

https://dspace.org/

# Change in activity participation of mental health care users with major depressive disorder attending occupational therapy groups

**Meyer, Annalie Francina**

**2020**
https://hdl.handle.net/10539/32004

Downloaded from a DSpace repository. https://dspace.org/

# CHANGE IN ACTIVITY PARTICIPATION OF MENTAL HEALTH CARE USERS WITH MAJOR DEPRESSIVE DISORDER ATTENDING OCCUPATIONAL THERAPY GROUPS

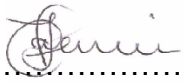
**ANNALIE FRANCINA MEYER**

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 2020

# Declaration

I, Annalie Meyer, 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.

Signature: ……

Date: 20/07/2020

# Dedication

I dedicate this study to my beloved husband, for teaching me to live what I believe, to believe in who I am, and that who I am is enough.

&

My mother, for always standing in the gap ‘between the known and the unknown’.

*~ Maya Angelou (Mom & Me & Mom) ~*

# Abstract

**Introduction:** Activity participation of mental health care users (MHCUs) with major depressive disorders (MDD) is usually severely affected and prevents them to answer to everyday demands of life. Little is known about the activity participation of MHCUs with MDD attending occupational therapy groups. This study aimed to describe activity participation of MHCUs with MDD attending occupational therapy group sessions at a private psychiatric hospital and to determine the relationship between activity participation domains and MDD as perceived by the MHCUs.

**Methodology:** A quasi-experimental, longitudinal, pre-post group study design was employed to collect data from a sample of 70 MHCUs with MDD. The measures in this study were the Activity Participation Outcome Measure (APOM) and the Patient Health Questionnaire 9 (PHQ-9).

**Results:** The findings of this study indicate a significant improvement in activity participation from baseline to discharge across all the domains of the APOM. The total number of groups attended by participants tested was superior to length of stay when correlated with improvement in APOM scores. The findings of the study demonstrated a non-significant, negligible correlation between activity participation and perceived depression as measured by the PHQ-9.

**Discussion:** Occupational therapy groups play a valuable and integral role in the road to recovery for MHCUs with MDD admitted to a private psychiatric setting. Insignificant correlations between PHQ-9 and APOM scores suggest that future research in using the PHQ-9 as an outcome measure in acute mental health settings is needed.

# Acknowledgements

I would like to extend my gratitude towards my two supervisors, Professor Daleen Casteleijn and Ms Olindah Silaule, for their excellent guidance and support throughout the research process. Thank you for allowing me the freedom to follow my own style of reasoning and work pace, while gently bringing me back to my research topic whenever I got side-tracked.

I am indebted to the following people:

Professor Daleen Casteleijn for helping me with the statistical analysis and Mrs Denise Franzen who stepped in when we needed additional information.

Mr Thomas van Vuren who assisted me enthusiastically with the language editing.

To my dearest colleagues in the occupational therapy department at the research site, thank you for your words of encouragement and continued support. You helped me to persevere through the process when I wanted to give up. A special thank you to Mrs Denise Stols who encouraged me to pursue this degree and who helped with the assessments of clients on a few occasions.

Without the participants' willingness to participate, this study would not have been possible. Thank you for your vulnerability and enthusiasm to participate despite the personal circumstances in which you found yourselves. It was a privilege to observe the road to recovery of each participant; thank you for allowing me to peek through the window.

My parents, for instilling in me a love for learning but more importantly, a love for people. Thank you for being my role models and my biggest fans. I certainly would not have been able to complete my research without your support.

My husband, his family and our friends, for helping me to maintain occupational balance by cooking and cleaning, bringing snacks, lots of prayers, and all the moral support I received throughout this journey. Ms Emma Maritz, my fellow classmate and dear friend, without you this would have been a dull and boring roller coaster ride.

# Table of contents

Declaration ..... i

Dedication ..... ii

Abstract ..... iii

Acknowledgements ..... iv

1. CHAPTER 1: INTRODUCTION ..... 1
   1.1. Background of the study ..... 1
   1.2. The research site ..... 4
   1.3. Problem Statement ..... 5
   1.4. Research Question ..... 6
   1.5. Purpose of the Research ..... 6
   1.6. Research Aim ..... 6
   1.7. Objectives ..... 6
   1.8. Hypotheses of the Study ..... 7
   1.9. Justification of the Study ..... 7
   1.10. Organisation of the chapters ..... 8

2. CHAPTER 2: LITERATURE REVIEW ..... 9
   2.1. Introduction ..... 9
   2.2. Epidemiology of major depressive disorder in South Africa ..... 9
      2.2.1. Signs, symptoms and diagnosis of major depressive disorder ..... 10
      2.2.2. Impact of major depressive disorder on activity participation ..... 11
   2.3. Management of major depressive disorder ..... 13
      2.3.1. Management of major depressive disorder across the different phases ..... 13
         2.3.1.1. Acute and short-term management ..... 13
         2.3.1.2. Intermediate management ..... 13
         2.3.1.3. Continuation and maintenance phase ..... 14
   2.4. Occupational Therapy in Mental Health ..... 15
      2.4.1. Defining occupation ..... 15
      2.4.2. Occupation and health ..... 16
      2.4.3. Occupational performance and activity participation in occupational therapy. 17
      2.4.4. The interactive groupwork model ..... 18

2.5. Outcome measurement in occupational therapy ..... 21
2.5.1. Routine Outcome Measurement ..... 21
2.5.2. Occupational Therapy outcome measures in mental health: ..... 21
2.6. The Activity Participation Outcome Measure (APOM) ..... 25
2.6.1. The Vona du Toit Model of Creative Ability levels of activity participation ..... 26
2.6.2. Development of the Activity Participation Outcome Measure (APOM) ..... 28
2.6.3. Measuring occupational therapy outcomes in major depressive disorder ..... 30
2.7. Conclusion ..... 32
3. CHAPTER 3: RESEARCH METHODOLOGY ..... 33
3.1. Introduction ..... 33
3.2. Type of Study and General Design ..... 33
3.3. Research site ..... 33
3.4. Sample Selection ..... 34
3.5. Variables ..... 35
3.6. Instruments used to collect data ..... 35
3.6.1. Demographic information: ..... 35
3.6.2. The Activity Participation Outcome Measure: ..... 36
3.6.3. The Patient Health Questionnaire 9 (PHQ-9) ..... 38
3.7. Research procedures ..... 38
3.7.1. Data Collection overview ..... 38
3.7.2. Selection of participants and initial APOM assessments ..... 39
3.7.3. Intervention: ..... 41
3.7.4. Final APOM assessments: ..... 41
3.8. Ensuring rigor in the study ..... 42
3.9. Data analysis: ..... 43
3.10. Ethical considerations ..... 45
4. CHAPTER 4: RESULTS ..... 46
4.1. Introduction ..... 46
4.2. The sample ..... 46
4.3. Demographics of the sample ..... 47
4.4. Results per objective ..... 54
4.4.1. Objective one ..... 54
4.4.2. Objective two ..... 57
4.4.3. Objective three ..... 63
4.5. Conclusion ..... 65

5. CHAPTER 5: DISCUSSION ..... 66
5.1. Introduction ..... 66
5.2. Demographics of the sample ..... 66
5.2.1. Age and sex ..... 66
5.2.2. Length of stay ..... 67
5.2.3. Level of education ..... 69
5.3. Change in levels of activity participation ..... 70
5.3.1. Change in mean post-treatment APOM scores ..... 72
5.3.1.1. Significance of the change in mean APOM scores from baseline to discharge ..... 74
5.4. Change in activity participation from baseline to final assessments ..... 75
5.4.1. Correlation between dependent and independent variables ..... 75
5.4.1.1. Length of stay ..... 75
5.4.1.2. Total number of groups attended ..... 77
5.4.1.3. Type of groups attended: Interpersonal group therapy ..... 78
5.4.1.4. Type of groups attended: Stress management groups ..... 83
5.4.1.5. Type of groups attended: Craft groups ..... 84
5.4.1.6. Type of groups attended: Open and closed groups ..... 85
5.5. Relationship between domains of activity participation and PHQ-9 scores ..... 86
5.5.1. Limitations associated with the use of the PHQ-9 ..... 87
5.5.2. Impact of mental health care users' level of Creative Ability on PHQ-9 scores 88
5.6. Conclusion ..... 90
6. CHAPTER 6: CONCLUSION ..... 91
6.1. Introduction ..... 91
6.2. Limitations of the study ..... 91
6.2.1. Methodological limitations: ..... 91
6.2.2. Limitations of data ..... 91
6.2.3. Instrument limitations ..... 92
6.3. Recommendations ..... 92
6.4. Evaluation of the study ..... 94
6.5. Conclusion ..... 95
7. References ..... 98

# List of tables


| | | |
|---|---|---|
| Table 2.1. | Levels of Motivation and action according to the Vona du Toit …. Model of Creative Ability ……..... | 27 |
| Table 3.1. | Selection Criteria of the sample …….. | 34 |
| Table 3.2. | An example of the domain *Balanced lifestyle* with the item *habits* and relating descriptors on each level of activity participation…… | 36 |
| Table 3.3. | APOM scale ……... | 37 |
| Table 3.4. | Activities used to assess participants' level of activity participation | 40 |
| Table 4.1. | Demographic information of the Sample ……... | 47 |
| Table 4.2. | Baseline APOM scores, final APOM scores and SRM of male and female participants | 49 |
| Table 4.3. | Additional independent variables of the sample …….. | 50 |
| Table 4.4. | Number of groups attended by each participant …….. | 52 |
| Table 4.5. | Types of groups attended …… | 52 |
| Table 4.6. | Total number of open and closed groups attended ……. | 54 |
| Table 4.7. | Effect sizes per APOM domain calculated by standardised …….. response ……. | 56 |
| Table 4.8. | Statistical significance of the difference between baseline APOM scores and final APOM scores …… | 56 |
| Table 4.9. | Correlations between the change in APOM scores and total …… number of groups attended and length of stay ……. | 57 |
| Table 4.10. | Correlations between change in APOM scores and types of …… groups ……. | 60 |
| Table 4.11. | Spearman's rank order correlation between activity participation and perceived depression as measured by the PHQ-9 …….. | 64 |

# List of figures


| | | |
|---|---|---|
| Figure 4.1. | Effect size per domain for male and female participants …….. | 49 |
| Figure 4.2. | Bar graph of baseline and final APOM mean scores …… | 55 |
| Figure 4.3. | Spearman Rank Order Correlation between APOM domains and total number of groups attended …… | 58 |
| Figure 4.4. | Spearman Rank Order Correlation between APOM domains and Length of stay …….. | 59 |
| Figure 4.5. | Spearman's rank order correlation between change in APOM and open groups …… | 62 |
| Figure 4.6. | Spearman's rank order correlation between change in APOM and closed groups …….. | 63 |

# Appendices


| | | |
|---|---|---|
| Appendix A | Activity Participation Outcome Measure (APOM) domains, items and descriptions …… | 117 |
| Appendix B | Sample size calculation …….. | 118 |
| Appendix C | Demographic information sheet …… | 119 |
| Appendix D | Patient Health Questionnaire – 9 (PHQ – 9) ……. | 120 |
| Appendix E | APOM scoring sheet …… | 121 |
| Appendix F | Pie chart of daily routine …… | 122 |
| Appendix G | Example of APOM spider graph ……... | 123 |
| Appendix H | Ethical Clearance certificate …….. | 124 |
| Appendix I | Permission letter – CEO of research facility ……. | 125 |
| Appendix J | Permission letter – Director of occupational therapy practice at the research site …….. | 128 |
| Appendix K | Letter to psychiatrists at research site ……... | 131 |
| Appendix L | Information sheet and informed consent (MHCUs) ……. | 133 |
| Appendix M | Plagiarism declaration to be signed by all higher degree students ……. | 136 |
| Appendix N | Turn it in report summary ……. | 137 |
| Appendix O | Information on Language Editor ……... | 138 |

# List of abbreviations

| | |
|---|---|
| AMPS | Assessment of Motor and Process skills |
| APOM | Activity Participation Outcome Measure |
| AOTA | American Occupational Therapy Association |
| AusTOM | Australian Therapy Outcome Measure |
| BaFPE-R | Bay area Functional Performance Evaluation Revised |
| COPM | Canadian Occupational Performance Measure |
| DSM-V | Diagnostic and Statistical Manual of Mental Disorders, 5th edition |
| LMIC | Lower-Middle Income Countries |
| LOS | Length of stay |
| MDD | Major Depressive Disorder |
| MDE | Major Depressive Episode |
| MHCU | Mental Health Care User |
| MOHO | Model of Human Occupation |
| MOHOST | Model of Human Occupation Screening Tool |
| NHI | National Health Insurance |

| | |
|---|---|
| NMHPFSP | National Mental Health Policy Framework and Strategic Plan |
| OECD | Organisation for Economic Co-operation and Development |
| OTASA | Occupational Therapy Association of South Africa |
| PHC | Primary Health Care |
| PHQ-9 | Patient Health Questionnaire |
| ROM | Routine Outcome Measurement |
| SA | South Africa |
| SASH | South African Stress and Health study |
| SD | Standard Deviation |
| SDGs | Sustainable Development Goals |
| SRM | Standardised Response Mean |
| UK | United Kingdom |
| VdMoCA | Vona du Toit Model of Creative Ability |
| WHO | World Health Organisation |

# Nomenclature

**Activity Participation:** The act of doing which includes an individual's action on the world (originating in the self), one's relation to the self, and the external world. It can also be described as the involvement in a life situation that occurs when individuals are actively involved in meaningful activities (AOTA, 2014; Van der Reyden, et al., 2019).

**Creative Ability:** The manifestation of an individual's motivation and action, as governed by their volition, resulting in a tangible or intangible product. The ability to respond creatively to life's demands and activities of daily living (Van der Reyden & Sherwood, 2019; Van der Reyden, et al., 2019, p. 279).

**Creative Capacity:** An individual's maximum or full potential which could possibly develop under optimal circumstances (Van der Reyden, et al., 2019, p. 279).

**Standardised Response Mean:** An effect size computed by dividing the mean score change by the standard deviation of the changed scores (Middel & Van Sonderen, 2002).

**Outcome:** "An agreed, clearly defined, expected or desired result of intervention" (Creek, 2003, p. 50).

**Outcome Measure:** An instrument used to monitor, track, and record change in a client after participating in intervention (Unsworth, et al., 2004).

**Routine Outcome Measurement:** Regular measurement of change in clients' functioning and health goals over the course of treatment (Colquhoun, et al., 2010; Coombs, et al., 2011).

# CHAPTER 1: INTRODUCTION

## 1.1. Background of the study

One of the core beliefs of occupational therapy is that occupation promotes health and well-being. This is in keeping with the World Health Organization's definition of health as well as those of several studies conducted to describe the relationship between occupation and health (Willcock, 1999; Kronenberg, et al., 2015). One of the conclusions is that these two concepts are bi-directional. Poor health in the form of disability or illness decreases an individual's ability to participate in occupations and activities. Lack of occupational participation could result in unsatisfied needs and an inability to cope with the immediate environment, which is detrimental to health (Durocher et al. 2017). It can thus be concluded that participating in meaningful activities and occupations that add purpose to an individual's life is essential for experiencing health and well-being (Kronenberg, et al., 2015).

When disability arises in the form of a major depressive episode, participation in meaningful activities of choice is compromised by lack of energy and decreased motivation to participate in these activities (Sadock, et al., 2015). The global prevalence of major depressive disorder (MDD) increased with 53% from 1990 to 2013 and is a leading cause of disability worldwide (Global Burden of Disease Study 2013 Collaborators, 2015; WHO, 2018a). In South Africa, MDD is counted amongst the top three contributors to the overall burden of disease (Nglazi, et al., 2016), affecting approximately 8% to 15% of the population (Wolmarans & Brand, 2016). This disorder has a high comorbidity with a wide variety of psychiatric and medical conditions making it a major area of concern (Grobler, 2013).

Major depressive disorder is characterised by persistent sadness, loneliness, loss of interest in activities, lack of energy, self-harm, suicidal thoughts, feelings of worthlessness, and decreased productivity (Freeman, 2013; Sadock, et al., 2015). When left untreated it often results in suicide, increased medical morbidity and mortality, workplace absenteeism, as well as occupational and social dysfunction (Freeman, 2013).

In South Africa, mental disorders such as MDD are frequently underdiagnosed and untreated due to unequal distribution of mental health services, as well as a lack of mental health resources and institutions in the public sector (Lund, et al., 2012). More mental health resources are available in the private sector to the 15% of South Africans that can afford membership to a medical aid (Van der Merwe, 2012).

To enable equitable health care for all South-Africans, the re-engineering of public health care led to the National Health Insurance (NHI) bill, officially released on the 15th of August 2019. The South African NHI is a financing system that will give access to equal, affordable, efficient, effective, and essential health care regardless of employment status and ability to make a direct monetary contribution to the NHI Fund (South Africa National Department of Health, 2015). One of the guiding policies for implementation of the NHI is the National Mental Health Policy Framework and Strategic Plan 2013-2020 (NMHPFSP) (South Africa National Department of Health, 2013). The NMHPFSP asserts that mental health is an integral element of health care and fundamental to the government's goal of "A Long and Healthy life for all South Africans" (South Africa National Department of Health, 2013, p. 3).

