated with a chronic illness.

- Insight building would be an important aspect to address in vocational rehabilitation programmes as insight into the need for accommodations, and how they should link to overcoming the barriers associated with the chronic illness appeared to be limited.

CHAPTER 7 - CONCLUSION

7.1 SUMMARY OF THE STUDY

Occupational therapists working in the field of vocational practice are often asked to perform FCE assessments of people with chronic illnesses regarding their ability to work. This information is utilised by insurers and/or employers to determine the employee's eligibility for disability benefits. In clinical practice, many reasons are presented to the therapist justifying the client's inability to work at that point in time or limiting the potential to return to work in the future. Personal factors, social factors and environmental factors have been found to influence work participation of people with chronic illness. The study attempted to identify which factors were significant in participants' perceptions of their ability to return to work within a six-month period, as well as the barriers and accommodations that affected employment prior to stopping work.

The study sample consisted of 37 participants who were referred for an FCE. Data regarding perceptions of factors influencing ability to work was collected. Additional data regarding the barriers they perceived as preventing them from sustaining employment and the accommodations required to continue working was explored. An in-depth exploration of the factors affecting employment obtained from a comprehensive interview was captured on two standardised rating scales, the WRI and the WEIS scales.

The study identified four barriers perceived by the participants including: Not able to perform job duties at the level required, Lack of physical energy to work full-time, Lack of mental focus to work full-time, and Limited promotional development opportunities. The accommodations perceived to be required to sustain employment were: regular rest breaks, alteration of job duties or functions, additional rest breaks, and additional sick leave. Factors supporting the worker role were identified as: Appraises work expectations, Work-related goals, Commitment to work, Work habits, Enjoys work, and Influence of other roles. Inhibiting factors were identified as follows: Pursues interest, Perception of co-workers, Perceptions of physical work setting, and Daily routines. A number of environmental factors were also identified as supporting employment, including Meaning of objects, Rewards, Appeal of work tasks, Work role standards and Work role style.

Correlations obtained using the Man-Whitney U indicated there were significant differences between the group of participants who believed they could return to work and the group who did not think they could return to work, as indicated on the WRI. Items which supported return to work included Expectations of success at work, Takes responsibility, Commitment to work, Perceptions of physical work setting, and Perceptions of family and peers. Work environment factors which supported return to work included Task demands, Rewards, Sensory qualities and Physical amenities.

The study thus confirmed that factors affecting work are complex and multidimensional. The findings are consistent with literature which argues that the factors influencing work participation are not necessarily condition specific, or demographic specific. The results are, however, consistent with Kielhofner's MOHO which described occupation as a function of three interrelated systems as the factors identified as being significant come from different domains. No single factor could be isolated as being the most influential regarding perceptions of return to work. Personal factors, social factors and environmental factors all influence participants' perceptions of their ability to work.

These results are important for occupational therapists in vocational practice to consider when addressing return to work issues with their clients. Although it may be easy to identify the physical barriers and accommodations required by a client with a physical condition, psychosocial factors play an important role in determining eventual return to work. Comprehensive understanding of their clients' perceptions regarding work should be explored in order to determine the individual's reflection on and appraisals of issues relating to their understanding of the condition and, thereafter, the complex factors present in the work environment which will impact on successful return to work. Although an FCE provides valuable information regarding physical functioning, the psychosocial aspect of the assessment process should not be underestimated when developing suitable vocational interventions. It is important for the therapist to be cognisant of the multidimensional nature of work disability, including the individual characteristics and perceptions of each client. This should be integrated with clinical experience when addressing return to work in people with chronic illness.

7.2 RECOMMENDATIONS FOR FUTURE RESEARCH AND CLINICAL PRACTICE

From this research, a number of areas can be identified in which further occupational therapy research would contribute to the body of knowledge for vocational practice. The areas that should be investigated further include:

- It would be valuable to explore the reasons why the participants left the workplace in order to determine whether there is any impact on their perceptions of their ability to work. The application of Schedule 8 of the Labour Relations Act and whether or not it is correctly implemented may have some bearing on participants' perceptions of future vocational potential.

- A longitudinal study looking at participants' perceptions at the time that they stopped work, and comparing them at 6 months, 12 months and even 24 months post-FCE evaluation to determine whether their perceptions regarding return to work were accurate or had changed and the reasons for any change. Any attempts to return the participants to employment during this period should also be examined. Occupational therapists would then have a base of knowledge from which to identify the most important factors related to the long-term potential of the participant to return to work.

- Although this study collected a wide range of information regarding participants' perceptions of factors affecting employment, no corroborating information was obtained from a third party. Feedback on the insurer's decision regarding the participants' eligibility for disability benefits, and thereby determining whether the participant actually left the workplace, either for a protracted period of sick leave or permanently, may also provide valuable information when correlated to the participants' own perceptions of factors affecting employment.

- In-depth examination of the provision of reasonable accommodations to people with chronic illness in the workplace in accordance with labour legislation is recommended. Although employees may be able to identify the need for an accommodation, they may require support in requesting such accommodation and ensuring it is tailored to suit the limitations experienced as a result of the chronic illness. The effectiveness of the provision of accommodations in sustaining the employment of people with chronic illness in the workplace should also be examined.

With regard to clinical application of these findings, there was several important aspects which should be considered by vocational rehabilitation practitioner:

- Understanding of the pathology underlying an illness is not sufficient to formulate a vocational rehabilitation plan. The nature of the chronic illness does not predicate the barriers that a client will experience nor the type of accommodations required to sustain employment. Rather, clinicians should explore the multi-factoral nature of the personal factors and contextual factors influencing work. Factors supporting or inhibiting employment, expanded in all the roles in which the client is active, should be explored. A client centred approach to vocational rehabilitation should thus include cognisance of the perceptions of the participant regarding their ability to work, the perceptions of their co-workers and perceptions of the physical work environment.

- Self-report questionnaires to determine participants' perceptions of personal and environmental factors influencing employment have a place in vocational assessments, but may provide a limited perspective on a complex situation. Although the self report questionnaires have been standardised, translation into languages relevant to the South African population would enhance the reliability of the information obtained.

- Use of a semi-structured interview by a skilled vocational practitioner provides a greater depth of knowledge and understanding of the factors influencing employment than self-report questionnaires and use of such interviews prior to planning a vocational rehabilitation programme should be considered in the clinical setting. Administration of the interview in the client's home language would be expected to enhance the quality of information obtained in a clinical setting.

- Information obtained from self-report questionnaires and comprehensive interviews should be utilised to identify the multi-dimensional factors influencing employment. These factors may need to be addressed by a multi-disciplinary team, for example to optimise the disease symptomatology that forms a barrier to employment, or to address the psychological distress associated with a chronic illness.

- Insight building with a client is a vital component of vocational rehabilitation programmes regardless of the nature of the illness. Insight into the need for accommodations, and how they are linked to overcoming the barriers associated with the chronic illness is limited. Psychological aspects of vocational rehabilitation also need to be addressed, even in illnesses with no obvious psychiatric component.

- Measures to address psychological distress related to chronic illness need to be implemented, ideally whilst the client is still at work, so as to mitigate against the heightened stress levels that may contribute to employees with chronic illness leaving the workplace

APPENDICES

APPENDIX A – EVALUATION OF POTENTIAL RESEARCH INSTRUMENTS

	OVERVIEW	COMMENTS
1. Work Limitations Questionnaire (95)	✧ On-the job impact of chronic conditions & treatment ✧ Limitations in time management, physical, mental / interpersonal and output demands ✧ Doesn't rely solely on work absence as a measure ✧ Self-report questionnaire ✧ Used in number of studies ✧ Consists of 25 items, ✧ 4 dimensions ✧ Covers 2 weeks prior to administration	✦ High reliability and validity (95, 99). ✦ Tested across different conditions, cultures. ✦ Developed in ✦ 1999. ✦ Copyrighted. ✦ Expensive to purchase.
2. Job Content Questionnaire (132)	✧ Assesses 5 psychological domains: ✧ Psychological, skill discretion, decision authority, supervisor support and co-worker support ✧ Self report questionnaire.	✦ Tested for reliability and validity. ✦ Developed in 1998. ✦ Only describes person' s job description. ✦ No cross-cultural application tested.
3. Occupational Stress Indicator (133)	✧ Has four subscales, including Job satisfaction, mental health, Type A behaviour ✧ Linked to mental health and job satisfaction. ✧ Utilised as a personality test.	✦ Psycho-social constructs. ✦ No costs attached. ✦ No literature available on validity and reliability. ✦ Old tool developed in 1990.
4. Health and Work Performance Questionnaire (94)	✧ Developed by WHO. ✧ Measures work impairment over past 30 days. ✧ 3 areas: prevalence of illness, 3 workplace consequences, basic demographic info ✧ 10 mins to complete. ✧ Aimed at estimating health care costs.	✦ Good validation ✦ Consistency with payroll data and sick leave recall. ✦ Requires participant to have worked in last 30 days. ✦ No information on contextual factors. ✦ Weak in predicting work performance(104).

5. Disclosure of illness	✧ No formal questionnaire could be found. Generally capture with biographical information.	
6. Sick leave data	✧ Data requested from employer. ✧ Collects information re absence frequency and absence duration.	✦ Accurate data available. ✦ No formal rating scale by employee. ✦ Limited to days out of work as measure of functioning.
7. Stanford Presenteeism Scale (13)	✧ Self report questionnaire covering productivity, proportion of work covered and percentage of time making more errors. ✧ Attending work despite feeling unwell over past 12 months	✦ Reliability established on health workers (13). ✦ Validity not established (104)
8. Short Form-36 (134)	✧ 36 item questionnaire. ✧ Self-report questionnaire.	✧ Well-researched. ✦ Includes personal and contextual factors but no work factors. ✦ Complex to score (135).
9. Work Productivity and Activity Impairment (WPAI) General Health Questionnaire (136)	✧ Uses 3 open ended questions. ✧ Two additional questions based on productivity	✦ Better construct validity when data is gathered by an interview rather than using self-report scale (137).
10. The Obstacles to Return to Work Questionnaire(138)	✧ Covers psychological and physical risk factors ✧ Relatively good predictor of sick leave ✧ Included out of work for 12 months or more ✧ Rate each item on a 7 point scale. ✧ 9 scales with 55 items covering depression, pain, difficulties perceived, physical workload, social support at work, worry re sick leave, work satisfaction, family situation, perceived prognosis of RTW.	✦ Satisfactory reliability reported. ✦ Copyrighted ✦ Expensive to purchase for individual use

APPENDIX B – WORK LIMITATIONS QUESTIONNAIRE

Appendix B – 1: Consent to Use and Adapt the Work Limitations Questionnaire

Anne Reynolds

From: Greenhill, Annabel <AGreenhill@tufts-nemc.org>
Sent: 18 March 2008 18:41
To: anne@therapyteam.co.za
Subject: RE: WLQ for Research in South Africa

Hi Anne,

I just spoke with Debra and she said your proposal sounds good and you may use the wording change as described below. In fact, she has done similar work (as yet unpublished) and found the WLQ to be predictive of time until return to work and would be interested in your results with the SA data.

Let me know if I can answer any more questions at this time.

Best,

Annabel

Please note new email address.

Annabel Greenhill
email: agreenhill@tuftsmedicalcenter.org
phone: 617-636-8149
fax: 617-636-8351

From: Anne Reynolds [mailto:anne@therapyteam.co.za]
Sent: Thursday, March 13, 2008 11:12 AM
To: WLQ - Work Limitations Questionnaire; Greenhill, Annabel
Cc: Lerner, Debra; 'Patricia De Witt'
Subject: RE: WLQ for Research in South Africa

Hi there

Thanks very much for the quick feedback.

I have no doubt that the responses will degrade after four weeks. In my clinical experience, I have seen this happen. Unfortunately, I rely on referral of the client by an insurer, who usually only is notified of the potential disability claim once the client has already left work.

Would it be acceptable to Dr Lerner and yourselves if I asked the client to provide the information as it related to their *last two weeks* at work. I would then discuss the limitations that this would put on the results due to the change in the time frame? Based on my review of the literature, this is undoubtedly the instrument of choice to look at work limitations. I don't see that I can get to a population who are still active in the workplace. Unfortunately, our employers in SA, and even the doctors sometimes, are not very proactive when managing chronic illness. There is an argument that this is not the priority in SA at this time, but with an already high level of unemployment and the employer sometimes being the most accessible provider of basic health services through the occupational health clinic), getting people back into the workplace as quickly as possible is definitely a priority from a socio-economic and psychosocial perspective. The insurers are the ones who have supported the importance of employment for people with disabilities.

I would love to discuss this further and see if you have any ideas on how to overcome this challenge that would make the WQL relevant for use in SA.

Kind regards

1

Anne

-----Original Message-----
From: Greenhill, Annabel [mailto:AGreenhill@tufts-nemc.org] **On Behalf Of** WLQ - Work Limitations Questionnaire
Sent: Wednesday 12 March 2008 11:36 PM
To: anne@therapyteam.co.za
Subject: FW: WLQ for Research in South Africa

HI Anne,

I consulted with Dr. Lerner and have included her response below. Some clients have used a larger recall time frame, though no longer than 4 weeks, and participants have all been currently employed. The ability of respondents to accurately recall their work activities tends to degrade sharply after 2 weeks.

Annabel

Please note new email address.

Annabel Greenhill
email: agreenhill@tuftsmedicalcenter.org
phone: 617-636-8149
fax: 617-636-8351

From: Lerner, Debra
Sent: Wednesday, March 12, 2008 4:48 PM
To: WLQ - Work Limitations Questionnaire
Subject: RE: WLQ for Research in South Africa

It would affect the questionnaire. The respondent should have been on the job all or part of the time in the prior two weeks of survey administration.

Debra Lerner, MS, PhD
Senior Scientist and Associate Professor
Tufts Medical Center
Institute for Clinical Research and Health Policy Studies
800 Washington Street
Boston, MA 02111
617-636-8640
dlerner@tuftsmedicalcenter.org

We've performed a little surgery on our name. Tufts-New England Medical Center is now Tufts Medical Center. Please update your files with my new contact information. Thank you.

From: Greenhill, Annabel **On Behalf Of** WLQ - Work Limitations Questionnaire
Sent: Wednesday, March 12, 2008 4:32 PM
To: Lerner, Debra
Subject: FW: WLQ for Research in South Africa

Hi Debra

Quick question: the person below is looking at respondents who will have been out of the workplace for up to 3 months - is the WLQ usable under these conditions?

Please note new email address.

Annabel Greenhill

Appendix B – 2: License Agreement to Use the Work Limitations Questionnaire

Client ID: _____

Tufts New England Medical Center

PERMISSION TO USE THE WLQ PRODUCTS PACKAGE (WLQPP)
OPTION 1 LICENSE AGREEMENT

Dear WLQPP user:

The Work Limitations Questionnaire Products Package (WLQPP defined below) is provided to **Anne Patricia Reynolds** for use in Masters of Science in Occupational Therapy Dissertation entitled "Factors influencing the Sustained Employment of People with Chronic Illness" in the South African context. We request that users of our products contribute non-identifiable data to us in return for waiver of the user fee. The data enables us to continually improve our service to the user community. We use the data to perform psychometric analyses and, when applicable, to build normative/comparative data bases. In return for access to data, we agree not to disclose the identity of the data source, or any other characteristics that could be used to reveal the identity of the study sponsor and/or participants. Please **initial here** to indicate you are a research entity that will use the WLQPP for internal research purposes only: _____

To support your research you have:

- permission to publish data obtained by using the WLQPP citing the appropriate copyright;
- permission to duplicate The Work Limitations Questionnaire and other WLQPP products for dissemination to study personnel and participants;

and will be provided the following products and services (defined as WLQPP):

- The latest edition of Work Limitations Questionnaire (WLQ) for purpose stated above;
- Scoring Algorithms and Instructions for The Work Limitations Questionnaire;
- The WLQ Productivity Loss Index ©

The following restrictions apply to users of the WLQPP:

- You will cite the WLQPP in your biography (for manuscripts and reports) and in presentations using the following format:

Client ID: _____

Lerner DJ, Amick III BC, Rogers WH, Malspeis S Bungay K, "The Work Limitations Questionnaire: A Self-Administered Instrument for Assessing On-The-Job Work Disability". Medical Care 2001;39 (1): 72 – 85.

- You will not disclose any part of the WLQPP to any outside party.

- It cannot be reproduced in reports or documents other than those intended for the above named use for the benefit the above-named user, or without written permission of the WLQPP Administrator;

- You agree to use the Work Limitations Questionnaire for the above-named protocols only.

- You agree not to share the WLQ Productivity Work Index© in any form to anyone.

- When reproducing the WLQ for your use, please include an identifier as follows:

  Work Limitations Questionnaire, © 1998, The Health Institute; Debra Lerner, Ph.D.; Benjamin Amick III, Ph.D.; and GlaxoWellcome, Inc. All Rights Reserved.

- For purposes of standardization of content, scoring and labeling, we wish to assure users of the questionnaire and interpreters of its results that the designation "WLQ" refers to the identical instrument and scoring in all cases. This allows comparison of scores across projects and applications. Therefore, if you add questions to or delete questions from the WLQ; or embed it into a larger questionnaire; or modify its layout or order of questions, please give the modified questionnaire its own name and indicate the following on the questionnaire form, including at its end:

  Questionnaire includes portions of the Work Limitations Questionnaire (items number--), © 1998, The Health Institute; Debra Lerner, Ph.D.; Benjamin Amick III, Ph.D.; and GlaxoWellcome, Inc. All Rights Reserved.

- If you create a non-English language version or culturally-modified version of the WLQ, please include the following language on the questionnaire form, including at its end:

  Questionnaire is based upon the English language version of the Work Limitations Questionnaire, © 1998, The Health Institute; Debra Lerner, Ph.D.; Benjamin Amick III, Ph.D.; and GlaxoWellcome, Inc. All Rights Reserved.

Client ID: _____

as any part of the WLQPP

- In any publication resulting from the use of the WLQPP, you do not reproduce any part of the WLQ, or the WLQ Productivity Loss Index.

If you agree to the terms of **this letter of permission to use, please return a signed copy to my attention and the completed User's Profile**, and we will fax or mail you the WLQPP.

For technical advice and consultation regarding the use of the WLQPP, please contact Debra Lerner, Ph.D. at The Health Institute, 617-636-8636 or WLQ@tufts-nemc.org. We wish you good fortune in pursuing your goals.

Respectfully,

WLQPP Administrator

Agreed to by:

Pde Witt
Signature
Authorized Representative

31.03.2008
Date

Name P A De Witt

Title Prof

Name Patricia de Witt
SA.

Title Professor of Occupational Therapy,
University of Witwatersrand,

Elayn Byron
Vice President
Research Administration
Tufts-New England Medical Center

Date

Appendix B – 3: Original Work Limitations Questionnaire

WORKER LIMITATIONS QUESTIONNAIRE

In the <u>past 2 weeks</u>, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Work the required number of hours:	☐	☐	☐	☐	☐	☐
Get going easily at the beginning of the workday:	☐	☐	☐	☐	☐	☐
Start on your job as soon as you arrived at work:	☐	☐	☐	☐	☐	☐
Do your work without stopping to take breaks or rests:	☐	☐	☐	☐	☐	☐
Stick to a routine or schedule:	☐	☐	☐	☐	☐	☐

In the <u>past 2 weeks</u>, how much of the time were you ABLE TO DO the following <u>without difficulty</u> caused by physical health or emotional problems.