The aim of the NHI is to ensure equal opportunities for treatment of MHCUs in South Africa and address the inequalities between the public and private health systems (Matsoso & Fryatt, 2013). Therefore, the types of interventions used in both public and private sectors should be investigated to create cost-effective, evidence-based packages to form part of NHI service delivery (South Africa National Department of Health, 2015).

There is a growing need for occupational therapy services in both in- and out-patient mental health settings (Sundsteigen, et al., 2009; Drum, et al., 2011; McCarthy & Hart, 2011). This increased demand warrants investigation of the effectiveness of methods used by occupational therapists in these settings. Evidence from these settings could support the inclusion of occupational therapy services in the NHI as a prescribed minimum benefit in mental health settings (South Africa National Department of Health, 2015)

A multi-model, multi-disciplinary approach has been proven to be most effective in the treatment of MDD (Keller, et al., 2000; Schramm, et al., 2008). An integrative

intervention programme was found to be the ideal treatment approach for chronic depression as significantly higher remission rates were found when using this approach in comparison to treatment as usual (Murray, et al., 2010). The integrative treatment programme consists of medication management, group-based interpersonal psychotherapy, and occupational therapy groups (Murray, et al., 2010).

Occupational therapy intervention for patients with MDD aims to create opportunities for engagement in different occupations (Christiansen & Townsend, 2004). This is necessary to prepare those with depression to cope with everyday demands in their immediate environments, improve integration with everyday life, and attach meaning to activity participation (Crouch & Alers, 2014).

Core elements included in occupational therapy intervention for MHCUs suffering from MDD in acute mental health settings include individual assessments, individual treatment, therapeutic groups, discharge planning, and community reintegration (Lloyd & Williams, 2010). However, treating MHCUs in a group context is the main focus of occupational therapy intervention in inpatient psychiatric settings (Swartzberg, et al., 2013).

Group therapy is often used as the primary treatment modality in mental health (Pollard & Cook, 2012). With the growing prevalence of MDD and increased demand for mental health services in an under resourced South Africa, group therapy as a treatment modality provides cost effective care to as many people possible with the available human resources (Drum, et al., 2011; McCarthy & Hart, 2011; WHO, 2016a).

In South Africa, the Interactive Groupwork Model, is an approach used by occupational therapists in both public and private mental health settings (Occupational Therapy Association of South Africa, 2014). Although this model is widely used in the country, no research has been done on its effect on MHCUs' activity participation. One of the main reasons for this lack of evidence is that implementation of outcome measures to determine baseline functioning and quantifying the change therein have not yet been adopted by South African occupational therapists (Casteleijn, 2013). Some of the factors contributing to the lack of incorporation of outcome measures by occupational therapists are a lack of context appropriate outcome measures, as well as limited knowledge and guidelines on implementation of outcome measures to daily clinical

practice (Casteleijn, 2013). Another contributing factor identified by Casteleijn (2013), is that occupational therapists are under the impression that outcome measures and assessments are the same.

Limited attention has been given to measuring outcomes of group intervention in occupational therapy (Swartzberg, et al., 2013). Lack of outcome measurement contributes to difficulties experienced in tracking change and describing trends in activity participation brought about by intervention (Kumar, 2011). Therefore, there is little evidence to support the effect of occupational therapy groups on activity participation of MHCUS with MDD during their admission to acute care facilities.

The researcher found one study relating to occupational therapy groups for MHCUs with MDD in the South African context (Ramano, 2017). The results of the study were in favour of occupation-based group therapy and therefore imperative to the evidence base of occupational therapy. However, the outcome measures used in the study only focused on certain occupational performance areas which renders difficulty in tracking change in overall functioning.

Lack of context appropriate, occupation-based outcome measures in occupational therapy often result in the use of symptom scales (for example the PHQ-9) to measure activity participation. Little is known about the appropriateness of these self-report symptom scales to measure activity participation. It is unknown whether MHCUs' perceived symptoms are in line with their actual functional abilities as observed by health care professionals.

## 1.2. The research site

The research site for this study was a private psychiatric hospital in the Tshwane metropole in Gauteng, South Africa.

In 2016, almost 40% of MHCUs who were admitted to the research site had a diagnosis of MDD. Occupational therapy treatment for these MHCUs aims to reach the goals described above by encouraging them to participate in various occupational therapy groups. The occupational therapy group programme at the research site is based on the Interactive Groupwork Model.

The average length of stay at the hospital is twelve days and each MHCU attend an average of ten occupational therapy groups during admission. MHCUs see their psychiatrists once a day and prescribed medication are administered by nursing staff. Most MHCUs have an appointment with a psychologist every day. The inpatient group programme is administered by occupational therapists only.

Medical aids that fund MHCUs at the clinic are increasing the demand for healthcare professionals to provide evidence of the effectiveness of treatment and the use of outcome measures to justify cost-effective services and length of stay. Therefore, the research site adopted Routine Outcome Measurement (ROM) as part of their daily practise by making use of the PHQ-9, a self-report symptom scale used to determine the presence and severity of depression. Although the PHQ-9 provides the research site with information regarding symptom reduction, there is no information related to change in activity participation as a result of intervention.

## 1.3. Problem Statement

Implementation of outcome measures to track change and provide evidence for interventions have not yet been adopted by South African occupational therapists (Casteleijn, 2013). Limited use of routine outcome measurement contributes to difficulties that occupational therapists experience in providing evidence for funding and communicating the unique contribution of occupational therapy to the multi-disciplinary team and clients (Casteleijn & Graham, 2012). Bearing in mind the future implementation of the NHI, lack of evidence hinders occupational therapists to assert the necessity of occupational therapy services as part of mental health care.

Despite the annual high percentage of MHCUs with MDD admitted at the research site, the relationship between their level of activity participation and perceived severity of their depression is unknown. The research site adopted the PHQ-9 and all clients are invited to complete the self-report questionnaire when they are admitted and when they get discharged. To date, no analysis has been done with the data. The effect of occupational therapy on their performance in daily activities and activity participation is not adequately monitored.

The lack of routine outcome measurement (ROM) contributes to the difficulty experienced in tracking change in activity participation, tracking progress, and justifying costs of providing occupational therapy services to funders and medical aids.

## 1.4. Research Question

What are the changes in activity participation of MHCUs with MDD participating in the occupational therapy programme in an acute psychiatric hospital, and how does their activity participation relate to their perception of their illness?

## 1.5. Purpose of the Research

The purpose of this study was to track and describe change in activity participation of MHCUs with MDD participating in the occupational therapy programme in an acute private psychiatric hospital by making use of the Activity Participation Outcome Measure (APOM). The study intended to investigate the relationship between the MHCUs activity participation and the presence and perceived severity of the depression, as measured with the PHQ-9.

## 1.6. Research Aim

To track and describe change in activity participation of MHCUs with MDD attending occupational therapy group sessions at a private psychiatric hospital and to determine the relationship between activity participation domains and MDD as perceived by the MHCUs.

## 1.7. Objectives

**Objective 1:** To describe and track changes in the level of different domains of activity participation of MHCUs with MDD participating in occupational therapy groups.

**Objective 2:** To describe the relationship between activity participation and the independent variables of age, gender, length of stay, as well as number and types of groups attended.

**Objective 3:** To determine if a correlation exists between domains of activity participation and presence and severity of depression as perceived by MHCUs with MDD.

## 1.8. Hypotheses of the Study

**Objective 1 (null $H_1$):** There is not a significant positive change in activity participation scores for each domain of the APOM between admission and discharge.

**Objective 2 (null $H_2$):** No relationship exists between activity participation and the independent variables of age, gender, length of stay, as well as the number and type of occupational therapy groups attended.

**Objective 3 (null $H_3$):** There is a no relationship between perceived depression of MHCUs and activity participation.

## 1.9. Justification of the Study

Limited evidence is available to describe the effect of occupational therapy intervention in mental health (Casteleijn & Graham, 2012). The results of this study can be used to describe change in activity participation of MHCUs with MDD and changes that may occur after participation in occupational therapy groups which in turn will expand the evidence base of occupational therapy in mental health. The outcomes of the study can further assist in improving the occupational therapy programme at the research setting and similar settings. The evidence from this study can assist occupational therapists to assert the profession as a crucial mental health service to be included in the NHI.

Shortened length of stay in mental health facilities emphasises the need for evidence of treatment outcomes to justify payment for services to insurance companies and other funders (Babiss, 2002). The results of the study can therefore also be used to justify cost effective treatment to funders and medical aids.

The APOM is a fairly new instrument; this study can expand on previous research done on the instrument and contribute to the evidence base of the APOM.

## 1.10. Organisation of the chapters.

**Chapter 1:** Introduction

A detailed explanation of the background of the study which led to the research problem is discussed. The research problem is followed by the research question, purpose of the study, aim and objectives as well as the hypotheses of the objectives. Lastly the justification of the study is discussed. To give insight to the context where the study took place, a short description of the research site is also included.

**Chapter 2:** Literature review

Background information regarding MDD in South Africa and the functional implications of the disease are discussed. The impact of MDD on activity participation is highlighted along with the lack of routine outcome measurement of activity participation in mental health. A critical review of available occupation-based outcome measures and the development and use of the APOM are also included in this chapter.

**Chapter 3:** Methodology

In this chapter the study design and research methodology are presented. The sample selection, outcome measures, research procedures and quality control methods are included. The chapter ends with ethical considerations.

**Chapter 4:** Research results

The results of the study are included in this chapter and divided into demographic information and the findings of each objective. Results per objective are presented by effect sizes, Spearman's rho and Spearman's rank order correlations.

**Chapter 5:** Discussion

Discussions of the study as well as previous research related to the findings of this study are included in this chapter.

**Chapter 6:** Conclusion

This chapter comprises of the recommendations, limitations, evaluation, and final conclusion of the study.

# CHAPTER 2: LITERATURE REVIEW

## 2.1. Introduction

To ensure adequate background regarding the debilitating impact of MDD on MHCUs' activity participation, the following search engines were included: Francis & Taylor online, PubMed, Google Scholar, and CINHAL Plus. Key words and phrases included "major depressive disorder and functioning", "MDD and activity participation", "outcome measures in occupational therapy", and "impact of occupational therapy group work on MDD." Certain aspects of the study had not been well researched and limited publications were available. Therefore, grey literature was also reviewed to ensure a broad overview of information.

This literature review discusses an overview of MDD in South Africa along with the key symptoms of the disorder and the impact it has on activity participation. The chapter summarises and discusses the Interactive Groupwork Model. It critically reviews existing outcome measures for occupational performance available in occupational therapy mental health. It also reports on background information and development of the Activity Participation Outcome Measure along with its relevance to the South African context.

## 2.2. Epidemiology of major depressive disorder in South Africa

The rapid global increase in Major Depressive Disorder is a major area of concern (Nahas & Sheik, 2011). The 1997 Global Burden of Disease study predicted that MDD would be the 2nd largest contributor to the overall burden of disease globally by 2020 (Murray & Lopez, 1997). Since then, there had been a dramatic increase in MDD leading to the WHO declaring it a largest contributor to the overall disease burden as of 2013 and a leading cause of disability worldwide as of 2018 (Freeman, 2013; WHO, 2020a). In South Africa, MDD has an estimated lifetime prevalence of 9.8% (Tomlinson, et al., 2009). Despite this dramatic increase in MDD however, a lack of management of the condition persists in South Africa (Freeman, 2013).

The management of MDD remains a serious concern in both high, upper-middle, and lower-middle income countries. According to Thornicroft, et al. (2017), one in five people in high income countries received minimum adequate treatment for depression. In contrast, only one in 27 people in low-middle income countries (LMICs) received minimum adequate treatment for depression (Thornicroft, et al., 2017). This was further compounded by the shortage of mental health services in LMICs where 95% of the population did not have access to mental health treatment (Thornicroft, et al., 2017).

Despite the call to upscale mental health services in lower-middle income countries, little progress was made to address the treatment gap over the past 20 years (WHO, 2001; Chisholm, et al., 2007). Some of the key factors associated with the persisting treatment gap included low prioritisation of mental health services, scarcity of human and financial resources, limited mental health facilities/services, lack of mental health literacy, stigma, and social exclusion (Eaton, et al., 2011; Thornicroft, et al., 2017).

The treatment gap in South Africa is one of the ongoing challenges facing the management of MDD. One of the major contributing factors is the unequal distribution of mental health resources between the private and public health sectors (Lund, et al., 2012). In South Africa, more resources and institutions are available to the 15% of citizens that can afford medical aid memberships, while individuals from lower socio-economic backgrounds are often left undiagnosed and untreated. This is a major concern as lower household income, job loss and unemployment are risk factors for depression (Bonde, 2008; Weinberger, et al., 2018). Consequently, poor management of MDD persist amongst individuals with lower economic statuses.

### 2.2.1. Signs, symptoms and diagnosis of major depressive disorder

For a formal diagnosis of MDD to be made, the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) is used to classify symptoms. The diagnostic criteria stipulate that five or more out of the nine symptoms listed, must be present for a duration of two weeks. At least one of the symptoms must be 1) a depressed mood or 2) loss of interest or pleasure. Furthermore, these symptoms must have contributed to a change in previous functioning (American Psychiatric Association , 2013)

Acute symptoms like lowered drive, apathy, avolition, anhedonia, and low self-esteem associated with MDD had a negative effect on individuals' functional ability (Laver-Fawcett, 2007; Halvorsen, et al., 2012; Grobler, 2013). Functional ability can also be referred to as activity participation (AOTA, 2014) .The American Occupational Therapy Association described activity participation as "involvement in a life situation. This process occurs when clients are actively involved in carrying out daily activities they find purposeful and meaningful" (AOTA, 2014 p 629).

### 2.2.2. Impact of major depressive disorder on activity participation

It is well known that MDD is associated with impaired cognitive function (Lee, et al., 2012; Wagner, et al., 2012; Trivedi & Greer, 2014; Harrison, et al., 2016). The relationship between recurrent depressive episodes and cognitive decline is a major area of concern. The cognitive decline in MDD contributed to economic days lost due to reduced productivity or absenteeism in the work force and had a substantial effect on individuals' activity participation (Pizzagalli, et al., 2009; McIntyre, et al., 2013; Cha, et al., 2017).The main cognitive deficits identified in MHCUs suffering from MDD included poor attention and memory, impaired visual learning, reduced psychomotor processing speed, poor response inhibition, and difficulties in executive functioning (such as decision making, attentional switching, mental flexibility, and planning) (Lee, et al., 2012; Wagner, et al., 2012; Snyder, 2013).

Although the cognitive deficits were mainly associated with acute depressive episodes, some symptoms remained even after MHCUs were in remission. These deficits included decreased executive function, working memory, attention, decision making, and psychomotor processing (Ardal & Hammar, 2011; Hasselbalch, et al., 2011). The continuous presence of these symptoms during remission was one of the primary contributors to reduced workforce performance (Trivedi, et al., 2013).

The functional consequences of cognitive impairment in MDD resulted in a diminished ability to fulfil daily roles which lead to feelings of embarrassment (Buist-Bouwman, et al., 2008). In turn, these feelings of inadequacy worsened the severity of depressive symptoms, such as feeling worthless or persistent sadness, resulting in a perpetuating cycle (Sadock, et al., 2015). Another functional implication of cognitive impairment was

reduced adaptive functioning, which hindered treatment compliance, the ability to cope with daily demands, and return to work (Halvorsen, et al., 2012)

Researchers have consistently found that cognitive-related symptoms in MDD were associated with increased impairment in psychosocial function (Buist-Bouwman, et al., 2008; Fried & Nesse, 2014; Cha, et al., 2017). In a study investigating the relationship between individual depressive symptoms and impaired psychosocial functioning, Fried and Nesse (2014) found that the strongest predictors of psychosocial functioning were sad mood and poor concentration. Above mentioned symptoms led to impaired functioning in the following domains: work, home management, social activities, close relationships, and private activities. (Fried & Nesse, 2014).

Cha et. al. (2017) found that MHCUs with MDD presented with significantly greater global and domain specific psychosocial impairments in comparison to healthy controls with the same sex, age, and education levels. Self-reported cognitive impairment was strongly associated with psychosocial impairment in the domains of work or school, family and home responsibilities, and economic days lost due to absenteeism. In addition, reduced productivity at work and social life domains were strongly associated with depression severity rather than cognitive impairment (Cha, et al., 2017).

In 60% of MHCUs suffering from MDD, impaired psychosocial functioning persisted after anti-depressant treatment. Therefore, it was found to be equally important to improve function during a depressive episode and when the MHCU was in remission, as continuous impairment in psychosocial function could lead to depressive relapse (Sheehan, et al., 2016). Due to this perpetuating pattern, the relationship between depressive symptomatology and impaired psychosocial functioning appeared to be bidirectional. Therefore, it was found that treatment of psychosocial functioning should be prioritised to prevent depressive symptoms from progressing (McKnight & Kashdan, 2009; IsHak, et al., 2014; IsHak, et al., 2016). It can therefore be concluded that occupational imbalance, impaired psychosocial and cognitive functioning, and reduced participation in meaningful activities all contribute to impaired activity participation in MDD.

## 2.3. Management of major depressive disorder

### 2.3.1. Management of major depressive disorder across the different phases

#### *2.3.1.1. Acute and short-term management*

During the acute phase, the focus of treatment is to induce remission of all symptoms associated with MDD (Grobler, 2013). The severity of depressive symptoms guides the clinician to select the appropriate treatment within an inpatient or outpatient setting, and the treatment approach whether pharmacological and/or non-pharmacological (Gulliver, et al., 2010; Grobler, 2013).