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Walk or move around different work locations (for example, go to meetings):	☐	☐	☐	☐	☐	☐
Lift, carry or move objects at work weighing more than 5 kilograms:	☐	☐	☐	☐	☐	☐
Sit, stand or stay in one position for longer than 15 minutes while working:	☐	☐	☐	☐	☐	☐
Repeat the same motions over an over again while working:	☐	☐	☐	☐	☐	☐
Bend, twist or reach while working:	☐	☐	☐	☐	☐	☐
Use hand-held tools or equipment (e.g. a phone, pen, keyboard, computer mouse, drill, hairdryer or sander):	☐	☐	☐	☐	☐	☐

In the <u>past 2 weeks</u>, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Keep your mind on your work:	☐	☐	☐	☐	☐	☐
Think clearly when working:	☐	☐	☐	☐	☐	☐
Do work carefully:	☐	☐	☐	☐	☐	☐
Concentrate on your work:	☐	☐	☐	☐	☐	☐
Work without losing your train of thought:	☐	☐	☐	☐	☐	☐
Easily read or use your eyes when working:	☐	☐	☐	☐	☐	☐
Speak with people in-person, in meetings or on the phone:	☐	☐	☐	☐	☐	☐
Control your temper around people when working:	☐	☐	☐	☐	☐	☐
Help other people to get work done:	☐	☐	☐	☐	☐	☐

In the <u>past 2 weeks</u>, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Handle the workload:	☐	☐	☐	☐	☐	☐
Work fast enough:	☐	☐	☐	☐	☐	☐
Finish work on time:	☐	☐	☐	☐	☐	☐
Do your work without making mistakes:	☐	☐	☐	☐	☐	☐
Feel you've done what you are capable of doing:	☐	☐	☐	☐	☐	☐

Work Limitations Questionnaire, 1998, The Health Institute; Debra Lerner,Ph.D.; Benjamin Amick Ph.D.; and Glaxowelcome, Inc. All Rights Reserved.

Appendix B – 4: Modified Work Limitations Questionnaire

MODIFIED WORK LIMITATIONS QUESTIONNAIRE

In the last two (2) weeks, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Work the required number of hours:	☐	☐	☐	☐	☐	☐
Get going easily at the beginning of the workday:	☐	☐	☐	☐	☐	☐
Start on your job as soon as you arrived at work:	☐	☐	☐	☐	☐	☐
Do your work without stopping to take breaks or rests:	☐	☐	☐	☐	☐	☐
Stick to a routine or schedule:	☐	☐	☐	☐	☐	☐

In the last 2 weeks at work, how much of the time were you ABLE TO DO the following without difficulty caused by physical health or emotional problems.

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Walk or move around different work locations (for example, go to meetings):	☐	☐	☐	☐	☐	☐
Lift, carry or move objects at work weighing more than 5 kilograms:	☐	☐	☐	☐	☐	☐
Sit, stand or stay in one position for longer than 15 minutes while working:	☐	☐	☐	☐	☐	☐
Repeat the same motions over and over again while working:	☐	☐	☐	☐	☐	☐
Bend, twist or reach while working:	☐	☐	☐	☐	☐	☐
Use hand-held tools or equipment (e.g. a phone, pen, keyboard, computer mouse, drill, hairdryer or sander):	☐	☐	☐	☐	☐	☐

In the last 2 weeks at work, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Keep your mind on your work:	☐	☐	☐	☐	☐	☐
Think clearly when working:	☐	☐	☐	☐	☐	☐
Do work carefully:	☐	☐	☐	☐	☐	☐
Concentrate on your work:	☐	☐	☐	☐	☐	☐
Work without losing your train of thought:	☐	☐	☐	☐	☐	☐
Easily read or use your eyes when working:	☐	☐	☐	☐	☐	☐
Speak with people in-person, in meetings or on the phone:	☐	☐	☐	☐	☐	☐
Control your temper around people when working:	☐	☐	☐	☐	☐	☐
Help other people to get work done:	☐	☐	☐	☐	☐	☐

In the last 2 weeks at work, how much of the time did your physical health or emotional problems make it difficult for you to do the following?

	All of the Time (100%)	Most of the Time	Some of the Time (About 50%)	A Slight Bit of the Time	None of the Time (0%)	Does Not Apply to My job
Handle the workload:	☐	☐	☐	☐	☐	☐
Work fast enough:	☐	☐	☐	☐	☐	☐
Finish work on time:	☐	☐	☐	☐	☐	☐
Do your work without making mistakes:	☐	☐	☐	☐	☐	☐
Feel you've done what you are capable of doing:	☐	☐	☐	☐	☐	☐

Questionnaire based on the Work Limitations Questionnaire, (Changes to time frame), 1998, The Health Institute; Debra Lerner, Ph.D.; Benjamin Amick III, Ph.D.; and GlaxoWelcome Inc. All Rights Reserved

APPENDIX C – ACCOMMODATIONS AND BARRIERS CHECKLIST

Appendix C – 1: Consent To Use the Accommodations and Barriers Checklist

Anne Reynolds

From: Erin Martz (emartz) <emartz@memphis.edu>
Sent: 12 March 2008 19:58
To: anne@therapyteam.co.za
Subject: RE: Research into workplace barriers in South Africa
Attachments: Accommodations and Barriers Checklist (ABC) v. 2.doc

Hi Anne,
Thanks for the email and interest! Sounds like really good research…hopefully you can take it to publication someday.

Attached is the ABC scale I used for the Russian article. (This is the English version, of course.) Yes, you can use it. Please share your research with me once you finished writing it up (I am just curious)… Note that the checklist primarily gives frequency data, so you cannot do a lot of sophisticated stats. with it (except for the satisfaction and barriers variables, which are continuous). Good luck with the research! erin

Erin Martz, Ph.D., C.R.C.
Rehabilitation Counseling Program
University of Memphis
119D Patterson Hall
Memphis, TN 38016
Office: 901-678-4820
Fax: 901-678-3215

From: Anne Reynolds [mailto:anne@therapyteam.co.za]
Sent: Wednesday, March 12, 2008 11:28 AM
To: Erin Martz (emartz)
Subject: Research into workplace barriers in South Africa
Importance: High

Dear Dr Martz

I am an occupational therapist in South Africa working in Vocational Rehabilitation. I am currently busy with my masters degree and am studying the "Factors affecting the sustained employment of people with chronic illness in the South African workplace". I intend to look at two aspects:
The first is the employee's perceptions of the barriers to their illness that caused them to stop working
Secondly, the employees' perceptions about the obstacles they expect when returning to work.

In my literature search, I was very excited to come across your article in the International Journal of Rehabilitation Research in December 2007 regarding the work you have done with employment of Russians with disabilities. As you so correctly state, there seem to be very few questionnaires available that look at the barriers and accommodations needed by people with disabilities in the workplace.
I would thus like some more information on the questionnaire that you utilised and whether it would be possible to use it in a South African context.

My research population will be a variety of South African employees from both a white collar and blue collar employment, who stop working due to their illness.

Any comments, suggestions or input that you can provide that would be relevant to evaluating this component of vocational rehabilitation would also be greatly appreciated.

Thank you very much for your assistance.

Kind regards

1

Appendix C – 2: Original Accommodations and Barriers Checklist

Accommodations and Barriers Checklist (ABC)

Your primary disability: _____
Secondary disability (if applicable): _____
Your current job: _____
Your desired career work: _____

Gender: Female Male
Age: _____
Duration of disability: _____
Ethnicity: _____

Please check any of the following work-related accommodations that you need and then circle how satisfied you are only with the accommodations that you need (i.e., you can skip the question if you do not need the accommodation). Then please turn the page over and check the barriers related to work. If you do not have a job right now, just check which accommodations you currently need (do not mark satisfaction level); but for the barriers, please mark both the barrier and the extent that it is a barrier. *Thank you for your participation!*

Accommodations for employment

How Satisfied with Work Accommodation

Scale:
1 Never received it
2 Not satisfied with it
3 Somewhat satisfied
4 Very satisfied

Check if Needed	Circle one
Flexible scheduling of work hours	1 2 3 4
Special print sources, such as Braille	1 2 3 4
Wheel-chair accessibility	1 2 3 4
Working alone	1 2 3 4
Working in a quiet area	1 2 3 4
Regular breaks	1 2 3 4
Extra rest periods during the workday	1 2 3 4
Alteration in job duties or functions	1 2 3 4
Special physical equipment for working	1 2 3 4
Special adaptive devices for the computer	1 2 3 4
Extra supervision or feedback on the job	1 2 3 4
Sign language interpreter or devices to assist with communication	1 2 3 4
Help with transportation	1 2 3 4
Reduction of physically-related job tasks	1 2 3 4
Additional sick days, more than those that are already provided to all employees	1 2 3 4
Alteration of temperature (hotter or colder) in the workplace	1 2 3 4
Help at home preparing to go to work	1 2 3 4
Written instructions or notes for the job	1 2 3 4
Other (please specify):_____ _____	1 2 3 4
Other (please specify):_____ _____	1 2 3 4

Dr. Erin Martz, 2006, University of Memphis 1

Please check any of the barriers that you have experienced related to work (even if you are unemployed at this time) and then circle how much this issue was a work barrier to you:

Barriers to employment

How much of a barrier was this issue?

Scale:
1 Never a barrier
2 Seldom a barrier
3 Sometimes a barrier
4 Often a barrier

Check if Barrier	Circle one
The physical environment where I live prevents me from getting to the workplace (to interview or to work).	1 2 3 4
The physical environment of the job itself prevents me from getting to the workplace (to interview or to work).	1 2 3 4
I am unable to obtain a job interview.	1 2 3 4
I obtain job interviews, but am never offered a job.	1 2 3 4
While on the job, my employer treats me unfairly.	1 2 3 4
I do not have the accommodations that I need at my job.	1 2 3 4
I have asked for accommodations, but have not received them.	1 2 3 4
My coworkers treat me differently, because of my disability.	1 2 3 4
My coworkers are not supportive of me in the workplace.	1 2 3 4
I did not obtain the skills needed for a job, due to my disability.	1 2 3 4
I did not obtain the education I need for a job, because of my disability (e.g., could not get into a college or university).	1 2 3 4
My family does not want me to work.	1 2 3 4
My significant other (e.g., spouse, boyfriend, girlfriend) does not want me to work.	1 2 3 4
If I work, I will lose medical benefits, so I do not want to work.	1 2 3 4
If I work, I will lose my disability benefits or pension, so I do not want to work.	1 2 3 4
I do not have the physical energy to work full-time.	1 2 3 4
I do not have the mental focus to work full-time.	1 2 3 4
I do not have the motivation to work full-time.	1 2 3 4
I am in too much pain all the time to work.	1 2 3 4
I have an addiction (e.g., alcohol, illegal drugs, or overuse of prescription drugs) that prohibits me from working full-time.	1 2 3 4
I am afraid of working full-time because of job expectations.	1 2 3 4
I do not think I have any skills to offer in the workplace.	1 2 3 4
I fear being in an environment with people I do not know.	1 2 3 4
I am happy with staying home and not working.	1 2 3 4
I have children to take care of at home, so I cannot work.	1 2 3 4
I am embarrassed to ask for the accommodations I need.	1 2 3 4
I do not know what kind of work I want to do long-term.	1 2 3 4
Other (specify):_____	1 2 3 4
Other (specify): _____	1 2 3 4

Dr. Erin Martz, 2006, University of Memphis

2

Appendix C – 3: Modified Accommodations and Barriers Checklist

MODIFIED ACCOMMODATIONS AND BARRIERS CHECKLIST (ABC)

BARRIERS TO EMPLOYMENT

Please mark any of the barriers that you have experienced related to work and then circle how much this issue was a barrier to your work.