Once a diagnosis of MDD has been made, a thorough suicide-risk assessment follows to ensure the safety of the client (Freeman, 2013). Once safety is established, the client is educated on the diagnosis and treatment options. An individualised treatment plan, developed in collaboration with the client, should include psychoeducation at each point of contact to encourage compliance to treatment (Grobler, 2013).

Occupational therapy intervention for patients with MDD at this phase aims to create opportunities for engagement in different occupations. Participation in occupations prepare those with depression to cope with everyday demands in their immediate environments, improve integration with everyday life, and attach meaning to activity participation (Duncan & Prowse, 2014). During the acute phase, occupational therapy intervention includes individual treatment or group work. This intervention aims to address client factors such as motivation, emotional responses, mood, range of affect, anxiety management, and self-esteem (AOTA, 2014; Duncan & Prowse, 2014). This is achieved by active participation in activities in which individuals experience success or mastery and where activity demands are aligned with individuals' current abilities (Van der Reyden, et al., 2019).

#### *2.3.1.2. Intermediate management*

It is recommended that clients suffering from MDD should be followed up within a week of commencing pharmacological treatment (Freeman, 2013; Grobler, 2013). Side effects, suicidal ideation, continuous agitation, and the presence of anxiety are documented. Treatment doses are adjusted according to recommended therapeutic ranges. Once treatment of acute symptoms has been established, the focus shifts to

enhancement of global levels of function to ensure optimal occupational and social engagement (Freeman, 2013; Grobler, 2013).

To ensure optimal functional rehabilitation during the intermediate phase of MDD, the occupational therapist must investigate the continuous functional impairments an individual presents with. Treatment approaches and strategies adopted during the intermediate phase of treatment include continuous pharmacotherapy and individual or group psychotherapy. Group psychotherapy includes cognitive behavioural therapy, interactive therapy, psychoanalytically orientated psychotherapy, and dynamic therapy (Sadock, et al., 2015). Occupational therapists practicing in mental health in South Africa make use of the Interactive Groupwork Model to address role performance, social interaction, and life skills (Occupational Therapy Association of South Africa, 2014). To ensure successful re-integration to the workplace, occupational therapy services include work hardening and cognitive rehabilitation. Continuous psychoeducation is recommended to prevent depressive relapse (Grobler, 2013).

#### *2.3.1.3. Continuation and maintenance phase*

When untreated, a depressive episode typically lasts 6 months or longer. When MHCUs receive treatment, remission will occur quicker. MDD is characterised as a recurrent disease and 50 – 85% of MHCUs with a first episode will have another episode (Grobler, 2013). This highlights the importance of compliance to medication as relapse usually occurs when MHCUs do not follow prescribed treatment procedures. (Slabbert, et al., 2015).

Slabbert et. al. (2015) conducted a study on antidepressant non-compliance in the private healthcare sector of South-Africa. To prevent relapse, the recommended time for treatment of depression was found to be four to six months from remission. After four months of treatment, only 34% of MHCUs were compliant with anti-depressants (Slabbert, et al., 2015). Anti-depressant non-compliance contributes to the high re-admission rates in the mental healthcare sector of South-Africa (Petersen & Lund, 2011). Main reasons for non-compliance include unpleasant side effects, fear of addiction, lack of efficacy, and MHCUs experiencing symptom improvement (Demyttenaere, et al., 2001).

During the continuation phase, it is recommended that anti-depressant therapy continue for six to nine months following remission of depressive symptoms in individuals with a first episode of MDD (Freeman, 2013; Grobler, 2013). Frequency of follow up visits and duration of pharmacotherapy is determined by the severity of the condition, the number of previous episodes, and comorbid conditions. Although the frequency of follow up visits may vary between individual cases, it is of utmost importance that follow up visits are scheduled and adhered to in order to prevent episodic recurrences (Freeman, 2013). The following factors should be considered when planning maintenance treatment; risk of recurrence, severity of episodes, side effects associated with continuous treatment, and patient preferences (Grobler, 2013).

Above mentioned factors should also be considered when discontinuation of maintenance treatment is initiated. Discontinuation of treatment should occur gradually and should be a collaboration between the practitioner and the client (Freeman, 2013; Grobler, 2013)

Occupational therapy intervention during this phase is focused on role development and role fulfilment in various areas of an individual's life such as work, schooling, friendships or marriage, personal interests, or aspects related to running a household (Homer, 2014). These areas are addressed by incorporating occupation-centred changes to the individual's lifestyle to ensure occupational balance. Reducing a person's vulnerability to depressive relapse is crucial during this phase and is reached through psychoeducation and continuous life skills training (Cole, 2012; Duncan & Prowse, 2014).

## 2.4. Occupational Therapy in Mental Health

### 2.4.1. Defining occupation

Occupational therapists and occupational scientists view humans as occupational beings. To better understand the occupational nature of human beings, it is important to define occupation. Many definitions of occupation have been provided in the literature. Gray (1997) defined occupation as something that is 'goal directed, carries meaning, is repeatable and is perceived as 'doing' by those engaged in it (Gray, 1997) Occupation is also described as the 'engagement in activities, tasks and roles for the purpose of meeting the requirements of living' (Levine & Brayley, 1991, p. 622). Ann

Wilcock (1999) argued that occupations are more than doing; it could rather be a 'synthesis of doing, being and becoming.' She asserted that it is through doing that people become what they have the potential to be (Willcock, 1999).

Previous definitions and approaches to occupation has been criticized by occupational scientists for its individualistic view on occupation (Dickie, et al., 2006). These authors asserted that it was imperative to consider the complex relationship between occupation and the context of the individual engaging in the occupation. Therefore, occupation was described within a multi-dimensional context as "…chunks of daily activities that can be named in the lexicon of [the] culture" (Clark, et al., 1991, p. 301) This is in line with Kielhofner's description of occupation as "doing culturally meaningful work, play or daily living tasks in the stream of time and in the context of one's physical and social world" (Kielhofner & Forsyth, 1997, pp. 103-110). From this perspective, the context and the individual are equally important when occupation is defined.

To avoid the duality of emphasising either the context or the individual, Dickie et. al. (2006) introduced the concept of occupational transaction based on John Dewey's transactional theory. The focus of the theory is on holism - what would typically be seen as separate from each other are actually part of each other (Cutchin, 2004). From this perspective, occupation can be described as a transaction joining the individual and their context. When a person and their context are viewed as part of each other, occupation becomes the medium of functional coordination between the two (Dickie, et al., 2006; Shank & Cutchin, 2010). The environment, context or situation with which individuals transact is not limited to their physical world; it also includes cultural, religious, political and social aspects (Dickie, et al., 2006).

### 2.4.2. Occupation and health

A fundamental belief in occupational therapy and occupational science is that occupation promotes health, is health giving, and can heal (Hasselkus, 2011). This notion is supported by Reilly's (1962) most frequently quoted statement in the field of occupational therapy; "man, through the use of his hands, as they are energized by mind and will, can influence the state of his own health" (Reilly, 1962, p. 2).

Similar to critiques given regarding the definitions of occupation, some authors in occupational science view the relationship between health and occupation as unidimensional. They believe that the profession should move beyond disability and impairment (terms often used within the medical model to describe health) towards well-being and quality of life (Hammell, 2009). This reiterates the World Health Organisation's 1948 definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 2020b)

When humans are considered as occupational beings, health can be seen as the ability to engage in meaningful occupations, not merely the presence or absence of disability. With this optimistic view of human beings, the importance of the relationship between health and occupation in occupational therapy is emphasised. The following aspects of health are favourably influenced by occupation: dignity, realisation of potential, functional competence, a good quality of life, and finding meaning and satisfaction in life (Yerxa, 1998; Peloquim, 2005; Hasselkus, 2011). Therefore, lack of participation in meaningful activities result in poor health and a decreased quality of life, and vice versa.

### 2.4.3. Occupational performance and activity participation in occupational therapy.

Occupational performance is described as 'the doing of occupation in order to satisfy life needs' (Law & Baum, 2001, p. 6). Occupational performance is also described as a 'functional ability' (Laver-Fawcett, 2007) or 'activity participation'. Law (2002) argued that individuals acquire various skills and competencies, connect with others and find meaning and purpose in life through activity participation (Law, 2002).

Reduced activity participation in MDD could result in unsatisfied needs and an inability to cope with the immediate environment, which is detrimental to health and well-being (Durocher et al. 2017). It could, therefore, be concluded that decreased activity participation occurs when health is compromised by MDD. Impaired cognitive and psychosocial function as a result of decreased activity participation in MDD leads to poor quality of life and well-being (Harrison, et al., 2016).

Additionally, individuals suffering from MDD are more vulnerable to occupational injustices which occur due to social exclusion. These occupational injustices are often referred to as occupational risk factors and include occupational imbalance, occupational deprivation, occupational alienation, and occupational marginalization (Durocher et al. 2014). Occupational Marginalization, for example, is a form of social exclusion where a population, usually vulnerable groups, has limited or no occupational choices. Invisible “norms”, usually held by the cultural context or society, are used to determine who can participate in which occupations (Durocher et al. 2014). These exclusions are not overt, it would rather be encountered subtly (covertly) in the form of stigmatization where people are expected to participate in occupations in a certain way and are excluded when they do not meet these expectations (Durocher et al. 2014) (Townsend et al. 2004).

Whether above mentioned injustices occur because individuals are forced to participate in occupations that are meaningless or because they are excluded from opportunities to participate in occupations of their choice, research has shown that it could be detrimental to health and well-being (Durocher et al. 2014). Due to stigma attached to those suffering from mental disorders, individuals diagnosed with MDD face social exclusions which limits opportunities to interact with or get feedback from their environment, consequently, the individuals’ activity participation is restricted.

### 2.4.4. The interactive groupwork model

Since the origin of the profession, occupational therapists have been using group therapy to address activity participation in mental health (Howe & Schwartzberg, 2001; Sundsteigen, et al., 2009). Group therapy is often the primary treatment modality in mental health settings (Pollard & Cook, 2012). The use of therapeutic groups to reach treatment goals has been adopted by various professions over the years which include psychology (van Knippenberg, et al., 2007), social work (Northen & Kurland, 2013), and occupational therapy (Cole, 2012).

The unique contribution of occupational therapy group work in mental health was highlighted in a position paper released by the Occupational Therapy Association of South Africa (OTASA) in 2014. The paper states that occupation is the primary focus

of practise in occupational therapy and affirms that “occupational therapists are experts in the use of occupation as both a means and an end in facilitating health and promoting participation in meaningful life roles” (Occupational Therapy Association of South Africa, 2014). The occupation-focused nature of occupational therapy groups distinguishes it from group interventions provided by other professions (Occupational Therapy Association of South Africa, 2014).

A specific occupational therapy group work approach, the Interactive Groupwork Model is widely used in South Africa in both public and private mental health settings. This model was developed in the 1980s by an occupational therapist, De Beer, in conjunction with a psychologist. Although the model is grounded in Yalom’s (1975) curative factors for group therapy, De Beer adapted the model to fit within the scope of occupational therapy. The model also adheres to the criteria stipulated in OTASA’s position paper regarding occupational therapy group work (Occupational Therapy Association of South Africa, 2014).

The Interactive Groupwork Model is taught on both undergraduate and post-graduate level at universities in South-Africa. Despite this, there is no published literature. Clinicians acquire information and training on this model through in-service training or by attending courses. (Davidson, 2018).

Fouche (2014) explained five core concepts underpinning the model. Firstly, mental illness is rooted in poor social relationships. Therefore, interactive experiences in the group can change social relationships and contribute to the healing process. Secondly, groups are a microcosm. This indicates that the group is a sample of the society and that behavioural patterns practised outside of the group will eventually manifest inside the group. Thirdly, direct communication is a key component and is facilitated by the therapist. This assists in addressing communication and interaction skills. It also prevents members from speaking to the therapist about other group members, rather than speaking to fellow group members directly. Fourthly, the focus should be on the here-and-now. Thereafter, members reflect on the here-and-now and give feedback on activities and interactions members participate in during the group session. Lastly, the therapist should lead from behind, emphasising the therapist’s role as that of a group facilitator and not the group leader as is commonly understood (Fouche, 2014).

The Interactive Groupwork Model is an occupation-based approach where an activity must be presented by the occupational therapist. Chosen activities are based on the needs of the group and is used to facilitate selected curative factors. A specific procedure is followed to facilitate connections and flow in the group, starting with an introduction and ending with a post-activity discussion and closure (Fouche, 2014).

A critical principle of the Interactive Groupwork model is the need for the therapist to lead from behind. Leading from behind along with the facilitation of the group process enables the therapist to align his or her assumptions with the clients' needs (Fouche, 2014). Client centred practice, as defined by Law et. al. (1995) is "an approach to providing occupational therapy which embraces a partnership with people receiving services" (p253). Facilitating the group process and allowing the group to take responsibility, instead of merely facilitating the pre-selected theme of the group, therefore allows members to express themselves and their needs more freely. The therapist should be aware of different needs expressed in the group and create opportunities for member's individual needs to be met within the group context. It could ,therefore, be concluded that the use of the Interactive Groupwork Model facilitates both a group process and an individual process simultaneously (Fouche, 2014).

Davidson (2018) conducted the first study on the use of the Interactive Groupwork Model in South Africa. Her study took place in the public health sector and included the perceptions of seven MHCUs on the use of the model during their admission to a mental health care unit. Themes that emerged from her study were linked to perceived benefits of interpersonal learning and coping with mental illness. Additionally, Davidson found that the Interactive Groupwork Model is a valuable change modality as self-learning is encouraged and MHCUs get the opportunity to address interpersonal components of recovery during the acute intervention phase (Davidson, 2018).

The research contributed towards practise-based evidence of service user perspectives on occupational therapy group work using the Interactive Groupwork Model. Little is known however, about change in MHCUs' activity participation following intervention using the model.

## 2.5. Outcome measurement in occupational therapy

### 2.5.1. Routine Outcome Measurement

Occupational therapists practising in the field of mental health have difficulty providing evidence for the interventions they offer. In many states of the United States of America, occupational therapists are not recognized as qualified mental health providers in the public health sector. This is mainly due to lack of documented evidence for interventions (Balinger, 2012; Swartzberg, et al., 2013)

The benefits of implementing Routine Outcome Measurement (ROM) in clinical practice has been recognised internationally as providing evidence for interventions in various fields of practice including the mental health. Routine Outcome Measurement or the regular measurement of clients' progress assists in justifying cost effectiveness and quality of treatment. It also plays a vital role in treatment planning, adjustment of services and clinical decision making (Colquhoun, et al., 2010; Coombs, et al., 2011).

When Routine Outcome Measurement forms part of clinical practice, trends become evident and can assist in identifying areas where clients are making poor progress (Casteleijn & Graham, 2012). By identifying and describing trends, an occupational therapist can track changes at different data collection points (Kumar, 2011). Detecting trends in activity participation provides information regarding the effectiveness of interventions. Through this, clinicians are able to make adjustments to interventions they offer to promote health and wellness. (Raghupathi & Raghupathi, 2014). It can therefore be concluded that implementation of Routine Outcome Measurement in clinical practice can bridge the gap in substantiating evidence for occupational therapy interventions within mental health.

### 2.5.2. Occupational Therapy outcome measures in mental health:

Outcome can be defined as the consequences of a treatment intervention (Babiss, 2002). Determining outcome is dependent on the use of valid and reliable measures to describe and track change as a result of treatment (Baum & Christiansen, 2005). Limited occupation-based outcome measures with sensitivity to change are available for assessment of inpatient outcomes in mental health (Swartzberg, et al., 2013).

Some of the occupation-based outcome measures used in mental health settings across the globe are briefly described below. These include the Model of Human Occupation Screening Tool (MOHOST), Assessment of Motor and Process Skills (AMPS), Australian Therapy Outcome Measure (AusTOMs), Canadian Occupational Performance Measure (COPM), and Activity Participation Outcome Measure (APOM).

The Model of Human Occupation Screening Tool (MOHOST) was developed from a conceptual model of practice, the Model of Human Occupation (MOHO), which is regarded as the most evidence-based occupational therapy model (Parkinson, et al., 2008). The tool was originally designed for use in mental health settings and although the name suggests that the instrument is a screening tool, it has been widely used as an outcome measure (Kramer, et al., 2009). The aim of the tool is to determine the extent to which client factors (values, personal causation, interests, habits, roles, and skills) and environmental factors (social and physical) restrict or facilitate an individual's participation in daily life.

The MOHOST consist of 24 items divided into six sections. The six sections are motivation for occupation (or volition), pattern of occupation (or habituation), communication and interaction skills, process skills, motor skills, and the environment. A four-point scale is used to rate each item and indicates whether the item facilitates, allows, inhibits, or restricts activity participation (Kramer, et al., 2009). In their study of the utility of the MOHOST for detecting client change, Kramer et. al. (2009) concluded that the MOHOST was sensitive enough to detect change in activity participation between admission and discharge. Challenges associated with administration of the MOHOST mainly included the time-consuming nature of the tool (Kirsh & Cockburn, 2009).

In South-Africa, the MOHO is well known by occupational therapists as a conceptual model and is used to guide practise. However, there is little information regarding implementation of the MOHOST within clinical mental health settings in South Africa (Casteleijn & Graham, 2012)

The Assessment of Motor and Process Skills is another instrument based on the MOHO as a conceptual base. It was developed in the 1980's following an increased demand for occupational therapy specific assessments and outcome measures

(Fisher & Jones, 2010). It consists of 16 motor Activities of Daily Living (ADL) items and 20 ADL process performance skills items. A four-point scale is used to score each ADL skill item (Fisher & Jones, 2010).

The tool has been criticised for its reductionist nature and for not including critical client factors for mental illness such as self-esteem, cognition, volition, and affect or mood (Hitch, 2007). Additional challenges reported by clinicians included time taken to complete the AMPS, trouble getting started, difficulty applying AMPS to clinical settings, and decreased adaptability in different contexts (Chard, 2000).The AMPS requires clients to perform activities of daily living within the context where it would naturally take place (Fisher & Jones, 2010). In the context of an inpatient setting however, MHCUs do not have the opportunity to perform these activities within their natural environments, thus posing a barrier to implementation within these settings. One example of such an activity is ironing multiple garments and putting garments away. This activity requires a tabletop ironing board and the use of an iron which is not necessarily a priority in treatment of MHCUs, especially during the acute phase where some are admitted to hospital. Another point of criticism is that not all MHCUs living in the community own an iron or a tabletop ironing board (Hitch, 2007). In some households in South Africa, ironing forms part of the job description of a domestic worker. Therefore, some of the activities that forms part of the AMPS might not be part of MHCUs' daily routine.

Although a number of South African occupational therapists have been trained to use the AMPS, it is rarely implemented in mental health settings (Casteleijn & Graham, 2012). Due to its reductionist nature and lack of crucial client factors, the AMPS is not suitable to conduct comprehensive assessments of activity participation in mental health (Hitch, 2007; Casteleijn & Graham, 2012).

The Australian Therapy Outcome Measure is a multidisciplinary outcome measure developed by Australian therapists as a response to continuous demands to provide outcomes for intervention. It is based on an outcome measure used in the UK, the Therapy Outcome Measure (TOM) (Perry, et al., 2004). The outcome measure was developed for use of three allied health professions, namely occupational therapy, speech pathology, and physiotherapy.

This outcome measure comprises of four domains of impairment which are rated within each section of the outcome measure (speech pathology, physiotherapy, and occupational therapy). The four domains are the underlying impairment, activity limitation, participation restriction, and distress/wellbeing. The occupational therapy section of the outcome measure consists of the following 12 scales: Learning and applying knowledge, Functional walking and mobility, Upper limb use, Carrying out daily life tasks and routines, Transfers, Using transport, Self-care, Domestic life – home, Domestic life – managing resources, Interpersonal interactions and relationships, Work, employment and education, Community life, recreation, leisure and play (Chen & Eng, 2015). The four domains of impairment are scored per occupational therapy scale with a six-point scale, with 0 being most severe and 5 being least severe. Half points are also awarded, creating an 11-point ordinal scale (Unsworth, et al., 2004).

Similar to the AMPS, the AusTOM lacks critical client factors for mental health and includes limited occupational performance areas. Three of the occupational therapy domains are irrelevant to the mental health context (Casteleijn & Graham, 2012). It can be concluded that the AusTOM is not an appropriate outcome measure for psychiatric settings.

The Canadian Occupational Performance Measure was developed in the early 1980's by the Canadian Occupational Therapists task force in consultation with the Canadian Department of Health (Law & Baum, 2001). This client centred outcome measure was developed from the Canadian Model of Occupational Performance and framework of client centred practice (Nieuwenhuizen, et al., 2014). The client, in conjunction with the occupational therapist, identifies the client's perceived difficulties in occupational performance areas of self-care, productivity, and leisure (including social participation).

The client is engaged in a semi-structured interview where problems with above mentioned occupational performance areas are identified and subjectively rated according to three categories on a 10-point scale. In the first category, the client rates the importance of being able to perform in a specific area. In the second category, the degree to which the client feels he or she performs at that time is rated. Lastly, the client's satisfaction with their current occupational performance is rated. After rating

the various categories, up to five problem areas are identified and used for goal setting (Law & Baum, 2001).

According to literature, the COPM has been studied extensively for use in different fields in occupational therapy (Law, et al., 2004). In their systematic review of the COPM, consisting of 64 studies, Parker and Sykes (2006) found that less than 10% of the studies were conducted in mental health settings. Of the 64 articles, only 5 (7.8%) were related to inpatient psychiatry. Good validity and reliability of the COPM were reported in the review, but information was primarily gathered from physical occupational therapy practice (Parker & Sykes, 2006). The imbalanced ratio between physical and psychiatric settings indicated by the systematic review, could be attributed to the subjective nature of the outcome measure. The client's competency to make realistic judgements regarding their performance might be compromised by mental illness, especially during the acute phase (Sadock, et al., 2015). Therefore, it is important to determine the client's level of insight with regards to psychosocial problems before using the COPM.

The client centred nature of the COPM encourages strong collaboration between the therapist and the client resulting in positive outcomes (Donnelly, et al., 2011). The COPM has been translated to 24 languages and is used in 35 countries. Despite its positive outcomes, it might not be appropriate to use the tool with lower functioning populations. South Africa is considered as a developing country. Therefore, it could be surmised that the majority of mental health care users will not be functioning on the competence level for implementation of the COPM. Additionally, critics asserted that the COPM is not culturally sensitive as too much autonomy is encouraged. Lastly, as with previous outcome measures discussed, the COPM has been identified as being time consuming (Kirsh & Cockburn, 2009).

## 2.6. The Activity Participation Outcome Measure (APOM)

The need for a context appropriate outcome measure in mental health led to the development of the Activity Participation Outcome Measure (APOM). The APOM is aligned with the Vona du Toit Model of Creative Ability (VdTMoCA), a model used by many South African occupational therapists to guide clinical reasoning and treatment planning in mental health (Du Toit, 1991; Casteleijn & Graham, 2012)

### 2.6.1. The Vona du Toit Model of Creative Ability levels of activity participation

As principle of the Pretoria College of Occupational therapy and head of clinical services in 1963, Du Toit identified various challenges related to occupational therapy within South Africa. This led to the development of the VdTMoCA. One of the challenges was that occupational therapy was perceived as lacking a scientific approach. Another challenge was associated with the lack of evidence of the effectiveness of occupational therapy intervention, a challenge that is experienced even today (Watson & Coetzee, 2019, pp. 29-34).

While developing the theory of creative ability, Du Toit's thinking was greatly influenced by philosophical ideas rooted in phenomenology and existentialism. Her most influential source was the Austrian philosopher, Martin Buber, known for his famous 1923 essay on existence, *Ich and Du* (I and thou) (Buber, 1937).

Buber viewed humans as relational beings and his philosophy of dialogue was a form of existentialism which included three relational modes in which humans exist (Scott, et al., 2009). Buber was concerned with the quality of these relationships and believed that a relationship shaped the individual who participated in it, not vice versa (Brink & Janakes, 1979). This belief strongly related to the use of Dewey's transactional theory discussed earlier, where the individualistic approach was replaced with seeing the human as part of and shaped by his world (Dickie, et al., 2006).

The VdTMoCA is concerned with man's relatedness to his world through participation in daily activities. Creative ability as defined by Du Toit and her colleagues is based on the three interrelated concepts of volition, motivation, and action. It is believed that volition and motivation govern action while action is a manifestation of volition and motivation. Du Toit asserted that volition, motivation, and action enable a person to respond creatively to the demands and activities of his world. This brings about something new to that person, through doing. The doing or action could result in something tangible which includes using objects and materials or intangible products that relate to knowledge within the self, interpersonal relationships and situations (Du Toit, 1974; Du Toit, 1991)

The level of motivation and action can be determined by the quality of the product. Due to the developmental nature of the VdTMoCA, volition, motivation, and

corresponding action develop in sequential stages known as the 'levels of creative ability'. The quality of the product as well as observations regarding the way in which man relates to his world are used to determine a person's level of creative ability (Du Toit, 1991).

There are nine consecutive levels starting with Tone and ending with Competitive contribution.

**Table 2.1: Levels of Creative Ability: Volition and action** (Van der Reyden & Sherwood, 2019, p. 62)

| Volition | Action |
|---|---|
| **Tone** | Purposeless unplanned action |
| **Self-differentiation** | Destructive action; Incidentally constructive action |
| **Self-presentation** | Constructive explorative action |
| **Passive Participation** | Norm awareness experimental action |
| **Imitative Participation** | Imitative norm compliant action |
| **Active Participation** | Norm transcendence, individualistic, and inventive action |
| **Competitive** | Competitive-centred participation |
| **Contribution** | Situation-centred participation |
| **Competitive Contribution** | Society-centred participation |

The nine levels apply to any person while the first five are usually applicable to a person with psychopathology, developmental delays, or physical difficulties during hospitalisation. It is believed that people with higher levels of motivation and action have the necessary skills to overcome life's challenges (Casteleijn, 2014). Therefore, they do not often form part of the population found in hospitals.

The higher the level of creative ability, the more a person can contribute to their community and society. It is important to note that not all people reach higher levels of

creative ability and the extent of growth through the levels is determined by ones creative capacity (Van der Reyden, 1989). The concept ‘creative capacity’ emerged as one of the constructs of the VdMoCA and was defined as the maximal creative potential an individual has, which could possibly develop under optimal circumstances (Du Toit, 1991). Van der Reyden & Sherwood (2019) defined creative capacity as “a person’s creative possibility, latent but unrealised creative ability” (Van der Reyden & Sherwood, 2019, p. 76) A person’s creative capacity is influenced by genetic and contextual factors that make up their world. These include intelligence, personality structure, the human body’s capacity to support participation in purposeful activities, personal experiences, environmental opportunities and support, or lack thereof (Du Toit, 1991).

Since little validity of the existence of the levels of creative ability is available, Casteleijn (2014) used three assessment instruments and outcome measures associated with the VdTMoCA to investigate whether the levels indeed exist. The levels of creative ability in all three instruments showed hierarchical ordering, confirming existence of the levels (Casteleijn, 2014).

### 2.6.2. Development of the Activity Participation Outcome Measure (APOM)

With its specific descriptions of the levels of creative ability, the VdTMoCA allows for tracking change in clients and is suitable to be transformed into a rating scale to measure outcomes (Casteleijn, 2010). The APOM was developed within a South African context by Casteleijn (2010) to bridge the outcome measure gap in mental health and provide a clinically tested user-friendly outcome measure for occupational therapists in mental health care settings. To ensure that the APOM would be clinically appropriate and client-centred, mental health care users and occupational therapists practising in mental health were included in the study design. They gave input regarding what they considered as important components to be measured (Casteleijn, 2010; Casteleijn & Graham, 2012)

Construct and content validity of the APOM was established and good inter-rater reliability was demonstrated. Reliability and validity of the APOM was confirmed on South-African populations (Casteleijn, 2010). Cronbach’s alpha index was used to determine internal consistency, indices between 0.7 and 0.9 indicate good internal

consistency of a scale. The alpha coefficients indicated high internal consistency for seven domains of the APOM. Life skills had an index of 0.998, the high index could possibly indicate that other items in the APOM are already measuring the same construct. It should however be noted that smaller sample sizes could provide larger reliability coefficients, which might have been the case in the development of the APOM (Casteleijn, 2010). The t-test for paired observations were used to determine whether the APOM's sensitive enough to detect changes as a result of intervention. Significant correlations were found across all the domains of the APOM with p-values below 0.0001 (Casteleijn, 2010)

Responsiveness and reliability for people suffering from psychiatric disorders (Carter, 2013; Brooke, 2015; Silaule, 2016; Pillay, 2016) and people with traumatic brain injuries (Camp, 2015) was established. The measure is sensitive enough to detect minor changes in activity participation and can be used to describe trends and track change in activity participation as a result of intervention (Casteleijn, 2010; Casteleijn, 2014).

The VdTMoCA has nine levels of motivation and corresponding actions. The APOM comprises of the first six levels and eight domains with 52 reprehensive items that emerged from Casteleijn's (2010) study. The domains are Process skills, Communication and Interaction skills, Life skills, Role performance, Balanced lifestyle, Motivation, Self-esteem, and Affect. APPENDIX A provides an example of one of the domains with its items and descriptors of each level.

Previous studies using the APOM recorded in South Africa focused on adolescents in a mental health setting (Wolhutor, 2014; Pillay, 2016), forensic MHCUs (Brooke, 2015), patients with traumatic brain injuries (Camp, 2015), and MHCUs in a rural context (Silaule, 2016). Another study was conducted in the UK that focused on MHCUs with various mental health conditions attending inpatient occupational therapy programmes (Carter, 2013).

Casteleijn's (2010) preliminary investigations regarding the psychometric properties of the APOM, along with results from above mentioned studies, yielded positive results. However, it is important to note that the APOM is a fairly new instrument which necessitates continuous research on a wide variety of diagnoses to contribute to the

evidence base of the APOM. This study could contribute to the evidence base of the APOM since no research has been done using the APOM to measure activity participation of MHCUs suffering from MDD in a private health setting in South Africa.

One of the components that Casteleijn (2010) identified as a limitation to her study, was that ecological validity was not examined. Tupper and Cicerone (1990) defined ecological validity as the relationship between the results obtained in controlled experimental conditions and natural conditions. It therefore provides information on how the test performance corresponds to real-world performance (Tupper & Cicerone, 1990).

Where outcome measurement in occupational therapy is concerned, ecological validity is an important component to consider since the core of the profession is to enhance independence in occupational performance in real-life situations (Crouch & Alers, 2014). Despite the importance of successfully integrating patients back to real-life situations, limited studies have been conducted by occupational therapists to show ecological validity. However, the few studies that were done, for example the Occupational Therapy Adult Perceptual Screening Test, showed good results (Cooke, et al., 2006).

Casteleijn (2010) posed that the number of items of the APOM might be considered as excessive by clinicians. Therefore, as with previous occupation-based outcome measures discussed, the APOM might be seen as time consuming. Since the APOM is based on the levels of creative ability, it has a constant underlying metric. Jette et. al. (2008) suggested the development of Adaptive Short Form instruments where all instruments have a common underlying metric. With a comprehensive item pool available (such as the domains and items of the APOM), clinicians could select relevant items for specific stages of recovery.

### 2.6.3. Measuring occupational therapy outcomes in major depressive disorder

There is limited literature on the effect of occupational therapy intervention on activity participation of MHCUs with MDD. An Australian study focused on the nature of activity participation and depression in childhood and adolescence (Desha & Ziviani, 2007). Another study conducted in England focused on activity participation of MHCUs with

various conditions attending inpatient occupational therapy group programmes (Carter, 2013). Although there's evidence of these studies in other countries none of these with a focus on MDD have been conducted in the South African context.

Ramano et. al. (2017) conducted a study on the comparison of two group programmes on the functioning of MHCUs with MDD in a South African context (Ramano, 2017). The results of the study were in favour of occupation based groupwork and therefore crucial for the evidence base of occupational therapy. However, outcome measures used in the study were limited in measuring critical occupational performance areas.

Outcome measures used by Ramano. et. al. (2017) was the PHQ-9 and Bay area Functional Performance Evaluation Revised (BaFPE-R). The PHQ-9 is a 9-question self-report symptom scale used to determine the presence and severity of depression (Lowe, et al., 2004). Symptomatic change is often regarded as the key response to treatment of mental illness (Burns, 2007). However, little is known about the compatibility of aspects tested by the PHQ-9 and activity participation.

The BaFPE-R is a standardised assessment tool used to assess occupational performance (Bloomer & Williams, 1987). Previous studies using the BaFPE-R as an assessment tool were documented in 1990 and 1993 (Klyczek & Mann, 1990; Managh & Cook, 1993; Mann & Huselid, 1993). The tool is effective in drawing conclusions regarding certain aspects of functional performance such as cognitive components and social behaviour (Bloomer & Williams, 1987). It presents a number of limitations when it is used as an outcome measure. Limitations in using the tool as an outcome measure could be a contributing factor to lack of evidence over the past 27 years.

It can be assumed that responsiveness to change may be a problem since the BaPFE-R does not account for occupational performance areas such as personal management, role performance, and coping with the demands of the environment (Crouch & Alers, 2014). Therefore, these aspects may be difficult to observe and score. Assessment of these occupational performance areas forms part of the occupational therapy process and findings are used to plan treatment (AOTA, 2014).

Another limitation in using the tool as an outcome measure is that certain critical client factors in mental health, such as self-esteem, are not effectively assessed by the tool. Reduced self-esteem forms part of acute symptoms of MDD (Sadock, et al., 2015).

Therefore, the tool as an outcome measure does not allow for holistic conclusions regarding MHCUs' activity participation. It can thus be concluded that future research regarding MHCUs with MDD attending groups in acute mental health facilities in South Africa should focus on a wider variety of occupational performance areas and include all client factors applicable to mental health.

## 2.7. Conclusion

Major depressive disorder result in reduced activity participation which in turn limits a person's ability to interact with and get feedback from his or her environment. This perpetuating cycle has a compounding effect on health and well-being.

The lack of context appropriate occupational therapy outcome measures in mental health contributes to difficulties occupational therapists experience in substantiating the effect of treatment. The APOM was developed to bridge the outcome measure gap in occupational therapy. Results from previous studies yielded positive findings in using the outcome measure in mental health settings. However, limited research with a specific focus on MDD has been conducted using the APOM.

In South Africa, most occupational therapists practicing in mental health settings make use of the Interactive Groupwork Model when treating MHCUs in groups. No research has been done on the impact of the Interactive Groupwork Model on MHCUs' activity participation.