Scale: **1 Never a barrier**
2 Seldom a barrier
3 Sometimes a barrier
4 Often a barrier

The physical environment *where I live* prevents me from getting to the workplace.	**1**	**2**	**3**	**4**
The physical environment *of the job* itself prevents me from performing my job in the workplace.	**1**	**2**	**3**	**4**
I do not have promotion or development opportunities at work.*	**1**	**2**	**3**	**4**
I am unable to perform my job duties at the level required.*	**1**	**2**	**3**	**4**
While on the job, my employer treats me unfairly.	**1**	**2**	**3**	**4**
I do not have the accommodations that I need at my job.	**1**	**2**	**3**	**4**
I have asked for accommodations, but have not received them.	**1**	**2**	**3**	**4**
My co-workers treat me differently, because of my illness.*	**1**	**2**	**3**	**4**
My co-workers are not supportive of me in the workplace.	**1**	**2**	**3**	**4**
I have not obtained the skills needed for the job due to my illness.*	**1**	**2**	**3**	**4**
I did not get the training needed for the job, because of my illness (e.g. could not attend necessary training courses)	**1**	**2**	**3**	**4**
My family do not want me to work.	**1**	**2**	**3**	**4**
My significant other (e.g. spouse, boyfriend, girlfriend) does not want me to work.	**1**	**2**	**3**	**4**
If I work, I will lose my disability benefits or pension so I do not want to work.	**1**	**2**	**3**	**4**
I do not have the physical energy to work full-time.	**1**	**2**	**3**	**4**
I do not have the mental focus to work full-time.	**1**	**2**	**3**	**4**
I do not have the motivation to work full-time.	**1**	**2**	**3**	**4**
I am in too much pain all the time to work.	**1**	**2**	**3**	**4**
I have an addiction (e.g. alcohol, legal drugs or overuse of prescription drugs) that prohibits me from working full-time.	**1**	**2**	**3**	**4**
I am afraid of working full-time because of job expectations.	**1**	**2**	**3**	**4**
I do not think I have the necessary skills to offer in the workplace.	**1**	**2**	**3**	**4**
I fear being in an environment with people I do not know.	**1**	**2**	**3**	**4**
I am happy with staying at home and not working.	**1**	**2**	**3**	**4**
I am embarrassed to ask for the accommodations that I need.	**1**	**2**	**3**	**4**
I do not know what kind of work I want to do long-term.	**1**	**2**	**3**	**4**
Other (please specify): _____	**1**	**2**	**3**	**4**

* These questions have been modified from the original questionnaire.

ACCOMMODATIONS FOR EMPLOYMENT

Please answer the three questions below for each item by circling **Y** for Yes and **N** for No. If you answer No in column one, you do not need to complete columns 2 and 3.

If you are not at work right now, just check which accommodations you think you might need in order to return to work at some time in the future..

	Do you require the accommodation?		***Have you requested the accommodation?***		***Are you satisfied with the accommodation?***	
Flexible scheduling of work hours	**Y**	**N**	**Y**	**N**	**Y**	**N**
Special print sources, such as Braille	**Y**	**N**	**Y**	**N**	**Y**	**N**
Wheel-chair accessibility	**Y**	**N**	**Y**	**N**	**Y**	**N**
Working alone	**Y**	**N**	**Y**	**N**	**Y**	**N**
Working in a quiet area	**Y**	**N**	**Y**	**N**	**Y**	**N**
Regular breaks	**Y**	**N**	**Y**	**N**	**Y**	**N**
Extra rest periods during the workday	**Y**	**N**	**Y**	**N**	**Y**	**N**
Alteration in job duties or functions	**Y**	**N**	**Y**	**N**	**Y**	**N**
Special physical equipment for working	**Y**	**N**	**Y**	**N**	**Y**	**N**
Special adaptive devices for the computer	**Y**	**N**	**Y**	**N**	**Y**	**N**
Extra supervision or feedback on the job	**Y**	**N**	**Y**	**N**	**Y**	**N**
Sign language interpreter or devices to assist with communication	**Y**	**N**	**Y**	**N**	**Y**	**N**
Help with transportation	**Y**	**N**	**Y**	**N**	**Y**	**N**
Reduction of physically-related job tasks	**Y**	**N**	**Y**	**N**	**Y**	**N**
Additional sick days, more than those that are already provided to all employees	**Y**	**N**	**Y**	**N**	**Y**	**N**
Alteration of temperature (hotter or colder) in the workplace	**Y**	**N**	**Y**	**N**	**Y**	**N**
Help at home preparing to go to work	**Y**	**N**	**Y**	**N**	**Y**	**N**
Written instructions or notes for the job	**Y**	**N**	**Y**	**N**	**Y**	**N**
Other(please specify):	**Y**	**N**	**Y**	**N**	**Y**	**N**

APPENDIX D – WORKER ROLE INTERVIEW

Appendix D – 1: Worker Role Interview Guide

1. PRESENT ROLES AND ROUTINES
1. What responsibilities have you got at the moment ?
2. How did your routine change when you got sick?
3. Do you miss working?
4. Is work an important role for you at the moment? In the future?
2. INTERESTS
5. What of your current responsibilities do you enjoy?
6. Do you have any other interests or hobbies that you do? (I) With whom?
7. What do you do to have fun?
3. CURRENT SKILLS / ABILITIES
8. Are you able to do the things you need to do? What limits your ability to do them?
9. Are you able to concentrate, problem solve and make decisions for the things that you need or want to do?
10. Are there any other things that affect your ability to do the things you want or need to do? (E.g. drug / alcohol use, criminal history, communicating with others)
4. PHYSICAL & SOCIAL ENVIRONMENT
11. Are there any physical barriers at work or at home that prevent you from working?
12. Are you able to overcome these limitations and barriers?
13. How do your family / friends feel about you not working?
14. What kinds of support do your family and peers give you in attempts to keep working?
15. How has your boss supported you in continuing at work?
16. Do you prefer to work alone or with others? How well do you work with others?

5. EXPERIENCE OF WORK
17. How did you choose the jobs you did in the past?
18. What was the most enjoyable and / or satisfying work that you have had? What made it enjoyable or satisfying?
19. What was the least enjoyable and / or satisfying work you have had? What made it such an unsatisfying experience?
20. What work responsibilities in your life do you feel you do or have done well, or are proud of?
21. What are some of the things that you have been unsuccessful at doing within a work situation?
6. PREVIOUS WORK ROUTINE
22. When you worked, did you set goals for yourself? (i.e. promotions, productivity, things to achieve)
23. What work habits have supported you in getting your work done in the past?
24. What work habits would you like to change?
7. FUTURE WORKER ROLE
25. Is working / finding a job / keeping a job important to you at the moment?
26. What would be important about having a job? What would be less important about having a job?
27. What makes it hard for you to work? What would need to change for you to be return to work / start working?
28. Do you have the physical ability to accomplish what you need to do in a job?
29. Are you able to concentrate, problem solve and make decisions to work?
30. Are there any other things that affect your ability to work? (E.g. drug / alcohol use, criminal history, communicating with others)
31. What help or support would you need to help you continue working?

32. What kind of work do you feel capable of doing?
33. What skills do you have which would help you to continue working / return to work?
34. What other experience do you have that might help you to continue working / return to work?
35. What do you think is the likelihood of keeping a job at the moment? In the next 6 months and in the future?
36. If you were looking for work, what kind of work would you find more enjoyable and / or satisfying?
37. Do you have goals to work towards continuing at work / returning to work?
9. FUTURE ROLES AND ROUTINES
38. What kind of expectations would you have if you were to return to work (working hours, job description, duties etc).
39. How would working again affect your current routine? How would you make adjustments?
10. FUTURE WORK ENVIRONMENT
40. If you were to work, what kind of physical environment would suit you? What about the physical environment would make work more difficult for you?
41. If you were at work, what support would you expect to get from your family / friends?
42. If you were at work, what support would you expect or need to get from your boss? Colleagues?