# CHAPTER 3: RESEARCH METHODOLOGY

## 3.1. Introduction

In this chapter the research methodology used for the study is discussed. It reports the study design, sample size and selection, specific procedures followed to answer the research question, and explanations of the measurement tools used in the study. Finally, ethical considerations are explained.

## 3.2. Type of Study and General Design

This study made use of a quasi-experimental, longitudinal, pre-post group design. The pre-post design allowed the researcher to numerically quantify (Creswell, et al., 2011) changes in a construct such as activity participation of MHCUs with MDD from admission to discharge. The numerical data were used to describe change in activity participation and relationships between baseline and final scores. Quasi-experimental studies have a similar structure to experimental designs but lack some of the qualities, such as random allocation of subjects and control groups. In this study, each MHCU was their own control and changes were described without claiming a cause and effect relationship between variables. The one group pre/post-test design (Harris, et al., 2006) was used to measure activity participation before and after intervention. The study was descriptive in nature as it aimed to organise, summarise, and analyse changes in activity participation. The longitudinal nature of the study made routine collection of clinical data during admission possible. This design allowed the researcher to track changes in a real-life situation at the research site without controlling too many variables. The only variable that was controlled, was first time admission. Only persons who were admitted to the research site for the first time were included.

## 3.3. Research site

The research took place at a 170-bed private psychiatric facility in Gauteng. The population comprises of MHCUs with various psychiatric conditions. The majority of these are mood disorders, substance abuse disorders, personality disorders, and

anxiety disorders. Participation in the occupational therapy programme is voluntary and funded by medical aids or private funders. Mental health care users consult their psychiatrists and psychologists daily and attend the occupational therapy programme as prescribed by the occupational therapists. Psychiatrist appointments vary between 15 and 30 minutes, while psychologist appointments between 30 and 45 minutes. Occupational therapy groups range between 45 minutes and 1½ hours each. The programme at the facility mainly consist of occupational therapy groups. The occupational therapy programme is based on the principles of the Interactive Groupwork Model and Vona du Toit Model of Creative Ability. Psychologists only see MHCUs on an individual basis.

## 3.4. Sample Selection

Convenience sampling (a type of non-probabilistic sampling) was used for this study. With non-probabilistic sampling, the focus is on accessibility of MHCUs to the researcher instead of a randomised selection (Etikan, et al., 2016). A sample with a primary diagnosis of MDD was required to answer the research question. Only first-time admissions to the facility were included in the study. This inclusion criterion was added as an attempt to reach a homogenic sample. To achieve this goal, it was necessary to minimise the effect of duel diagnoses such as personality disorders and substance abuse disorders. The sample selected in this study was part of the case load of 23 psychiatrists with practice rights at the facility. Administration of baseline and final APOM assessments required MHCUs to receive intervention before changes were tracked. Therefore, the minimum length of stay for participants to form part of the study was six days.

**Table 3.1: Selection Criteria**

| | |
|---|---|
| Inclusion criteria: | MHCUs with a primary diagnosis of Major Depressive Disorder<br>First admission to the facility<br>MHCUs between the ages of 18 and 65<br>MHCUs who can give consent (as checked with psychiatrist) |
| Exclusion criteria: | Admission for less than six days |

*Sample size*

The researcher used the following formula to calculate sample size: σM = σ/ (Warner, 2012). Information from a previous study (Carter, 2013) was used to set standard error (0.295) and standard deviation (2.19) values. These values represented MHCUs with an ICD-10 code of F30-39 (mood disorders). Carter's study focused on routine outcome measurement (using the APOM) of MHCUs attending occupational therapy groups (Carter, 2013).

After inserting Carter's values, a total sample size of 56 participants was calculated. A non-response estimation of 10% was added to the sample size. Another 10% was added to account for confounding variables. Confounding variables such as psychotherapy or medication prescribed by psychiatrists, could have influenced APOM scores. Therefore, the final sample size calculated for this study was 69. (See APPENDIX B for a full description of sample size calculations.)

## 3.5. Variables

The dependent variables were activity participation as measured by the APOM and the severity of depression as perceived by the MHCUs measured by the PHQ-9. Independent variables included age, gender, length of stay, as well as number and type of occupational therapy groups attended. Confounding variables such as medication and psychotherapy received were considered during the interpretation and discussion of results.

## 3.6. Instruments used to collect data

### 3.6.1. Demographic information:

The researcher conducted an initial interview with each MHCU who fulfilled the inclusion criteria. This was done to collect information such as age, gender, type of employment, last date attending work, relationships at work, and home situation (see APPENDIX C).

### 3.6.2. The Activity Participation Outcome Measure:

The APOM is aligned with the Vona du Toit Model of Creative Ability (VdTMoCA), a model used by many South African occupational therapists to guide clinical reasoning and treatment planning in mental health (Casteleijn & Graham 2012). The occupational therapy programme at the research site applies the VdTMoCA in assessment and treatment.

The focus of the VdTMoCA is on participation in daily activities and comprises of two interlinked components, namely motivation and action. Motivation governs action and action is the manifestation of motivation. Action can be observed to determine an individual's level of motivation (Du Toit, 1991). There are nine levels of motivation and corresponding actions. The APOM comprises of the first six levels of motivation and action. Activity participation in the APOM is represented by eight domains: Process skills, Communication and Interaction skills, Life skills, Balanced lifestyle, Role performance, Self-esteem, Motivation and Affect (Casteleijn & Graham, 2012).

The construct that the APOM measures is activity participation. The APOM describes trends and changes in activity participation as a result of intervention (Casteleijn, 2014).

In total, the APOM has 53 items which form part of the 8 domains (Casteleijn, 2011). Each item has six descriptors where each descriptor represents a level of creative ability (See example of the item *habits* in Table 3.2). A therapist decides which descriptor best fits the MHCU and scores them accordingly.

**Table 3.2: An example of the domain *Balanced lifestyle* with the item *habits* and relating descriptors on each level of activity participation**

| **Balanced lifestyle** | **Level 1** Tone | **Level 2** Self-differentiation | **Level 3** Self-presentation | **Level 4** Passive participation | **Level 5** Imitative participation | **Level 6** Active participation |
|---|---|---|---|---|---|---|
| Habits | Is unaware of undesirable or good habits. | Inappropriate and destructive habits may be present e.g. begging, chain smoking, addiction to drugs, undesirable sexual activities. Is unaware of good habits. | Inappropriate habits still present but beginning to be aware of negative effects of destructive habits. Useful habits emerging e.g. attending OT programme or protected workshop. | Habits not well established and easily disrupted by illness. Finds it difficult to replace undesirable habits with good habits but realizes the importance of it. | Is aware of undesirable habits and able to change to good habits. | Avoids undesirable habits, assists others to change habits. Constantly striving for quality of life and will adapt habits to have a better lifestyle. |

After choosing the appropriate level for the item being assessed, a therapist needs to determine the phase within the level. Each level consists of three phases: therapist directed, patient directed, and transitional phase.

The different items within each domain is scored on a rating of 1-18(Casteleijn & Graham, 2012). The score represents both the level and the phase within the level. For example, numbers 1 to 3 represents the first level, Tone. A score of one represents the therapist directed phase, two represents the patient directed phase, and three represents the transitional phase of this level.

**Table 3.3: APOM scale**

| Level 1: Tone | | | Level 2: Self – differentiation | | | Level 3: Self – presentation | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Therapist directed | Patient directed | Transitional phase | Therapist directed | Patient directed | Transitional phase | Therapist directed | Patient directed | Transitional phase |
| Level 4: Passive participation | | | Level 5: Imitative participation | | | Level 6: Active participation | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Therapist directed | Patient directed | Transitional phase | Therapist directed | Patient directed | Transitional phase | Therapist directed | Patient directed | Transitional phase |

Only occupational therapists who are trained in the VdTMoCA, are eligible to use the APOM. Additionally, occupational therapists need to attend a one-day course before they can administer the APOM to clients.

The researcher used all the domains and items of the APOM to determine MHCUs' activity participation in this study. The item of childcare skills was however omitted for those users who did not have children to care for.

### 3.6.3. The Patient Health Questionnaire 9 (PHQ-9)

The primary care evaluation of mental disorders (PRIME-MD) was developed in the mid-1990s (Kroenke & Spitzer, 2002). This instrument aims to assist primary care clinicians to diagnose DSM-IV disorders commonly encountered in primary care. Five diagnostic groups form part of the instrument: mood disorders, anxiety disorders, substance abuse disorders, somatoform conditions, and eating disorders (Kroenke & Spitzer, 2002). Development of the Patient Health Questionnaire (PHQ) followed and is a self-administrated version of the PRIME-MD. The PHQ consist of three pages and is a multiple-choice self-report inventory to aid primary care clinicians in screening for and diagnosing mental health disorders. The PHQ has been validated in two large studies in the USA with a sample of 6000 patients in total (Kroenke & Spitzer, 2002).

One of the sections of the PHQ, the PHQ depression scale (also known as the PHQ-9) is a 9-question self-report instrument used to determine the presence and severity of depression (See APPENDIX D). The questions of the PHQ-9 are based on the diagnostic criteria for major depressive disorder (Kroenke & Spitzer, 2002). The diagnostic validity of the PHQ-9 was established in studies where eight primary care and seven obstetrical clinics were involved (Kroenke et al, 2001). PHQ-9 scores > 10 had a sensitivity of 88% and a specificity of 88% for Major Depressive Disorder. Internal consistency of the PHQ-9 was found to be high with Cronbach alphas of 0.86 and 0.89 in a study involving two different patient populations. The PHQ-9 is sensitive to treatment (Lowe, et al., 2004) and is a valid and reliable tool to identify depression in a South African context (Botha, 2011).

## 3.7. Research procedures

### 3.7.1. Data Collection overview

Data collection occurred over a period of 16 months. Baseline and discharge APOM assessments were conducted primarily by the researcher. Three discharge APOM assessments were conducted by her colleague.

The PHQ-9 is the standard tool used at the research site as part of their routine outcome measurement. It is the responsibility of nursing staff to ensure MHCUs complete a baseline PHQ-9 upon admission and a final PHQ-9 at discharge. The

researcher, with permission of the facility and participants of the study, had access to baseline and final PHQ-9s.

### 3.7.2. Selection of participants and initial APOM assessments

Mental health care uesrs who fit the inclusion criteria (Table 3.1) were invited to participate in the study. Three methods were used to identify suitable participants. A direct referral from a psychiatrist was the first method by which suitable MHCUs were identified. The second and third method required the researcher to identify new admissions from the daily admissions bed list. After new admissions had been identified, the researcher either confirmed diagnosis with the psychiatrist or used the patient file and medication to confirm diagnosis. The nursing staff and secretaries of psychiatrists assisted in identifying whether MHCUs had been re-admitted or whether it was a first admission to the facility.

Initial APOM assessments occurred within three days of admission, depending on the client's ability to give consent or the presence of acute symptoms. All MHCUs who participate in the occupational therapy programme, first attends an introduction session where the programme is explained. The introduction session is presented by one of the five occupational therapists working at the facility. At the end of the introduction session, the therapist facilitates an activity named 'draw yourself as a tree', to guide MHCUs to choose appropriate groups based on their current needs.

After informed consent had been obtained from participants, an individual baseline APOM assessment followed. Time taken to complete individual APOM assessments varied between 50 and 65 minutes per participant (excluding time used for scoring). In some cases, baseline APOM assessments occurred before clients attended the orientation group, but the majority of assessments occurred once a participant had attended the orientation group. Assessments took place at the occupational therapy department or in consultation rooms within the wards, depending on availability.

Each participant received a research ID to protect their privacy. Scoring was done on a hard copy of the different domains (see APPENDIX E). Time taken to complete scoring was approximately 15 minutes per participant. Demographic information was kept separate from scoring sheets and assessment forms to protect the identity of participants. The total number and type of groups attended by each participant during

admission as well as each participant's length of stay was also recorded. After completion of all the assessments, the information was captured on a Microsoft Excel version of the APOM.

In order to determine the participants' level of activity participation, the following activities, as depicted in Table 3.4, were used. The activities occurred in the order they are listed in Table 3.4.

**Table 3.4. Activities used to assess participants' level of activity participation:**

| **Activities used to assess level of Creative Ability:** | **Administered by:** |
|---|---|
| 1. PHQ-9 questionnaire | Nursing staff |
| 2. Draw yourself as a tree activity**<br>This is a standard activity used by the occupational therapy practice when new MHCUs are orientated to the programme. | Occupational therapists working at the hospital (five therapists in total) |
| 3. Baseline APOM assessments: | The researcher |
| 3.1. Initial interview and collection of demographic information | |
| 3.2. Pie chart of daily routine (APPENDIX F) | |
| 3.3. Making an envelope by following written instructions with pictures. | |
| 3.4. Decorating the envelope in a way that represents the MHCU.<br>This could be abstract (e.g. character/personality), or more concrete (e.g. likes/dislikes). Different media were offered to choose from (paint, stickers, pieces of material, stencils etc.). | |

** During the APOM assessment, participants gave feedback to the researcher on the draw yourself as a tree activity that was completed during the introduction session and the information was used to aid with the scoring of initial APOM assessments.

### 3.7.3. Intervention:

Participants received standard occupational therapy intervention as provided by the facility. Mental health care users participate in the groups of their choice and the number of daily sessions available depends on the medical aid. An average of three sessions are allowed each day. The four categories MHCUs can choose from are: stress management groups, craft activities, interpersonal groups, and psycho-educational groups. Within the different group categories, both open and closed groups are presented. The theme of a group determines whether it is an open or closed group. Mental health care users must join the first group of the series to form part of the group for the rest of the week. In group work literature a closed group is defined as a group where all the members will start and complete the therapeutic process together and at the same time (Mackenzie, 1996). On the other hand, Mackenzie (1996) defined an open group as “a group in which some members can join or leave the group provided they reach the pursued objectives or according to their progression inside the group.”

Five occupational therapists present group sessions at the research site. For the first eight months of data collection, the researcher worked at the occupational therapy department as part of the team that facilitated group sessions. The researcher, with consent from the participants, received frequent feedback regarding MHCUs’ activity participation from the treating therapists. This assisted in scoring components of the APOM related to social participation.

To prevent bias, the researcher was involved in a minimum of treatment and since 12 Dec 2018 the researcher was not involved in treatment at all.

### 3.7.4. Final APOM assessments:

Final APOM assessments were administered one or two days before discharge. Participants reflected on personal growth, group participation, and discharge plans. The draw-yourself-as-tree activity, which was used in the initial assessment, was repeated to conclude which areas they felt improved the most during their admission. Similar to the envelope in the initial assessment, participants had to follow instructions to fold a box to aid in the scoring of process skills, motivation, and self-esteem domains. The decorated envelope as created during the initial assessment was shown

to participants to add any attributes or qualities they discovered or rediscovered about themselves during admission.

Above mentioned assessment activities along with feedback from therapists regarding participants' activity participation in group sessions, were used to complete final APOM scoring sheets. Feedback, in the form of a spider graph, was discussed with participants before discharge (see Appendix G).

## 3.8. Ensuring rigor in the study

A pilot study was performed before data collection commenced. This was done in order to determine if the suggested activities were suitable for assessment of the eight domains of activity participation. The pilot study also provided information regarding the duration of each assessment and the feasibility thereof. The researcher's supervisor, who developed the APOM, observed one of the pilot study sessions to ensure consistency and accuracy in the researcher's ability to score the domains of the APOM. The researcher attended the required one-day course in 2016 to qualify as an APOM administrator.

Once baseline assessments had been conducted, information was filed away and analysed at the end of the study to ensure blinding. In cases where spider graphs were discussed with participants, the researcher only completed the spider graph after completion of both baseline and final APOM assessments. These measures were incorporated to ensure the researcher was not be influenced by previous scores when completing final APOM scoring sheets. The researcher conducted all the baseline APOM assessments and only three of the final APOM assessments were conducted by another therapist. This supported consistency in scoring.

Selection bias occurs when researchers strategically select participants with a better prognosis or level of functioning to manipulate results (Pannucci & Wilkins, 2010). The use of the inclusion and exclusion criteria as described under 3.4. contributed to the prevention of selection bias.

## 3.9. Data analysis:

Quantitative research requires capturing of data on a single sheet. A Microsoft Excel spread sheet was created to capture all relevant data. STATISTICA software was used to analyse the data. Demographic data and the scores on the APOM assessments were analysed by using descriptive statistics. Strictly speaking, medians should be used when one deals with ordinal data such as the scores of the APOM. However, Casteleijn (2014) showed that the categories in the APOM (scores 1 to 18), resembles interval data through Rasch analysis. For this reason, means were used in the descriptive analysis.

***Objective 1:*** *To describe and track changes in the level of different domains of activity participation of MHCUs with MDD before and after participating in the occupational therapy groups.*

The effect size of the participants' activity participation was calculated to establish the direction and magnitude of change after intervention (McGough & Faraone, 2009). Effect size is the standardised difference between two means (in this study the baseline and final APOM) to determine the magnitude of the treatment effect. Different formulae are available to calculate effect size. In this study, the standardised response mean (SRM) was used to calculate effect size. The SRM is computed by dividing the mean score change (final APOM – baseline APOM) by the standard deviation of the changed scores (Middel & Van Sonderen, 2002). The categories used to interpret Cohen's d effect size, was used to determine the magnitude of the treatment effect. With Cohen's d, an effect size of 0.2 is considered small, 0.5 is considered medium, and an effect size greater than 0.8 is considered large (Cohen, 1988). The Wilcoxon test for non-parametric data is equivalent to the paired groups t-test. This was used to determine if there was a statistical difference between baseline and final APOM scores (Riolo, 1992) since the scores are an ordinal scale of measurement.

The null hypothesis for this objective was formulated as: There is no significant positive change in activity participation scores for each domain of the APOM between admission and discharge. The p-value as indicated by the Wilcoxon test had to be below 0.5 to reject the hypothesis.

***Objective 2:*** *To describe the relationship between activity participation and the independent variables of age, gender, number of groups attended, and length of stay.*

Since the data were unequally distributed, methods to interpret non-parametric statistics were used (Riolo, 1992). Spearman's rank order correlations were used to identify relationships between dependent (activity participation) and independent variables (number and type of groups attended, length of stay, age, and gender). Correlations were significant when the p-value was less than 0.05 while the strength of the correlations were interpreted as follow (Riolo, 1992; Kielhofner, 2006):

0 - 0.20 = negligible correlation

0.20 - 0.40 = low correlation

0.40 – 0.60 = moderate correlation

0.60 – 0.80 = high correlation

0.80 – 1.00 = very high correlation

Relationships between dependent and independent variables do not necessarily imply a cause and effect relationship. The researcher kept this in mind where positive or negative correlations were discussed.

The null hypothesis for this objective was formulated as: No relationship exists between the independent variables of age, gender, length of stay as well as the number and type of occupational therapy groups attended and activity participation. Statistically significant correlations ($p<0.5$) with a strength of greater than 0.4 would reject this hypothesis.

***Objective 3:*** *To determine if a correlation exists between domains of activity participation and presence and severity of depression as perceived by MHCUs with MDD.*

The Spearman's rho test was used to identify whether a correlation between activity participation and the severity of depression symptoms as perceived by MHCUs exists (Riolo, 1992).

The null hypothesis for this objective was: There is no relationship between perceived

depression of MHCUs and activity participation. Spearman's rho values of greater than 0.4 (strength of correlation) which are statistically significant ($p<0.5$) would reject this hypothesis.

## 3.10. Ethical considerations

The Human Ethics Research Committee at the University of the Witwatersrand granted ethical clearance for this study (Ethical clearance number: M170913). Data collection commenced only after ethical clearance had been obtained (APPENDIX H). The CEO of the research site (a specialist psychiatric facility in Gauteng) and the director of the occupational therapy practice at the facility consented to conduct the study at the facility (APPENDIX I & J). Psychiatrists whose patients were included in the study were informed about the study in advance (APPENDIX K).

Selected participants were invited to participate in the study and received information sheets regarding the purpose of the study. Once MHCUs agreed to participate, they signed informed consent forms (APPENDIX L). The researcher explained that refusal to participate would have no effect on their treatment. Participants also had the right to withdraw from the study at any time without consequence. Confidentiality was attained by using a coding-system for names and all identifying information was kept separate in a secure locked location. Only the researcher had access to personal information. The computer that was used to capture data is password protected and only the researcher and supervisors had access to data sheets. Spider graphs that compare baseline and final APOM scores were made available to psychiatrists and participants. Results of the study are available to participants on request.

# CHAPTER 4: RESULTS

## 4.1. Introduction

The aims and objectives of this study were to investigate the relationship between dependent and independent variables. The aim of the study was to track change in activity participation and to investigate the correlations or associations between dependent and independent variables. The dependent variables were activity participation and perceived depression while the independent variables include diagnosis, length of stay, as well as number and type of groups attended. This chapter presents the results from statistical analysis of the raw data. Demographic information is presented through descriptive statistics. Results in this chapter are outlined per objective and are presented through descriptive and non-parametric inferential statistics.

## 4.2. The sample

The sample size of this study was 70 participants with a primary diagnosis of MDD admitted to a private psychiatric clinic in Gauteng. An overall number of 75 participants were evaluated using the APOM. Five of the participants did not meet the selection criteria and were excluded from the study. A total number of 70 baseline APOM assessments were conducted while the total number of final assessments came to 61. Nine participants were discharged before a final APOM assessment could be performed. The required sample size was 69 and 70 participants were included at baseline. The final sample of 61 was deemed sufficient and the missing nine participants in the final assessment were treated as loss to follow-up.

With the sample size calculation, a non-response estimation of 10% was added to account for loss to follow up but the loss to follow up for the study came to 12.9%.It should however be noted that three sample size calculations were considered for this study and the researcher was conservative in the selection of the sample size calculation that was used (See APPENDIX B for sample size calculations). Conservative selection of sample size could therefore account for the additional 2.9% loss of follow up and will therefore not affect the overall outcome.

## 4.3. Demographics of the sample

**Table 4.1: Demographic information of the Sample (n=70)**

| Variables | Category | Male (n=20) | Female (n=50) | Number of participants (n=70) | % | Mean | SD* |
|---|---|---|---|---|---|---|---|
| **Age in years** | | | | | | | |
| **18 – 29** | 1 | 9 | 15 | 24 | 34.29 | 35.6 | 11.46 |
| **30 – 39** | 2 | 4 | 16 | 20 | 28.57 | | |
| **40 – 49** | 3 | 4 | 11 | 15 | 21.43 | | |
| **50 – 59** | 4 | 3 | 7 | 10 | 14.29 | | |
| **60 – 65** | 5 | 0 | 1 | 1 | 1.43 | | |
| **Race** | | | | | | | |
| **Black** | 1 | 2 | 12 | 14 | 20 | | |
| **White** | 2 | 18 | 36 | 54 | 77.14 | | |
| **Mixed race** | 3 | 0 | 2 | 2 | 2.86 | | |
| **Diagnoses** | | | | | | | |
| **Primary diagnosis of Major Depressive Disorder (MDD)** | | 20 | 50 | 70 | 100 | | |
| ***Secondary diagnoses:*** | | | | | | | |
| **Obsessive compulsive disorder (OCD)** | 1 | 1 | 6 | 7 | 10 | | |
| **ADHD/ADD** | 2 | 1 | 3 | 4 | 5.74 | | |
| **Substance Abuse** | 3 | 2 | 3 | 5 | 7.14 | | |

Data collection occurred over two periods. The first was between April 2018 to December 2018 and the second period was between August 2019 and October 2019. Quantitative data were collected over a total period of 10 months.

Demographic information regarding age showed that most participants (34.29%) were between the ages of 18 and 29 years. The second largest group (28.57%) comprised

of category two, which ranged from 30 to 39 years. Participants in category three (40 to 49 years) made up 21.43% of the sample. Category five was under-represented with only one person (1.43%) over 60 years.

The predominant population admitted at the research site were white Afrikaans speaking people. The demographics of the study associated with race is reflective of the population.

The primary diagnosis of MDD for the 70 participants was confirmed by their psychiatrists. Limited information about comorbid conditions was available. Information related to comorbid conditions listed in Table 4.1 were provided by the participants' psychiatrists.

The baseline sample comprised of 20 males (28.57% of the sample) while the total number of female participants was 50 (71.43% of the sample). It is evident that the number of female participants far exceeded those of male participants. The difference in male and female APOM scores as well as the SRM for male and female participants are indicated in Table. 4.2. Effect sizes of each domain of the APOM for males and females are indicated in Figure 4.1.

**Table 4.2: Baseline and final APOM scores, and standardised response means (SRM) of male and female participants.**

| | Baseline APOM score (n=70) | | Final APOM score (n=61) | | SRM (n=61) | |
|---|---|---|---|---|---|---|
| | Male | Female | Male | Female | Male | Female |
| Process skills | 10.83 | 10.75 | 12.89 | 12.57 | 2.072 | 1.675 |
| Communication and Interaction skills | 10.91 | 10.74 | 12.66 | 12.55 | 1.779 | 1.328 |
| Life skills | 10.26 | 9.98 | 11.97 | 11.94 | 1.901 | 1.893 |
| Role performance | 9.83 | 9.48 | 11.14 | 11.24 | 1.416 | 1.378 |
| Balanced lifestyle | 9.07 | 8.75 | 11.26 | 11.51 | 2.099 | 1.684 |
| Motivation | 9.75 | 9.54 | 11.41 | 11.44 | 1.763 | 1.619 |
| Self-esteem | 9.93 | 9.61 | 11.68 | 11.56 | 1.563 | 1.619 |
| Affect | 9.22 | 8.84 | 11.42 | 11.22 | 2.327 | 1.619 |
| Average | 9.94 | 9.71 | 11.81 | 11.76 | 2.047 | 1.852 |

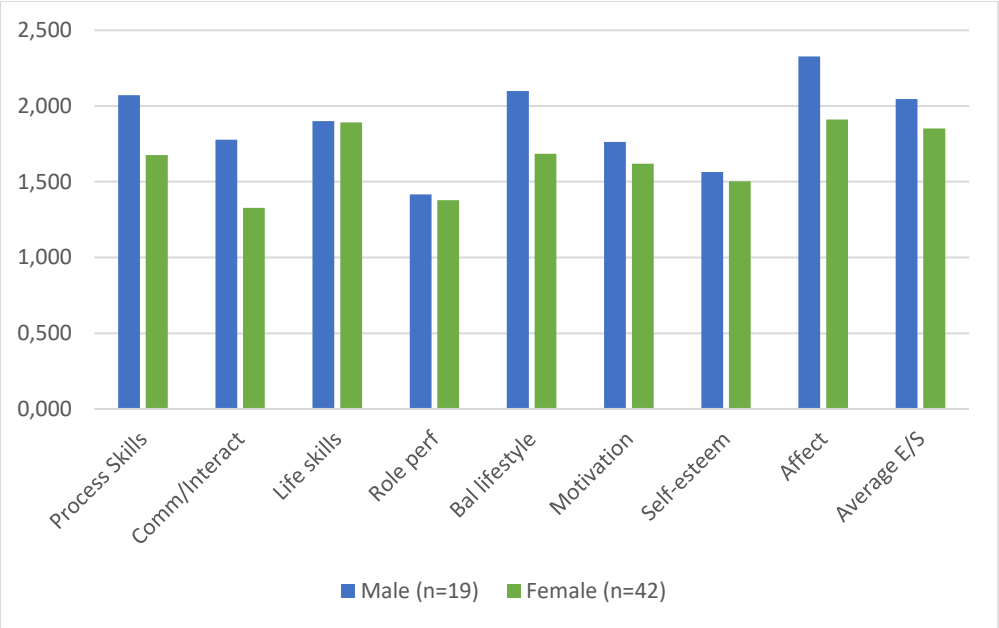



**Figure 4.1. Effect size per domain for male and female participants (n=61).**

Results associated with effect sizes per domain for males and females, indicated that improvement in activity participation (as measured by the APOM) was larger for the male group in comparison to the female group across all the domains of the APOM. However, the difference between males and females was not statistically significant as indicated by a p-value of 0.303 (p>0.05). It could therefore be concluded that the difference in APOM scores between males and females happened by chance but nevertheless, the comparison is still interesting and may have clinical significance.

**Table 4.3: Additional independent variables of the sample (n=70)**

| Variables | Category | Number of participants (n=70) | % | Mean | SD* |
|---|---|---|---|---|---|
| **Length of stay (in days)** | | | | | |
| **0 – 5** | 1 | 3 | 4.29 | 12.44 | 4.87 |
| **6 – 10** | 2 | 24 | 34.29 | | |
| **11 – 15** | 3 | 21 | 30 | | |
| **16 – 20** | 4 | 18 | 25.71 | | |
| **21 – 25** | 5 | 4 | 5.71 | | |
| **Level of Education** | | | | | |
| **Primary school** | 1 | 1 | 1.43 | | |
| **High school** | 2 | 25 | 35.71 | | |
| **Post-matric** | 3 | 18 | 25.71 | | |
| **Degree** | 4 | 26 | 37.14 | | |
| **Employment status** | | | | | |
| **Employed full time** | 1 | 46 | 65.71 | | |
| **Employed part time** | 2 | 4 | 5.71 | | |
| **Student** | 3 | 12 | 17.14 | | |
| **Learner (Gr 12)** | 4 | 2 | 2.86 | | |
| **Other**** | 5 | 6 | 8.57 | | |

*Standard deviations for continuous data are included in the table.

**Other includes volunteer workers, homemakers and participants who are unemployed.

The demographic data for length of stay (LOS) indicated that most participants (34.29%) were in Category 2, with admission ranging between 6 and 10 days. A standard deviation of 4.86 days was detected, indicating that the majority of the sample fell within Categories 2, 3, and 4. Category 3 (11 to 15 days) represented 30% of the sample while Category 4 (ranging between 16 and 20 days) added up to 25.71%. The two outliers in terms of length of stay were Category 1 (zero to five days) with 4.29% and Category 5 (21 to 25 days) with 5.71%.

The standard minimum benefits of most medical aids allow 21 days admission at a psychiatric facility. Therefore, it was expected that a smaller portion of the sample fell within Category 5. Three participants in Category 5 utilised the full period of 21 days and one person was admitted for 24 days with an extended ex gratia benefit. Early discharge of three participants were found in Category 1. The main reasons for discharge included physical conditions and self-discharge.

With regards to level of education, 37.14% of participants were in Category 4, indicating that most participants had a degree. Of the sample, 35.71% merely completed matric or were above 18 years but still in the process of completing matric. Category 3 represents post-matric qualifications and comprised of 25.71% of the sample. One participant (1.43% of the sample) was in Category 1 and the participant's highest level of education was grade five. Considering the general socio-economic status and associated level of education of the region where the research site is located, along with the ability of the population to afford medical aid membership, it was expected that the majority of participants would have had matric or post-matric qualifications.

The employment status of the sample indicates that 65.71% of participants were employed on a full-time basis, forming the largest group of the sample. This is followed by Category 3 (17.14%) which represents students (any students enrolled with post-matric qualifications or degrees for example medicine, education, or engineering). Part time employment comprised of 5.71% of the sample while Category 5 (other) added up to 8.57%. Category 5 included homemakers, participants who were unemployed, or volunteer workers. Grade 12 learners made up the smallest portion of the sample with 2.86%.

**Table 4.4. Number of groups attended by each participant**

| Number of groups attended | Number of participants (n=70) | % |
|---|---|---|
| **Low: 0 – 5** | 19 | 27.14 |
| **Medium: 6 – 15** | 35 | 50 |
| **High: 16 – 30** | 16 | 22.86 |

Participation in occupational therapy groups at the research site is voluntary. MHCUs, with the help of an occupational therapist, choose from various groups to customise their programme during admission. Most participants (50%) attended six to fifteen groups during their admission at the research site (see Table 4.4).

**Table 4.5: Types of groups attended**

| Type of group | Number of participants N = 70 | Number of groups attended | % of total number of groups attended |
|---|---|---|---|
| **Stress management groups** ***(Open groups consisting of tension release exercises, relaxation therapy and interpersonal stress management groups).*** | 54 | 198 | 27.46 |
| **Interpersonal group therapy** ***(Open and closed groups)*** | 56 | 309 | 42.86 |
| **Craft groups** ***(Two open groups and one closed group. Included three different mediums)*** | 32 | 171 | 23.72 |
| **Diagnosis specific psycho-educational groups** ***(Referral from psychiatrist required)*** | 27 | 43 | 5.96 |
| **Total number of groups attended** | | 721 | 100 |

Table 4.5. indicates the different group categories that MHCUs could choose from. It further highlights the number of participants per category. Lastly, the total number of groups attended within each category is reported.

In terms of group participation, a total number of 721 groups were attended by participants. Interpersonal group therapy represented 42.86% of the total number of groups and 56 participants participated in this category. In this category various topics are covered which range from interpersonal relationships and boundaries, to addiction and self-esteem. The majority of groups within this category were closed groups. In a closed group (for example the boundaries group) the same group members attend the group for three to four days. With the boundaries group series, various components regarding interpersonal boundaries are explored within the group context. Boundary components include the importance of healthy boundaries within relationships, the different types of boundaries, how to set boundaries, and its relation to self-esteem. Open groups in this category cover topics such as conflict management and assertiveness. In an open group, group members vary from day to day as members leave and join the group throughout the course of the week.

Stress management groups added up to 27.46% and 54 participants attended these groups. Groups in this category are classified as open groups and include relaxation therapy, tension release exercises, and interactive stress management groups. Craft groups made up 23.72% of the total number of groups and 32 participants attended craft groups. Mosaic and painting on various mediums form part of the craft category. In this category there is one closed group (mosaic) while the others are open.

For MHCUs to attend psycho-educational groups, a referral from their treating psychiatrist is required. These groups cover various psychiatric diagnoses From the total number of groups, 5.96% were psycho-educational groups and 27 participants attended groups in this category.

**Table 4.6: Total number of open and closed groups attended**

| Open and closed groups | Number of groups attended by participants | % |
|---|---|---|
| **Total number of open groups (excluding psycho-educational groups)** | 433 | 63.86 |
| **Total number of closed groups** | 245 | 36.14 |
| **Total number of open and closed groups** | 678 | 100 |

In Table 4.6. the total number of open and closed groups from all the group categories are indicated. Psycho-educational groups are not included in this table as this group does not follow the standard occupational therapy group process. From the total number of groups attended, 63.86% were open groups while 36.14% were closed groups.

It is important to note that group attendance for this sample is reflective of the specific diagnosis of MDD and participants of this research but not necessarily the general population at the hospital.