Appendix D – 2: Worker Role Interview Rating Scale

Participant No:

ITEM	RATING	CRITERIA
1. Assesses Abilities & Limitations	**SS**	☐ Accurately recognises/accepts limitations while emphasising assets. ☐ Accurately acknowledges how abilities can compensate for limitations. ☐ Realistically assesses abilities in looking at possible work activities.
	S	☐ Recognises some limitations and abilities. ☐ Reasonable tendency to over / under estimate abilities. ☐ Adequate knowledge of abilities / limitations for looking at possible work activity.
	I	☐ Over / under estimates own abilities leading to unsuitable work choices. ☐ Difficulty in recognising / compensating for limitations with abilities.
	SI	☐ Fails to realistically estimate own abilities leading to unrealistic work choices. ☐ Fails to recognise / compensate for limitations with abilities.
Additional Rater Notes		
2. Expectation of Success in Work	**SS**	☐ Expresses optimism about working. ☐ Very confident about overcoming limitations / obstacles / failures. ☐ Looks forward to challenges. ☐ Strong belief in personal effectiveness in working. ☐ Accepts circumstances beyond control without giving up.
	S	☐ Expresses some optimism about working. ☐ Somewhat confident about overcoming limitations / obstacles / failures. ☐ Faces challenges with hope for success. ☐ Adequate belief in personal effectiveness in working.
	I	☐ Expresses pessimism about working. ☐ Doubts ability to overcome limitations / obstacles / failures. ☐ Feels uncertain about chances of success in working. ☐ Easily discouraged when faced with challenges.
	SI	☐ Expresses pessimism about working. ☐ Feels helpless to overcome limitations / obstacles / failures. ☐ Gives up when faced with challenges.
Additional Rater Notes		

3. Takes Responsibility	**SS**	☐ Takes reasonable responsibility for work and / or life situation. ☐ Understands aspects of work beyond their control. ☐ Is active in seeking to return to or find work.
	S	☐ Takes some responsibility for work and / or life situation. ☐ Has some understanding of aspects of work beyond their control. ☐ Is somewhat active in seeking to return to or find work.
	I	☐ Tends to be passive in relation to work and / or life situations. ☐ Tends to avoid responsibilities in work and / or life situations. ☐ Tends to blame others / circumstances for personal failures. ☐ Shows little initiative in seeking to return to or find work.
	SI	☐ Completely passive in relation to work and / or life situations. ☐ Avoids responsibilities. ☐ Shows no initiative in seeking to return to or find work. ☐ Blames others / circumstances for personal failures.
Additional Rater Notes		
4. Commitment to Work	**SS**	☐ Strong sense that work is valued and important. ☐ Clear sense of personal standards in relation to working. ☐ Commitment to work strongly outweighs potential negative consequences of working.
	S	☐ Adequate sense that work is valued and important. ☐ Some sense of personal standards in relation to working. ☐ Commitment to work somewhat outweighs potential negative consequences of working.
	I	☐ Weak sense that work is valued and important. ☐ Little sense of personal standards in relation to working. ☐ Commitment to work is outweighed somewhat by negative consequences of working.
	SI	☐ No sense that work is valued and important. ☐ No sense of personal standards in relation to working. ☐ Commitment to work is strongly outweighed by negative consequences of working.
Additional Rater Notes		

5. Work Related Goals	**SS**	☐ Strong history of setting realistic goals at work. ☐ Strong history of clear plans for finding and keeping work. ☐ Clear plans for accomplishment / advancement at work. ☐ Desire to extend or challenge self at work.
	S	☐ Some history of setting realistic goals at work. ☐ Some history of clear plans for finding and keeping work. ☐ Some evidence of plans for accomplishment / advancement at work. ☐ Some motivation to extend or challenge self at work.
	I	☐ Little history of setting realistic goals at work. ☐ Little history of clear plans for finding and keeping work. ☐ Evidence of setting unrealistic goals at work ☐ Limited desire to extend or challenge self at work.
	SI	☐ No history of setting realistic goals at work. ☐ No history of clear plans for finding and keeping work. ☐ Goals seem totally unrealistic in relation to strengths / limitations. ☐ No desire to extend or challenge self at work.
Additional Rater Notes		
6. Enjoys Work	**SS**	☐ Expresses high level of enjoyment and interest at work. ☐ Identifies variety of ways in which they enjoy work. ☐ Interest in work corresponds well with abilities / opportunities.
	S	☐ Expresses moderate level of enjoyment and interest at work. ☐ Identifies only a few ways in which they enjoy work. ☐ Interest in work somewhat corresponds well with abilities / opportunities.
	I	☐ Expresses little enjoyment and interest at work. ☐ Struggles to identify enjoyable aspects of work. ☐ Interest in work does not correspond well with abilities / opportunities.
	SI	☐ Expresses no enjoyment in work. ☐ Unable to identify any enjoyable aspects of working. ☐ Has no working experience so can't identify interests.
Additional Rater Notes		

7. Pursues Interests.	**SS**	☐ Actively seeks ways to pursue a range of different interests. ☐ Frequently uses skills to make work and / or other activities interesting. ☐ Gains obvious satisfaction from engaging in interests.
	S	☐ Sometimes seeks ways to pursue a range of different interests. ☐ Sometimes uses skills to make work and / or other activities interesting. ☐ Gains some satisfaction from engaging in interests.
	I	☐ Struggles to identify interests. ☐ Rarely uses skills to make work and / or other activities interesting. ☐ Rarely takes initiative to pursue interests. ☐ Difficulty gaining satisfaction from engaging in interests.
	SI	☐ No interests identified. ☐ Never uses skills to make work and / or other activities interesting. ☐ Never takes initiative to pursue interests. ☐ Gains little or no satisfaction from engaging in interests.
Additional Rater Notes		
8. Appraises Work Expectations	**SS**	☐ Clear & realistic understanding of general responsibilities of working. ☐ Describes in detail and accurately specific responsibilities of a particular job.
	S	☐ Some understanding of general responsibilities of working. ☐ Describes in general terms specific responsibilities of a particular job.
	I	☐ Poor understanding of general responsibilities of working. ☐ Struggles to describe specific responsibilities of a particular job or description seems inaccurate.
	SI	☐ No obvious understanding of general responsibilities of working. ☐ Unable to describe specific responsibilities of a particular job or obviously inaccurate.
Additional Rater Notes		
9. Influence of Other Roles	**SS**	☐ Other roles strongly support return to work, or finding and keeping work. ☐ Other roles do not conflict with work role.
	S	☐ Other roles support return to work, or finding and keeping work. ☐ Other roles may conflict somewhat with work role.
	I	☐ Other roles interfere with return to work, or finding and keeping work. ☐ Other roles will conflict with work role.
	SI	☐ Other roles significantly interfere with return to work, or finding and keeping work. ☐ Other roles seriously conflict with work role.
Additional Rater Notes		

10. Work Habits	**SS**	☐ Kept a highly organised work routine. ☐ Maintained highly satisfactory / productive work habits.
	S	☐ Kept a generally organised work routine. ☐ Maintained generally satisfactory / productive work habits. ☐ Some evidence of unsatisfactory work habits.
	I	☐ Work routine seemed generally disorganised. ☐ Maintained generally unsatisfactory / productive work habits.
	SI	☐ Work routine was highly disorganised. ☐ No previous work history or unable to describe working routines.
Additional Notes		
11. Daily Routines	**SS**	☐ Keeps a highly organised daily routine outside work. ☐ Maintains highly satisfactory / productive habits outside work.
	S	☐ Keeps a generally organised daily routine outside work. ☐ Maintains generally satisfactory / productive habits outside work.
	I	☐ Daily schedule somewhat chaotic. ☐ Daily routine outside work insufficiently organised. ☐ General lack of activity in daily routine.
	SI	☐ Unable to maintain routine outside work. ☐ Chaotic life pattern. ☐ Inactive routine.
Additional Rater Notes		
12. Adapts Routine to Minimise Difficulties	**SS**	☐ Adapts routine well to overcome difficulties since being ill and / or out of work. ☐ Successfully adapts to changing circumstances by adapting routines. ☐ Actively seeks to overcome difficulties where realistic.
	S	☐ Some success in adapting to changing circumstances by adapting routines since being ill and / or out of work. ☐ Sometimes seeks to overcome difficulties where realistic.
	I	☐ Struggles to adapt to changing circumstances by adapting routines since being ill and / or out of work. ☐ Makes little effort to overcome difficulties, or unrealistic in attempts.
	SI	☐ Does not appear to have adapted routine and has not overcome difficulties since being ill and / or out of work. ☐ Makes no attempt to overcome difficulties or seems completely unrealistic in their efforts.
Additional Rater Notes		

13. Perception of Physical Work Setting	**SS**	☐ Physical work environment strongly conducive to work performance. ☐ Clear understanding of how physical environment can affect work performance. ☐ Anticipates no difficulties with expected physical work environment and / or has clear ideas of how to overcome difficulties.
	S	☐ Physical work environment generally conducive to work performance. ☐ Some understanding of how physical environment can affect work performance. ☐ Anticipates some difficulties with expected physical work environment and / or unsure how to overcome difficulties.
	I	☐ Physical work environment likely to negatively affect work performance. ☐ Poor understanding of how physical environment can affect work performance. ☐ Anticipates significant difficulties with expected physical work environment and / or has little idea of how to overcome difficulties.
	SI	☐ Physical work environment will negatively affect work performance. ☐ No understanding of how physical environment can affect work performance. ☐ Unrealistic view of anticipated difficulties and / or has no idea of how to overcome difficulties.
Additional Rater Notes		

14. Perception of Family and Peers	**SS**	☐ Family / peers strongly encouraging and supportive of client working. ☐ Family / peers have expectation of client working. ☐ Positive family / peer attitude to client working. ☐ Family / peers willing to help client succeed at work.
	S	☐ Family / peers generally encouraging and supportive of client working. ☐ Family / peers have some reservations and / or ambivalence about client working. ☐ Family / peers somewhat willing to help client succeed at work.
	I	☐ Family / peers generally discouraging and unsupportive of client working. ☐ Family / peers have strong reservations and / or ambivalence about client working. ☐ Family / peers generally unwilling to help client succeed at work.
	SI	☐ Family / peers strongly discourage and unsupportive of client working. ☐ Family / peers have no expectation of client working. ☐ Family / peers have negative attitude to client working. ☐ Family / peers completely unwilling to help client succeed at work. ☐ No family or peers identified.
Additional Rater Notes		

15. Perception of Boss and/or Company	**SS**	☐ Boss and / or company attitude strongly encouraging and supportive for client working again. ☐ Boss and / or company willing to accommodate changes to work schedule and/or work organisation. ☐ Organisation of workplace likely to support client working there. ☐ Boss and company have strong history of support for injured and/or disabled employees. ☐ Client has no work but realistically targeting companies with history of supporting disabled employees.
	S	☐ Boss and / or company offering some encouragement and support for client working again. ☐ Boss and / or company somewhat willing to accommodate changes to work schedule and/or work organisation. ☐ Client has no recent work and somewhat unrealistic in targeted companies.
	I	☐ Boss and / or company attitude generally discouraging and unsupportive for client working again. ☐ Boss and / or company generally unwilling to accommodate changes to work schedule and/or work organisation. ☐ Work organisation or schedule likely to negatively affect client's performance and/or health. ☐ No perception of boss / company due to no work history. ☐ Previously unable to sustain work due to conflict with boss (es). ☐ Client completely unrealistic about role of boss / company in successfully finding and keeping work.
	SI	☐
Additional Rater Notes		
16. Perception of Co-Workers	**SS**	☐ Co-workers mostly supportive of client returning to previous work. ☐ Co-workers willing to help client start work again. ☐ Client reports history of successfully negotiating with co-workers. ☐ Client shows good understanding of how co-workers could support return to work or finding and keeping a job.
	S	☐ Co-workers are supportive, but some are less so. ☐ Some willingness to help client start work again. ☐ Client reports occasional success in negotiating with co-workers. ☐ Client shows some understanding of how co-workers could support return to work or finding and keeping a job.
	I	☐ Co-workers likely to be unsupportive although some might be supportive. ☐ Little willingness to help client start working again. ☐ No recent work history but client shows some awareness of how co-workers could support successfully finding and keeping a job.