## 4.4. Results per objective

### 4.4.1. Objective one

Objective one was to describe and track changes in the level of activity participation from baseline to discharge. During admission, the number of sessions participants had with their psychologists and psychiatrists were similar, while the number of occupational therapy groups attended, varied.

In Figure 4.2 the improvement in activity participation for all the domains from baseline to discharge are indicated. It is important to note that baseline APOM assessments were done for all participants (70) while only 61 final APOM assessments were conducted. Nine participants were discharged before follow-up APOM assessments were performed. Reasons for this include physical conditions, early discharge, and self-discharge.

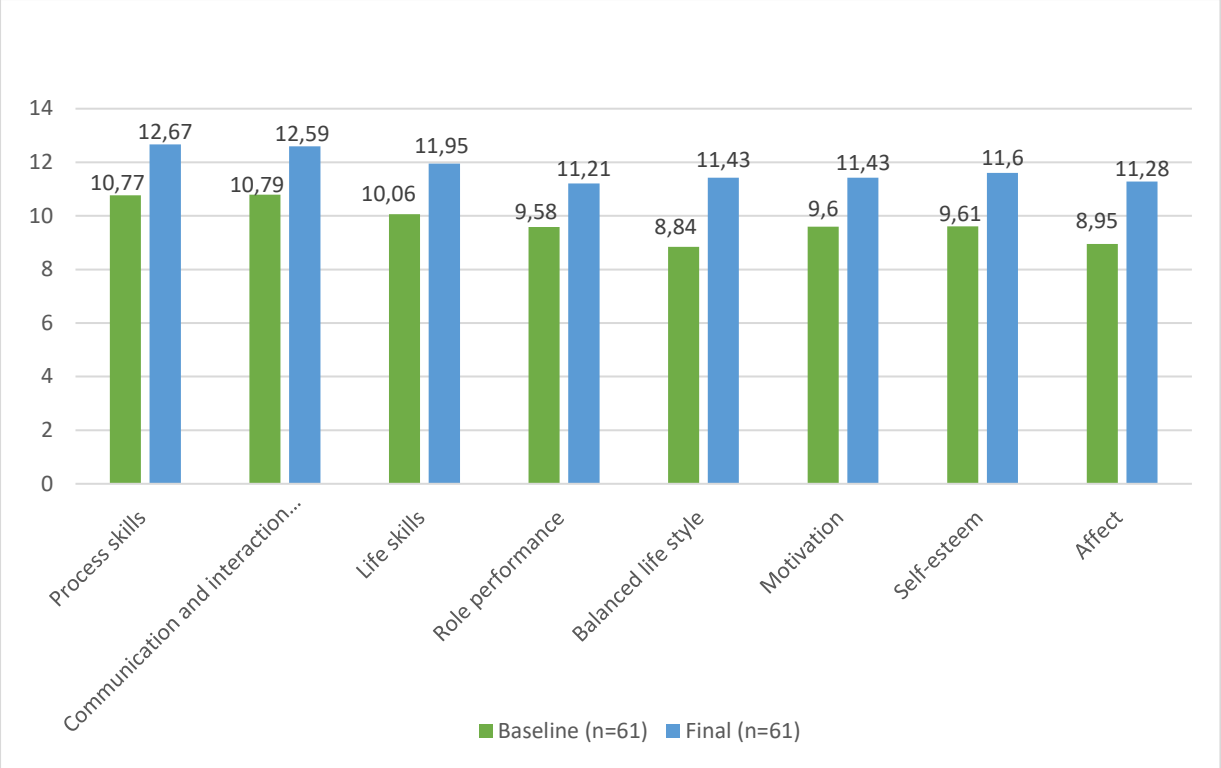



**Figure 4.2. Bar graph of baseline and final APOM mean scores (n=61)**

Across all domains, an improvement in activity participation from baseline to discharge is indicated by Figure 4.2. Mean baseline scores across all the domains were between 8.84 and 10.79. According to the VdTMoCA, these scores represent self-presentation transitional phase and passive participation patient directed phase. The transition phase of self-presentation is characterised by explorative actions with a limited awareness of norms. Passive participation is characterised by experimental actions and although increased norm awareness is evident, the ability to adhere to norms is still poor during this phase (De Witt, 2014). Mean final APOM scores across all domains varied between 11.28 and 12.67. These scores represent the patient directed and transitional phase of passive participation respectively.

Balanced lifestyle was observed to have the greatest improvement from baseline to discharge, followed by the Affect domain. The domain with the smallest change from baseline to discharge was Role performance.

**Table 4.7. Effect sizes per APOM domain calculated by standardised response mean (SRM) (n=61)**

| Domain | Mean difference (final APOM score – baseline APOM score) | ÷ | Std deviation of changed scores (final – baseline) | = | Effect size (SRM) |
|---|---|---|---|---|---|
| **Process skills** | 1.89 | | 1.05 | | 1.8 |
| **Communication and interaction skills** | 1.77 | | 1.2 | | 1.475 |
| **Life skills** | 1.87 | | 0.97 | | 1.928 |
| **Role performance** | 1.59 | | 1.13 | | 1.407 |
| **Balanced lifestyle** | 2.51 | | 1.39 | | 1.806 |
| **Motivation** | 1.77 | | 1.05 | | 1.686 |
| **Self-esteem** | 1.94 | | 1.27 | | 1.528 |
| **Affect** | 2.28 | | 1.12 | | 2.036 |
| **Total of all domains** | 1.71 | | 1.15 | | 1.487 |

**Table 4.8. Statistical significance of the difference between baseline APOM scores and final APOM scores.**

| Domain | N | Effect size (SRM) | Wilcoxon matched pairs tests P |
|---|---|---|---|
| **Process skills** | 60 | 1.8 | 0.000 |
| **Communication and interaction skills** | 58 | 1.475 | 0.000 |
| **Life skills** | 61 | 1.928 | 0.000 |
| **Role performance** | 61 | 1.407 | 0.000 |
| **Balanced lifestyle** | 61 | 1.806 | 0.000 |
| **Motivation** | 60 | 1.686 | 0.000 |
| **Self-esteem** | 61 | 1.528 | 0.000 |
| **Affect** | 60 | 2.036 | 0.000 |
| **Total of all domains** | 61 | 1.487 | 0.000000 |

**Marked tests are significant at p <.05000**

The Wilcoxon matched pairs test revealed that the changes in activity participation scores from baseline to discharge were highly significant with p = 0.00 for all the domains of the APOM. The null hypothesis was thus rejected, showing that there was a positive change in APOM scores for all the domains. The SRM across all domains were greater than 0.8, suggesting a large treatment effect. Implications of this effect size are discussed in the next chapter.

### 4.4.2. Objective two

Objective two aimed to explore the relationship between the independent variables (such as age, sex, length of stay, as well as number and types of groups attended) and the dependent variable of activity participation. In Table 4.9, correlations marked in red represents a p-value below 0.05, thus indicating a statistically significant correlation.

**Table 4.9. Correlations between the change in APOM scores and total number of groups attended and length of stay (n=61)**

| | **Spearman Rank Order Correlations (Raw data in Data sheet 6 Nov 2019 Statistica)<br>MD pairwise deleted<br>Marked correlations are significant at p <.05000** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Dependent variables** | | | | | | | |
| **Independent variables** | Process skills (Fin – BL) | Communication and interaction skills (Fin – BL) | Life skills (Fin – BL) | Role performance (Fin – BL) | Balanced lifestyle (Fin – BL) | Motivation (Fin – BL) | Self – esteem (Fin – BL) | Affect (Fin – BL) |
| **Length of stay** | 0.29 | 0.09 | 0.15 | 0.25 | 0.17 | 0.2 | 0.11 | 0.03 |
| **Total number of groups attended** | 0,42 | 0.44 | 0.44 | 0.48 | 0.47 | 0.47 | 0.45 | 0.39 |

Non-significant, negligible correlations ($r_s$ =0 – 0.2) were found between length of stay and six domains of the APOM. These were: Communication and Interaction skills, Life skills, Balanced lifestyle, Motivation, Self-esteem, and Affect. Two APOM domains, namely Process skills and Role performance, indicated statistically

significant, low correlations ($r_s$ =0.2 – 0.4). When correlated with length of stay, these correlations were 0.29 and 0.25 respectively.

Correlations between total number of groups and APOM scores were higher than those of length of stay. They were statistically significant across all the domains of the APOM, with an overall moderate correlation ($r_s$ =0.4 – 0.6). The Role performance domain showed the highest correlation (0.48) with total number of groups followed by Motivation (0.47) and Balanced lifestyle (0.47). The lowest correlation was indicated by the Affect domain (0.39).

In Figures 4.3 and 4.4, the differences in Spearman's rank order correlations are indicated between change in APOM scores and total number of groups attended, as well as between change in APOM scores and length of stay, respectively.

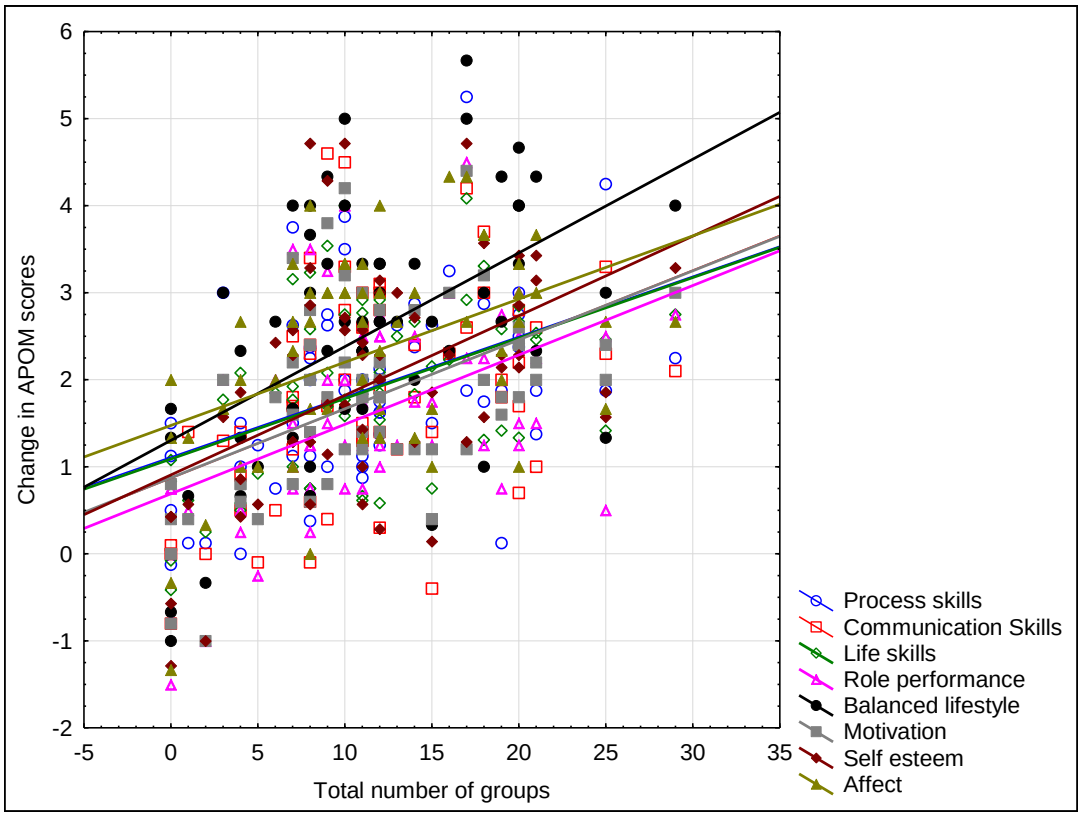



**Figure 4.3. Spearman Rank Order Correlation between APOM domains and total number of groups attended (n=61).**

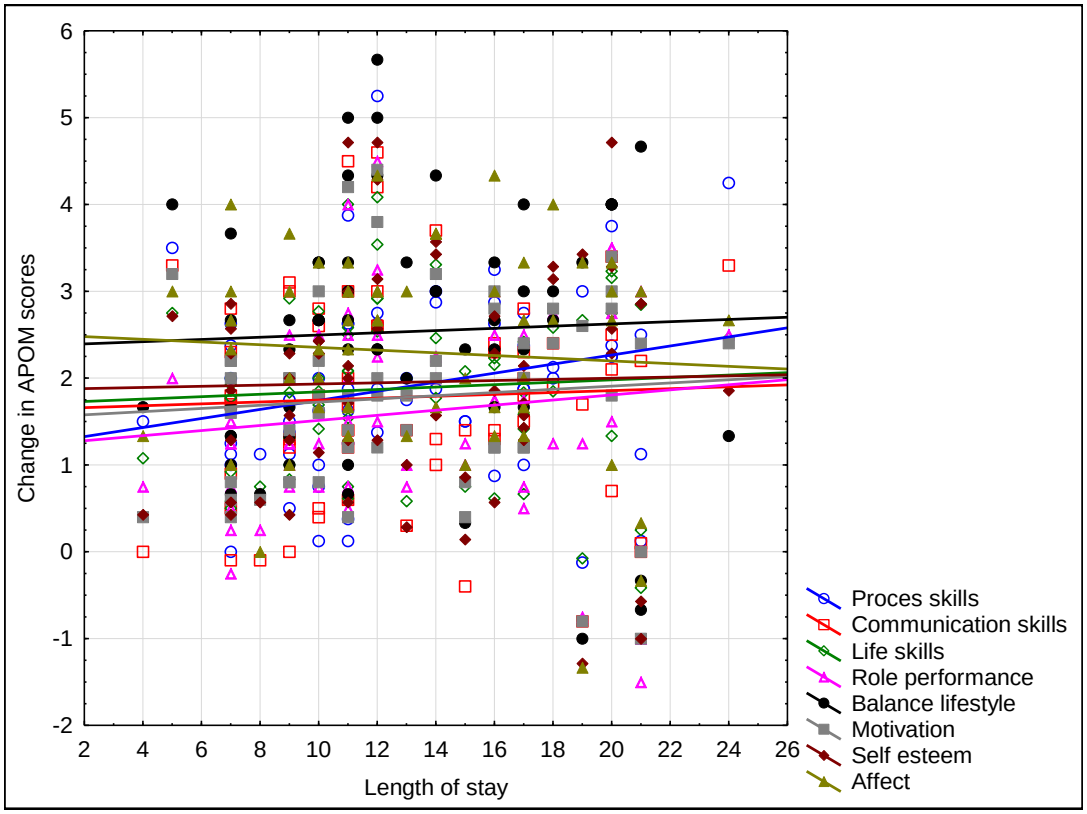



**Figure 4.4. Spearman Rank Order Correlation between APOM domains and Length of stay (n=61).**

**Table 4.10. Correlations between change in APOM scores and types of groups (n=61).**

| | Spearman Rank Order Correlations (Raw data in Data sheet 6 Nov 2019 Statistica)<br>MD pairwise deleted<br>Marked correlations are significant at p <.05000 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Dependent variables | | | | | | | |
| **Independent variables** | Process skills (Fin – BL) | Communication and interaction skills (Fin – BL) | Life skills (Fin – BL) | Role performance (Fin – BL) | Balanced lifestyle (Fin – BL) | Motivation (Fin – BL) | Self – esteem (Fin – BL) | Affect (Fin – BL) |
| ***Group categories:*** | | | | | | | | |
| **Craft groups** | 0.17 | 0.1 | 0.21 | 0.06 | 0.17 | 0.03 | 0.09 | 0.07 |
| **Stress management groups** | 0.36 | 0.40 | 0.37 | 0.38 | 0.31 | 0.41 | 0.41 | 0.44 |
| **Interpersonal groups** | 0.41 | 0.48 | 0.37 | 0.48 | 0.43 | 0.54 | 0.42 | 0.3 |
| **Psycho-educational groups** | 0.18 | 0.28 | 0.30 | 0.36 | 0.26 | 0.31 | 0.34 | 0.33 |
| ***Open and closed groups:*** | | | | | | | | |
| **Open groups total (excl. psycho-ed. groups)** | 0.35 | 0.33 | 0.36 | 0.34 | 0.35 | 0.34 | 0.35 | 0.32 |
| **Closed groups total** | 0.41 | 0.46 | 0.41 | 0.41 | 0.4 | 0.49 | 0.4 | 0.32 |

Correlations between change in APOM scores and participation in craft groups were non-significant. Negligible correlations were found across all the domains of the APOM, except for Life skills where a low correlation of 0.21 was indicated. The lowest correlation (0.03) was indicated by the Motivation domain.

With the stress management group category, correlations varied between low and moderate correlations and was found to be statistically significant across all the domains of the APOM. The following domains indicated low correlations ($r_s$ =0.2 – 0.4): Process skills, Life skills, Role performance and Balanced lifestyle. The remaining four domains (Communication and Interactions skills, Motivation, Self-esteem and Affect) showed moderate correlations ($r_s$ =0.4 – 0.6).

Interestingly, the Affect domain had the highest correlation with number of stress management groups attended. This contradicts the correlation between total number of groups attended and change in APOM scores where Affect showed the lowest correlation.

Correlations indicated by the interpersonal group category were statistically significant across all the domains of the APOM and showed moderate correlations ($r_s$ =0.4 – 0.6) for most domains of the APOM. Moderate correlations were indicated by Process skills, Communication and Interaction skills, Role performance, Balanced lifestyle, and Self-esteem. The Motivation domain had the highest correlation of 0.54. In contrast to the stress management category, the Affect domain showed the lowest correlation (0.3) followed by Life skills (0.37).