	SI	☐ Co-workers unsupportive of client returning to previous work. ☐ Client has unrealistic ideas about role of co-workers in successfully returning to work or finding and keeping a job. ☐ Client has no recent work history and no awareness of how co-workers could support successfully finding and keeping a job.
Additional Rater Notes		

APPENDIX E – WORK ENVIRONMENT IMPACT SCALE

Appendix E – 1: Work Environment Impact Scale Interview Guide

I. WORK SCHEDULE
1. Describe your work schedule. How often do you get breaks, including lunch? Do you take your breaks? Are there sufficient breaks?
2. Does your work schedule change? Are you allowed to vary your work schedule?
3. Can you take time off for personal reasons? How does the workplace view such requests?
4. How would you say that your work schedule affects your other activities and responsibilities outside of work?
5. How do you get to and from work? How does your work schedule affect your transportation to and from work?
2. TASK DEMANDS
6. What parts of your job challenge you too little or too much? Are there any parts of your job that demand more than you are capable of / trained for?
7. Are there any parts of your job that you would like to change? Why?
3. TIME DEMANDS
8. How do you feel about the amount of time you have to complete your work responsibilities?
9. Are there times when you have too little or too much to do?
10. What happens if you have too little or too much work to do?
4. APPEAL OF WORK TASKS
11. What do you enjoy most about your work? Least?
12. What are you most or least proud of in relation to your work?
13. What do others (e.g. your family / spouse) think about the type of work you do?

5. CO-WORKER INTERACTION
14. Do you work mainly alone or in a team? How well does the team function? Does it affect your work functions?
15. What do you like or dislike about working alone / as part of a team?
6. WORK GROUP MEMBERSHIP
16. Do you interact with your colleagues outside of what is required for work? Is it expected?
17. If not, would you like to have involvement with your colleagues outside work? What type of activities would you like to participate in?
18. During the workday who do you socialise with? Are you satisfied with this or would you like more or less social contact with others at work?
7. SUPERVISOR INTERACTION
19. How many supervisors do you have? Can you describe your supervisor?
20. How often do you interact with your supervisor (s) and for what reasons?
21. How well does your supervisor give you feedback and support?
22. How does your supervisor respond to your needs or suggestions?
8. WORKER ROLE STANDARDS
23. How would you characterise the climate or standards of your workplace (competitive, relaxed, quality, efficiency, achievement).
24. How does this influence what it is like to work there?
25. What happens to people who can't meet the standard? How does it affect you?
9. WORK ROLE STYLE
26. Who determines your workday? Are you allowed to make decisions or make suggestions re workflow?
27. Does your level of decision-making affect your performance, satisfaction or well-being?
10. INTERACTIONS WITH OTHERS

28. Who else do you have contact with during the work day? Clients, customers, students etc? What do you enjoy/dislike about these interactions?
29. Do you have adequate knowledge and/or training to interact effectively with these contacts?
11. REWARDS
30. Is your workplace a secure place to work? Does it reward people for the accomplishments, time, loyalty etc?
31. Is there opportunity for advancement and/or promotion? Salary increases or other reward systems?
32. What is your opinion of these rewards? Do they make your job feel secure? Do they motivate you to continue in your present employment?
12. SENSORY QUALITIES
33. Are there any conditions in your workplace (temperature, sound, noise, smell or otherwise) that affect you?
34. If there are any conditions that are potentially noxious or interfere with your performance, concentration, comfort, how are they dealt with?
13. PHYSICAL ARRANGEMENT
35. How is your physical workspace arranged?
36. How does the arrangement impact on your ability to get your job done?
37. Can you get around/reach things/interact with others and do other things you need to do?
38. Is there anything you would like to change about your workspace?
14. AMBIENCE / MOOD
39. What is the social atmosphere at work? Are people happy, friendly, get along, feel good about work?
40. Does the social atmosphere affect your mood and your performance at work?
15. PROPERTIES OF OBJECTS

41. Do you have what you need to complete your work?
42. Can you work safely and comfortably with these objects and tools?
43. Do you have the energy, concentration, strength or endurance to handle the tools, materials, supplies, equipment you need to work with?
16. PHYSICAL AMENITIES
44. Describe the location and condition of the areas you have to rest in or take breaks? Are these adequate and comfortable?
17. MEANING OF OBJECTS
45. Do you produce a particular object in your line of work?
46. How does it make you feel to work with these materials / tools / products?
THANK YOU ☺

Appendix E – 2: Work Environment Impact Rating Scale

Participant No:

KEY: **SS** = Strongly supports return to work; **S** = Supports return to job;
I = Interferes with return to job; **SI** = Strongly interferes with return to job;
NA = Not applicable

	RATING					COMMENTS
1. Time Demands: Time allotted for available/expected amount of work.	**SS**	**S**	**I**	**SI**	**NA**	
2. Task Demands: The physical, cognitive and/or emotional demands/opportunities of work tasks.	**SS**	**S**	**I**	**SI**	**NA**	
3. Appeal of Work Tasks: The appeal / enjoyableness or status/ value of work tasks.	**SS**	**S**	**I**	**SI**	**NA**	
4. Work Schedule: The influence of work hours upon other valued roles, activities, transportation and basic self-care needs.	**SS**	**S**	**I**	**SI**	**NA**	
5. Co-worker Interaction: Interaction/collaboration required for job responsibilities.	**SS**	**S**	**I**	**SI**	**NA**	
6. Work Group Membership: Social involvement with co-workers at work/outside of work.	**SS**	**S**	**I**	**SI**	**NA**	
7. Supervisor Interaction: Feedback, guidance and / or other communication / interaction with supervisor(s).	**SS**	**S**	**I**	**SI**	**NA**	
8. Work Role Standards: Overall climate of work setting expressed in expectations for quality, excellence, commitment, achievement and/or efficiency.	**SS**	**S**	**I**	**SI**	**NA**	
9. Work Role Style: Opportunity/expectations for autonomy/compliance when organising, making requests, negotiating and choosing how and what work tasks will be done daily.	**SS**	**S**	**I**	**SI**	**NA**	
10. Interaction with Others: Interaction/communication with subordinates, customers, clients, audiences, students or others, excluding supervisors and co-workers.	**SS**	**S**	**I**	**SI**	**NA**	
11. Rewards: Opportunities for job security, recognition/ advancement in position.	**SS**	**S**	**I**	**SI**	**NA**	

12. Sensory Qualities: Properties of the work place such as noise, smell, visual or tactile properties, temperature/climate or air quality and ventilation.	**SS**	**S**	**I**	**SI**	**NA**
13. Architecture/Arrangement: Architecture or physical arrangements of and between work spaces and environments.	**SS**	**S**	**I**	**SI**	**NA**
14. Ambience/Mood: The feeling/mood associated with the degree of privacy, friendliness, morale, excitement, anxiety, frustration in the work place.	**SS**	**S**	**I**	**SI**	**NA**
15. Properties of Objects: The physical, cognitive or emotional demands/ opportunities of tools, equipment, materials and supplies.	**SS**	**S**	**I**	**SI**	**NA**
16. Physical Amenities: Non-work-specific facilities necessary to meet personal needs at work such as restrooms, lunchrooms or break rooms.	**SS**	**S**	**I**	**SI**	**NA**
17. Meaning of Objects: What objects signify to the client.	**SS**	**S**	**I**	**SI**	**NA**
GENERAL IMPRESSIONS:					

APPENDIX F – BRIEF BIOGRAPHICAL QUESTIONNAIRE

Appendix F – 1: Original Biographical Questionnaire

PERSONAL INFORMATION

Age: Gender: ☐ Male ☐ Female

Marital Status: No of Dependents:

Height: Weight:

Highest Education Achieved: Date Achieved:

Any other person in the family with a disability or chronic illness? ☐ Yes ☐ No

If yes, please state the relationship to yourself and nature of the disability:

EMPLOYMENT INFORMATION

Occupation:

Number of Employers since you started working:

Total Years Employed: Last Day at Work:

No of Years at Current Employer:

Type of work:
☐ Executive or senior manager ☐ Professional
☐ Technical Support ☐ Clerical and Administrative support
☐ Service Occupation ☐ Precision production / craft worker
☐ Sales ☐ Operator or labourer

Days absent from work over the last 12 months: Annual Income:

MEDICAL INFORMATION

Diagnosis: Date of Diagnosis:

1.

2.

3.

Type of Specialists consulted in connection with above conditions (e.g. Orthopaedic surgeon, neurologist etc):

Specialist 1:		Last Consultation:	
Specialist 2:		Last Consultation:	
Specialist 3:		Last Consultation:	
Medication:		Dosage:	
1.			
2.			
3.			
4.			
5.			

- Text in blue was removed from the questionnaire as it was not relevant to the study.

Appendix F – 2: Final Biographical Questionnaire

1. PERSONAL INFORMATION

Age: _____ Gender: ☐ Male ☐ Female

Marital Status: _____ No of Dependents: _____

Highest Education Achieved: _____ Date Achieved: _____

Any other person in the family with a disability or chronic illness? ☐ Yes ☐ No

If yes, please state the relationship to yourself and nature of the disability:

2. EMPLOYMENT INFORMATION

Occupation: _____

Total Years Employed: _____ Last Day at Work: _____

Type of work:
☐ Executive or senior manager ☐ Professional
☐ Technical Support ☐ Clerical and Administrative support
☐ Service Occupation ☐ Precision production / craft worker
☐ Sales ☐ Operator or labourer

3. MEDICAL INFORMATION

Diagnosis: Date of Diagnosis:

1. _____ _____

2. _____ _____

Type of Specialists consulted in connection with above conditions (e.g. Orthopaedic surgeon, neurologist etc):

Specialist 1: _____ Last Consultation: _____

Specialist 2: _____ Last Consultation: _____

4. Do you think that you will be able to return to work within the next six months? □ Yes □No

If yes, indicate which one of the jobs listed below you believe you will be able to do:

□ Your previous job without changes

□ Your previous job with some changes or adaptation

□ A different job at the same company

□ A different job at a different company

⌘ Text in yellow was added to the questionnaire after consultation with the statistician.

APPENDIX G – INFORMATION LETTER AND CONSENT FROM PARTICIPANTS

Appendix G – 1: Information Sheet for Informed Consent

FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

By Anne Reynolds

"Hello!

My name is Anne Reynolds and I am an Occupational Therapist who does work rehabilitation with people who suffer from chronic illnesses. I am conducting research into the reasons why people with chronic illnesses stop working. I hope to obtain a better understanding of the barriers and challenges that affect people with chronic illnesses in the workplace. I also want to explore the barriers that people with chronic illnesses experience when returning to the workplace after a period of absence.

I would like to invite you to participate in this study if you have stopped working in the last six months and have been suffering from a chronic illness (or the symptoms of the illness) for at least six months. You must also have been actively at work in the last twelve months. If you agree to participate in the study, I will ask you for information about your medical history, current occupation and work environment. I will ask you to complete a number of questionnaires that asks a number of questions about your work environment, your manager, your relationships with your colleagues, the stress levels you experienced as work etc. The questionnaire should take approximately 30 minutes to complete. This will be followed by an interview for the second part of the study to determine any barriers or factors that you believe need to change to assist you in returning to work at some point in the future.

Participation in this study is voluntary and you are free to refuse to participate. If you choose to participate, you may withdraw your consent and discontinue your participation at any time. If you refuse to participate, or discontinue participation, it will not affect any treatment you are receiving in any way. Your decision to participate *will absolutely not affect any employee benefits* to which you may be entitled. The researcher has been requested to perform a Functional Capacity Evaluation. The referring company specifically requests that information on your eligibility for benefits is not provided after the evaluation. The therapist is not in a position to make a decision on your eligibility to any disability benefits as there other legal, insurance and contractual requirements which influence this decision and which are not within the therapist's scope of professional practice.

The company who referred you for the Functional Capacity Evaluation is aware of this research and has provided permission for you to participate in the research, if you would like to do so. A copy of their permission letter will be made available to you if you would like to see it. They will not be made aware of whether or not you have chosen to participate in the research.

Information provided as part of the research will remain confidential and will not be made available to any parties involved in decisions regarding employee or disability benefits from work.

A signed copy of this consent form will be made available to you.

Should you require further information or have any questions at a later date, you are welcome to contact myself, Anne Reynolds, on 011 440-0325 and I will answer your questions.

I have fully explained the purpose of the study and what will be researched in this study. I have asked if there are any questions and answered these questions to the best of my ability.

Researcher: **Anne Reynolds** **Date:** _____

Signature: _____

Appendix G – 2: Informed Consent from Participants

Participant No:

FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

I have been fully informed of the procedures to be followed in the course of this study.

In signing this consent form, I agree to participate in this study and understand that I am free to refuse to participate or withdraw my consent and discontinue my participation in the study at any time. I understand that if I have any questions at any time, they will be answered by the research assistant.

I understand that the information provided during this study will remain anonymous. It will not be utilised to determine any employee or disability benefits to which I may be entitled. The information I provide will not be made available to my employer, the insurer or any other referring party. In order to ensure anonymity, my responses will be allocated a number, rather than utilising my name.

The researcher will be the only party with access to the list documenting my research number with my name and contact details.

Signature: _____

Date: _____

APPENDIX H – ETHICAL CLEARANCE FORM

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Reynolds

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER M080546**
PROJECT	Factors affecting sustained employment by people with chronic illness
INVESTIGATORS	AP Reynolds
DEPARTMENT	Ms
DATE CONSIDERED	08.05.30
DECISION OF THE COMMITTEE*	Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 08.08.06 **CHAIRPERSON** .....
(Professor P E Cleaton Jones)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor : Prof P de Witt

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

R14/49 AP Reynolds

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M150159

NAME: (Principal Investigator)	AP Reynolds
DEPARTMENT:	Occupational Therapy Occupational Therapy
PROJECT TITLE:	Factors Affecting Sustained Employment by People with Chronic Illness (Previously M080546)
DATE CONSIDERED:	Adhoc
DECISION:	Renewal approved
CONDITIONS:	
SUPERVISOR:	Prof P de Witt
APPROVED BY:	Professor IP Cleaton-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	04/03/2015

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report.**

Principal Investigator Signature

Date 14/03/2015

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX I – INFORMATION AND CONSENT FROM INSURERS

Appendix I – 1: Information Letter for Insurers

DATE: _____

Dear

FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

By Anne Reynolds

My name is Anne Reynolds and I am an Occupational Therapist who does work rehabilitation with people who suffer from chronic illnesses. As part of my occupational therapy practice, I perform Functional Capacity Evaluations with employees who are applying for disability benefits. I am registered for a Masters of Science in Occupational Therapy through the University of Witwatersrand. I will be conducting research into the reasons why people with chronic illnesses stop working. I hope to obtain a better understanding of the barriers that affect people with chronic illnesses in the workplace. I also want to explore the barriers that people with chronic illnesses perceive as affecting their return to the workplace after a period of absence.

I would like to invite you to give permission for the members referred by Sanlam Employee Benefits, Sanlam Life and any other employees who you refer to my practice, to participate in this study. The employee will be eligible to participate if he/she has stopped working recently and must have been suffering from a chronic illness (or the symptoms of the illness) for at least six months. The employee must also be taking medication on a regular basis to control the illness. Each person will be invited to participate in the study, after being provided with an information letter and given the opportunity to ask any questions.

If the employee agrees to participate in the study, they will be asked for information about their medical history, current occupation and work environment. They will be asked to complete a questionnaire that asks a number of questions about the work environment, their relationships with their colleagues, the stress levels he/she experiences at work etc. The questionnaire should take approximately 30 minutes to complete. This will be followed by a structured interview for the second part of the study to determine any barriers or factors that the employee believes needs to change to assist them in returning to work at some point in the future.

Participation in this study is voluntary and the employee is free to refuse to participate. If the employee chooses to participate, they may withdraw consent and discontinue participation at any time. If the employee refuses to participate, or discontinue participation, it will not affect the assessment findings or any treatment they are receiving or may receive in the future. As the therapist is not in a position to make a decision on eligibility to any disability benefits because there are a number of other legal, insurance and contractual requirement which influence this decision

and which are not within the therapist's scope of professional practice, the employee's eligibility to these benefits will not be influenced in any way.

The interview will cover the same information as obtained in the usual Functional Capacity Evaluation. No charge will be levied for any additional time taken to complete the research information and will be excluded from the cost of the Functional Capacity Evaluation. The Functional Capacity Evaluation report will be compiled as usual, covering the expected functional areas as requested in the referral letter.

Information provided as part of the research will remain confidential and *no individual information* will be made available to any parties involved in decisions regarding employee or disability benefits from work. Detailed information and raw scores on the research questionnaires unfortunately cannot be made available in order to maintain the employee's confidentiality. *There will be no identification of the company during the research to ensure anonymity.* On completion of the research, you will be provided with a summary of the results. A complete report may also be requested.

I am of the opinion that this research will add significant value as it will contribute to a better understanding of the impact of chronic illness on employees and therefore the productivity and workforce participation of these employees.

Should you require further information or have any questions at a later date, you are welcome to contact myself, Anne Reynolds, on 082-552-4135 and I will answer your questions. You are welcome to request a copy of the research protocol that will be submitted to the Research on Human Subjects Committee of the University of Witwatersrand, as well as a copy of the Ethical Clearance Certificate for the research.

Please return the informed consent portion of this letter in the event that you agree to the employees being asked to participate in the research.

Yours sincerely

Anne Reynolds
Occupational Therapist
HPCSA Number: OT 0020222
PR No: 6610226

Appendix I – 2: Consent from Discovery Life

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH

FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

I have been fully informed of the procedures to be followed in the course of this study.

In signing this consent form, I agree to eligible members / employees referred to the occupational therapy practice of Anne Reynolds, being invited to participate in this study. I understand that they may refuse to participate or withdraw their consent and discontinue participation in the study at any time. I understand that the employee's decision whether or not to participate in the research will not be made available to myself, or any other party at the employer or the insurer, and will therefore have no impact on any insurance or other legal decision made by this company in the future. *Any company information will also be kept confidential to ensure anonymity..*

The information obtained from each participant will not be made available, but the usual Functional Capacity Evaluation report will remain unchanged. There will be no extra charges incurred for additional time spent participating in the research.

I understand that if I have any questions at any time, they will be answered by the researcher.

Signature:	
Name:	Victor Netshiendeulu
Position:	Claims Manager
Company:	Discovery Life
Date:	19/02/2009
Contact Number:	0829058831

Please return to anne@workcapacity.co.za or fax to 0865-097-095 .

Appendix I – 3: Consent from Momentum

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH

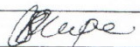
FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

I have been fully informed of the procedures to be followed in the course of this study.

In signing this consent form, I agree to eligible members / employees referred to the occupational therapy practice of Anne Reynolds, being invited to participate in this study. I understand that they may refuse to participate or withdraw their consent and discontinue participation in the study at any time. I understand that the employee's decision whether or not to participate in the research will not be made available to myself, or any other party at the employer or the insurer, and will therefore have no impact on any insurance or other legal decision made by this company in the future. *Any company information will also be kept confidential to ensure anonymity..*

The information obtained from each participant will not be made available, but the usual Functional Capacity Evaluation report will remain unchanged. There will be no extra charges incurred for additional time spent participating in the research.

I understand that if I have any questions at any time, they will be answered by the researcher.

Signature:	
Name:	Tarsha Marupen
Position:	Claims Manager
Company:	Momentum
Date:	20/02/2009
Contact Number:	(012) 684 4008

Please return to anne@workcapacity.co.za or fax to 0865-097-095 .

Appendix I – 4: Consent from Absa

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH

FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

I have been fully informed of the procedures to be followed in the course of this study.

In signing this consent form, I agree to eligible employees referred to the occupational therapy practice of Anne Reynolds, being invited to participate in this study. I understand that they may refuse to participate or withdraw their consent and discontinue participation in the study at any time. I understand that the employee's decision whether or not to participate in the research will not be made available to myself, or any other party at the employer or the insurer, and will therefore have no impact on any insurance or other legal decision made by this company in the future. *Any company information will also be kept confidential to ensure anonymity..*

The information obtained from each participant will not be made available, but the usual Functional Capacity Evaluation report will remain unchanged. There will be no extra charges incurred for additional time spent participating in the research.

I understand that if I have any questions at any time, they will be answered by the researcher.

Signature:	
Name:	Kirsty Oeschger
Position:	Disability Consultant
Company:	Absa Consultants & Actuaries
Date:	19.01.2009
Contact Number:	011 244 9124

Please return to anne@workcapacity.co.za or fax to 0865-097-095 .

Appendix I – 5: Consent from Liberty Life

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH

FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

I have been fully informed of the procedures to be followed in the course of this study.

In signing this consent form, I agree to eligible members / employees referred to the occupational therapy practice of Anne Reynolds, being invited to participate in this study. I understand that they may refuse to participate or withdraw their consent and discontinue participation in the study at any time. I understand that the employee's decision whether or not to participate in the research will not be made available to myself, or any other party at the employer or the insurer, and will therefore have no impact on any insurance or other legal decision made by this company in the future. *Any company information will also be kept confidential to ensure anonymity..*

The information obtained from each participant will not be made available, but the usual Functional Capacity Evaluation report will remain unchanged. There will be no extra charges incurred for additional time spent participating in the research.

I understand that if I have any questions at any time, they will be answered by the researcher.

Signature:	Lorenza Hainsworth
Name:	Lorenza Hainsworth
Position:	
Company:	Liberty Life
Date:	21 February 2009
Contact Number:	

Please return to anne@workcapacity.co.za or fax to 086 509 7095 .

Appendix I – 6: Consent from Sanlam

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH

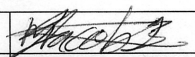
FACTORS AFFECTING SUSTAINED EMPLOYMENT OF PEOPLE WITH CHRONIC ILLNESSES

I have been fully informed of the procedures to be followed in the course of this study.

In signing this consent form, I agree to eligible members / employees referred to the occupational therapy practice of Anne Reynolds, being invited to participate in this study. I understand that they may refuse to participate or withdraw their consent and discontinue participation in the study at any time. I understand that the employee's decision whether or not to participate in the research will not be made available to myself, or any other party at the employer or the insurer, and will therefore have no impact on any insurance or other legal decision made by this company in the future. *Any company information will also be kept confidential to ensure anonymity..*

The information obtained from each participant will not be made available, but the usual Functional Capacity Evaluation report will remain unchanged. There will be no extra charges incurred for additional time spent participating in the research.

I understand that if I have any questions at any time, they will be answered by the researcher.

Signature:	
Name:	Megan Jacobs
Position:	Claims Consultant
Company:	Sanlam
Date:	16/02/2009
Contact Number:	(021) 947 4316

Please return to anne@workcapacity.co.za or fax to 086 509 7095 .

APPENDIX J – STATISTICS IN SUPPORT OF RESULTS

Appendix J -1: Ability to Return to Work According to Barriers

Table J.1 – Comparison of Barriers on ABC between Group 1 and Group 2.

	Variable	Will Return to Work (n=24)		Will not Return to Work (n=13)		Mann Whitney U test
		Mean	SD.	Mean	SD.	P
Personal Environment	*Residential environment prevents access to the workplace.*	*1.33*	*0.76*	*2.46*	*1.33*	*0.02**
	Family do not want me to work.	1.13	0.74	2.08	1.44	0.09
	Significant other does not want me to work.	0.96	0.36	1.85	1.34	0.10
Work Environment	*Physical environment prevents job performance.*	*1.71*	*0.95*	*3.08*	*1.38*	*0.00**
	Limited promotion / development opportunities.	2.33	1.31	2.69	1.60	0.41
	Treated unfairly by employer at work.	1.92	1.18	2.31	1.25	0.35
	Co-workers treat me differently due to illness.	*1.67*	*1.09*	*2.92*	*1.26*	*0.01**
	Co-workers are not supportive.	1.54	1.02	2.00	1.08	0.26
	Will lose my disability benefits or pension so do not want to work.	1.00	0.66	1.31	1.18	0.61
Worker Abilities	Unable to perform job duties at the level required.	2.83	1.15	3.46	1.20	0.08
	Lack the physical energy to work full-time.	*2.33*	*1.40*	*3.69*	*0.63*	*0.01**
	Lack the mental focus to work full-time.	*1.75*	*1.22*	*3.77*	*0.44*	*0.00**
	Lack the motivation to work full-time.	1.71	1.12	2.31	1.25	0.14
	Too much pain all the time to work.	*2.04*	*1.33*	*3.15*	*0.99*	*0.02**
	An addiction prohibits working full-time.	1.04	0.69	0.85	0.38	0.63
	Lack the necessary skills to obtain work.	1.46	1.10	1.62	1.26	0.79
	Fearful of an environment with unknown people.	1.08	0.58	1.23	0.83	0.70
	Happy with staying at home and not working.	2.00	1.47	2.31	1.44	0.59
	Embarrassed to ask for required accommodations.	1.92	1.21	1.62	1.39	0.73
	No long term plan for career.	1.58	1.32	1.85	1.68	0.89
Job Demands	Do not have the job accommodations required.	1.83	1.20	2.23	1.36	0.41
	I have not obtained the skills needed for the job due to my illness.	1.71	1.30	2.08	1.38	0.46
	Did not receive necessary training due to illness.	1.88	1.36	1.77	1.36	0.19
	Not received accommodations despite asking for them.	1.71	1.23	1.77	1.42	1.00
	Afraid of working because of job expectations.	1.33	0.87	1.92	1.50	0.35

* Results with a $p < 0.05$ are considered significant

Appendix J – 2: Ability To Return To Work According To Accommodations

Table J.2 – Comparison of the Accommodations between Group 1 and Group 2.

	Variable	ACCOMMODATION NEEDED					RECEIVED					SATISFIED				
		GROUP 1 (n=24)		GROUP 2 (n=13)			GROUP 1 (n=24)		GROUP 2 (n=13)			GROUP 1 (n=24)		GROUP 2 (n=13)		
		Mean	SD.	Mean	SD	p	Mean	SD.	Mean	SD	p	Mean	SD.	Mean	SD	p
Personal Environment	Flexible scheduling	1.50	0.51	1.58	0.51	0.71	1.45	0.52	1.17	0.41	0.37	1.64	0.50	1.80	0.45	0.65
	Transport assistance	1.71	0.46	1.54	0.52	0.40	1.83	0.41	1.40	0.55	0.27	1.88	0.35	1.75	0.50	0.80
	Help preparing for work	1.75	0.44	1.69	0.48	0.80	1.50	0.55	1.00	0.00	0.30	1.43	0.53	1.33	0.58	0.91
Work Environment	Altered job function	1.45	0.51	1.17	0.39	0.19	1.50	0.52	1.22	0.44	0.30	1.67	0.49	1.63	0.52	0.91
	Quiet work station	1.62	0.50	1.54	0.52	0.71	1.80	0.42	1.00	0.00	0.01	1.75	0.46	1.40	0.55	0.34
	Wheelchair accessibility	1.95	0.22	2.00	0.00	0.83	1.67	0.58			1.00	1.75	0.50			1.00
	Temperature change	1.70	0.47	1.92	0.29	0.32	1.43	0.53	1.50	0.71	1.00	1.78	0.44	2.00		1.00
Worker Abilities	Extra rest periods	1.62	0.50	1.31	0.48	0.14	1.64	0.50	1.29	0.49	0.24	2.00	0.00	1.86	0.38	0.65
	More sick leave	1.62	0.50	1.25	0.45	0.09	1.38	0.52	1.00	0.00	0.27	1.50	0.53	1.60	0.55	0.81
	Extra supervision / feedback	1.57	0.51	1.75	0.45	0.41	1.63	0.52	1.50	0.71	0.90	1.57	0.53	1.50	0.71	1.00
Job Demands	Regular breaks	1.33	0.48	1.25	0.45	0.71	1.38	0.51	1.43	0.53	0.91	1.42	0.51	1.50	0.53	0.79
	Allowed to work alone	1.71	0.46	1.69	0.48	0.93	1.56	0.53	1.00	0.00	0.14	1.56	0.53	1.25	0.50	0.44
	Reduced physical tasks	1.70	0.57	1.50	0.52	0.30	1.43	0.53	1.00	0.00	0.30	1.71	0.49	2.00	0.00	0.51
Assistive Devices	Special Print resources	2.00	0.00	2.00	0.00	1,00	2.00	0.00			1.00	2.00	0.00			1.00
	Written instructions	1.75	0.44	1.85	0.38	0.66	1.83	0.41	1.00	0.00	0.13	1.57	0.53	1.00	0.00	0.31
	Special equipment	1.81	0.40	1.92	0.28	0.60	1.50	0.55	1.67	0.58	0.80	1.57	0.53	2.00	0.00	0.36
	Computer adaptive devices	1.76	0.44	2.00	0.00	026	1.57	0.53	2.00		1.00	1.57	0.53	2.00		1.00
	Communication device	1.95	0.22	2.00	0.00	0.83	2.00	0.00	2.00		1.00	2.00	0.00	2.00		1.00
Other	Other	1.50	0.51	1.58	0.51											0.71

* Results with a p< 0.05 are considered significant

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