Statistically significant correlations were found between psycho-educational groups and change in APOM scores across all the domains of the APOM except Process skills. Process skills also indicated the weakest correlation, with a negligible correlation of 0.18. The remaining seven domains of the APOM showed low correlations ($r_s$ =0.2 – 0.4) with the highest being Role performance with a correlation of 0.36.

As discussed under demographics of the sample, the different groups in the programme are either open or closed groups. With the Spearman's rank order correlations, open and closed groups were in different categories in terms of the strengths of the correlations. A stronger correlation existed between closed groups and APOM scores in comparison to the correlation between open groups and APOM scores. Seven domains of the APOM indicated moderate correlations between closed groups and APOM scores. These were Process skills (0.41), Communication and Interaction skills (0.46), Life skills (0.41), Role performance (0.41), Balanced lifestyle (0.4), Motivation (0.49), and Self-esteem (0.4). Correlations between open groups and APOM scores indicated low correlations across all the domains of the APOM with an average correlation of 0.34. Correlations for both open and closed groups were statistically significant with p-values below 0.05. Although the strength of the correlations was not high, the differences identified between open and closed groups were clinically significant. The majority of private clinical settings' programmes consist mainly of open occupational therapy groups.

The highest correlation between closed groups and APOM scores was in the Motivation domain with a correlation of 0.49. In the open group category, the highest correlations were found in Process skills, Balanced lifestyle, and Self-esteem, all indicating a correlation of 0.35. The lowest correlation for both open and closed groups was found in the Affect domain.

In Figures 4.5 and 4.6 the differences in Spearman's rank order correlations were indicated between change in APOM scores and open groups attended, as well as between change in APOM scores and closed groups attended, respectively.

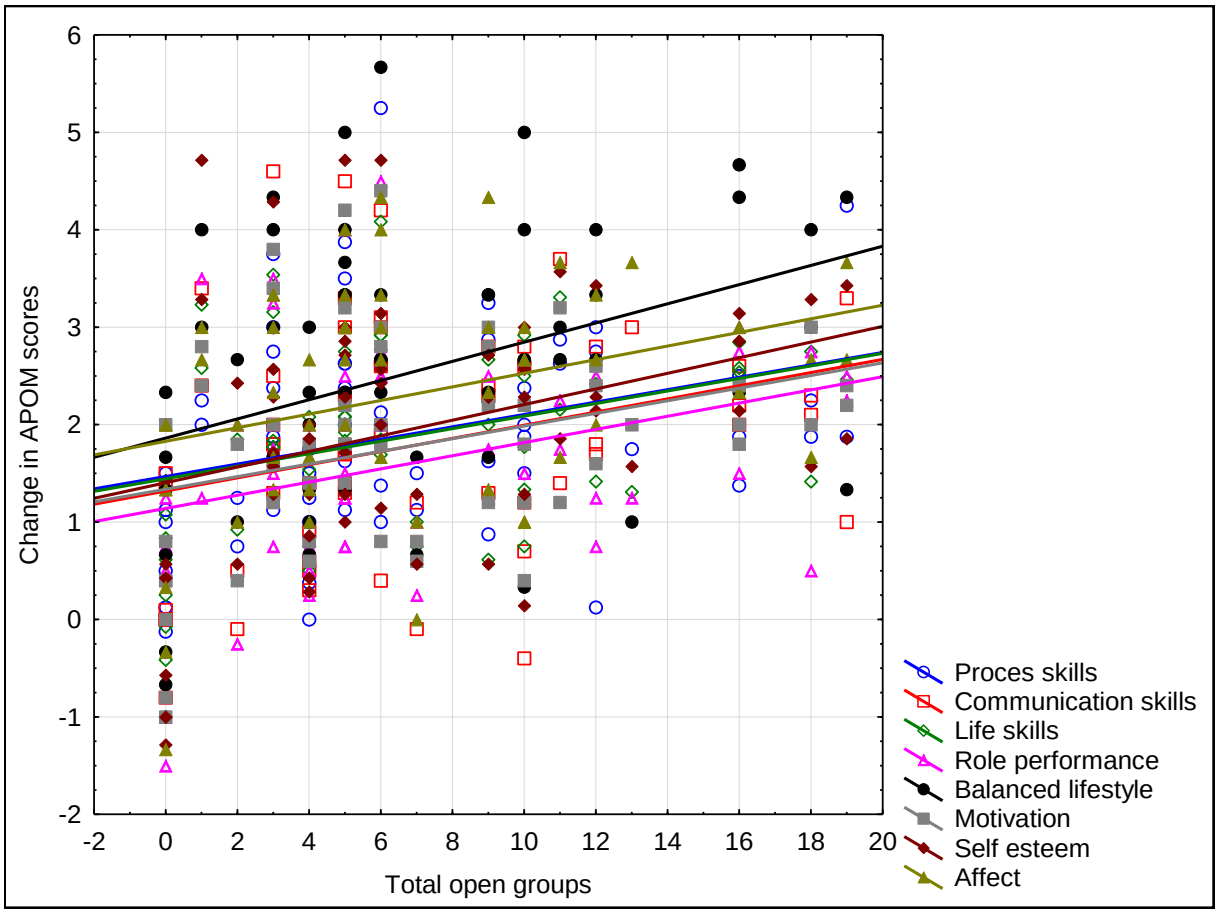



**Figure 4.5. Spearman's rank order correlation between change in APOM and open groups (n=61).**

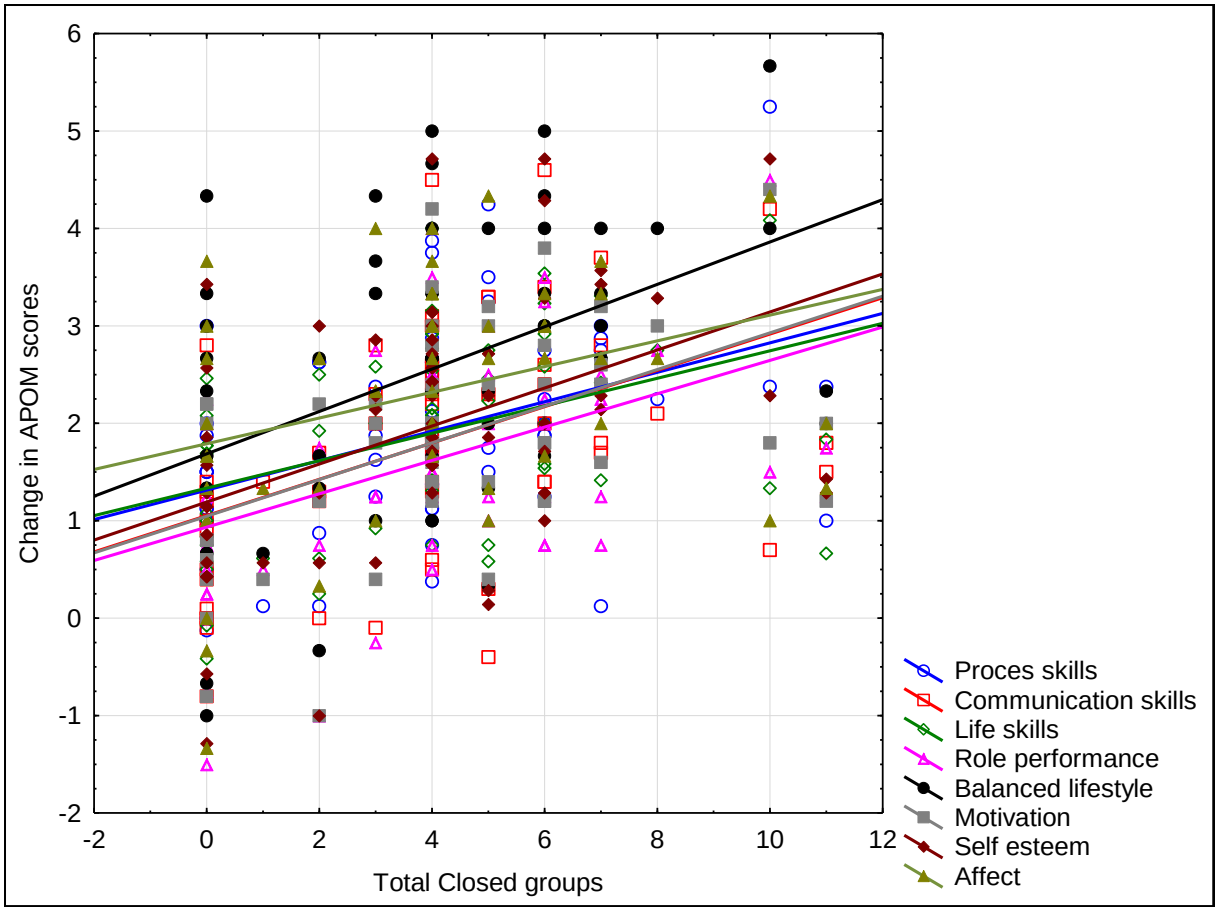



**Figure 4.6. Spearman's rank order correlation between change in APOM and closed groups (n=61).**

The null hypothesis for objective two could not be rejected as more than half of the correlations were weak and not significant. More than a third of the correlations were significant and with a strength above 0.4. These correlations included the total number of groups attended (across all the domains of the APOM), stress management groups (across four domains of the APOM), Interpersonal group therapy (across six domains of the APOM) and closed groups (across seven the domains of the APOM).

### 4.4.3. Objective three

Objective three was to determine whether a correlation exists between domains of activity participation and the presence and severity of depression as perceived by MHCUs with MDD. Spearman's Rank Order Statistics were used to determine the correlation between APOM and PHQ-9 scores.

**Table 4.11. Spearman's rank order correlation between activity participation and perceived depression as measured by the PHQ-9.**

| Spearman Rank Order Correlations. MD pairwise deleted<br>Marked correlations are significant at p <.05000 | | | |
|---|---|---|---|
| **APOM domains** | **PHQ-9 (Baseline) (n=70)** | **APOM domains (n=61)** | **PHQ-9 (Final)** |
| Baseline Process skills | -0.074 | Final Process skills | 0.037 |
| Baseline Communication and Interaction skills | -0.083 | Final Communication and Interaction skills | -0.004 |
| Baseline Life skills | -0.162 | Final Life skills | 0.038 |
| Baseline Role performance | -0.118 | Final Role performance | -0.019 |
| Baseline Balanced lifestyle | -0,183 | Final Balanced lifestyle | -0.154 |
| Baseline Motivation | -0.109 | Final Motivation | -0.108 |
| Baseline Self-esteem | -0.142 | Final Self-esteem | -0.037 |
| Baseline Affect | -0.098 | Final Affect | -0.128 |

In Table 4.11 all the p-values were above 0.05. Subsequently, none of the correlations were statistically significant. Additionally, most correlations indicated by Table 4.11 were negative and all the correlations were between -0.2 and 0.2, indicating a negligible correlation. It could thus be concluded that correlations between APOM and PHQ-9 scores ranged between non-existent ($r_s$ =0) and minimal ($r_s$ =±0.2).

The null hypothesis was not rejected, thus showing no correlation between APOM scores and PHQ-9 scores.

When the correlations were insignificant, the question came up of how stable the PHQ-9 is with this population, hence an additional Cronbach alpha analysis was calculated. The Cronbach alpha for PHQ-9 scores for this population was 0.227. An alpha below 0.85 is classified as unacceptable and indicates that the PHQ-9 scores shows no stability over time (Tavakol, 2011). Implications of these findings are discussed in the next chapter.

## 4.5. Conclusion

Various demographic indicators were described. Changes in activity participation showed an overall statistically significant improvement across all the domains of the APOM. Balanced lifestyle indicated the largest improvement in APOM scores from baseline to discharge while the domain with the smallest change was Role performance.

The number of groups attended by each participant tested superior to length of stay when correlated to change in activity participation. Statistically significant moderate correlations were identified between the number of groups attended and change in APOM scores. However, correlations between attendance of craft groups and change in activity participation were classified as negligible. Correlations between closed groups and change in activity participation were superior to those of open groups correlated with change in activity participation. The correlation between baseline and final APOM scores, and baseline and final PHQ-9 scores showed no to minimal correlation.

# CHAPTER 5: DISCUSSION

## 5.1. Introduction

The aim of the study was to track change in activity participation of MHCUs suffering from MDD attending occupational therapy groups during their admission at an acute private psychiatric hospital. This chapter presents a discussion of the results with specific reference to the demographics of the sample and the three objectives the study was set out to investigate.

Changes in activity participation, as measured by the APOM, from baseline to discharge are discussed in this chapter. The relationships between dependent (activity participation) and independent variables (length of stay, number and types of groups attended) follows. Lastly, results related to the relationship between activity participation and perceived depression is discussed. The discussion will conclude with the limitations of the study, recommendations for future research and the overall conclusion of the study.

## 5.2. Demographics of the sample

### 5.2.1. Age and sex

According to the South African Stress and Health (SASH) study, the mean age of onset of MDD in SA was 25 years (Tomlinson, et al., 2009). Previous studies on the epidemiology of MDD also indicated that age of onset for MDD was between 20 and 30 years (Grobler, 2013; Freeman, 2013; Maske, et al., 2016).

Most participants of this study (34.29%) were in the age group 18 to 29 years. The sample for this study only included first admissions to hospital. Therefore, it could be expected that a large percentage of the sample would be between the ages of 20 and 30 years when they had their first major depressive episode and were first diagnosed with MDD.

The SASH study further indicated that the prevalence of major depressive episodes were significantly higher among adults between 40 and 49 years and that this group is 1.79 times more likely to have experienced lifetime major depressive episodes

(Tomlinson, et al., 2009). In this study however, the age group 40 to 49 years was the third largest group and made up 21.43% of the sample. As mentioned previously, the inclusion criteria of the study could have influenced the demographics in terms of age. Only MHCUs who were admitted for the first time were included in the study. The number of MHCUs per age group had a negative relationship with the increase of age. It was expected that older individuals might possibly have had previous admissions to psychiatric facilities and were therefore represented by a smaller percentage of the sample.

It is important to note that, since the completion of the SASH study in 2009, updated results from similar studies have not been released in the past 11 years. With the rapid increase in the number of MHCUs suffering from MDD, it is possible that the age group with the highest prevalence of MDD had changed over the past decade.

A difference in prevalence of MDD among male and female MHCUs was found across the globe, with MDD being more prevalent among females (Sadock, et al., 2015). The male to female ratio among MHCUs suffering from MDD in South Africa was 1:1.75 (Tomlinson, et al., 2009). The demographics of this study were in keeping with these statistics and indicated that the majority of the sample were females The number of male and female participants were representative of the research site since there are five female wards and only two male wards at the hospital.

The relationship between sex (independent variable) and mean APOM scores (dependent variable) were statistically insignificant. The results indicated that APOM score differences from baseline to discharge were larger for the male group (n=19) than for the female group (n=42). Additionally, the effect sizes across all the domains of the APOM also appeared to be larger for the male group than for those of the female group with Balanced lifestyle, Process skills, and Affect showing the largest effects.

### 5.2.2. Length of stay

The average length of stay for the sample was 12.44 days. This is in keeping with the average length of stay in private in-patient psychiatric settings in South Africa of 12 days (Tzoneva, 2014). The average length of stay for this study was also

representative of the research site as the mean length of stay at the hospital is 12 days.

In his study, which included two hospital sites in the UK, Carter (2013) found that the average length of stay for MHCUs suffering from mood disorders varied from 10-141 days. The mean length of stay for MHCUs suffering from depressive disorders was 72 days. In a study conducted at a specialised psychiatric hospital in Gauteng (The Tara H Moross Centre), the length of stay for MHCUs suffering from MDD varied between 29 and 65 days. This is in keeping with the expectation of the hospital since it is an acute to medium term hospital (Otieno, 2015). In both Carter's (2013) and Otieno's (2015) studies, the average length of stay was considerably longer than the average length of stay in this study.

In the private mental health sector of South Africa, length of stay is often governed by medical schemes. According to the Council of Medical Schemes in South Africa, a maximum of 21 days inpatient mental health treatment forms part of the prescribed minimum benefits. Considering the longer periods of average length of stay at The Tara H Moross Centre and the two UK hospital sites for MHCUs suffering from mood disorders, the admission time granted by medical schemes in private health care is a major reason for concern. One of the reasons identified for shorter length of stay that has occurred over the past few decades, was that the focus of inpatient psychiatric treatment had shifted to safety and crisis stabilisation (Glick, et al., 2011). Less hospital beds were available for individuals suffering from mental disorders, therefore, MHCUs were discharged prematurely to make space for those who present with more severe symptoms (Lund, et al., 2012; Weich & Pienaar, 2009).

With a sole focus on treatment of acute symptoms, limited opportunities were granted to address occupation-based problems such as leisure or social participation, coping skills, and ensuring sustained recovery (Lloyd & Williams, 2010; Addisu, et al., 2015). MHCUs were often discharged before optimal medical or functional outcomes were reached. Therefore there is an increased risk of re-admission and relapse among MHCUs suffering from MDD (Weich & Pienaar, 2009; Tulloch, et al., 2015).

The findings of this study indicated that length of stay had a non-significant, weak correlation with change in activity participation as measured by the APOM. These findings are discussed in more detail under Section 5.5.

### 5.2.3. Level of education

As South Africa is a developing country with a large number of previously disadvantaged people, the level of education for the sample of this study was significantly higher than that of the general population. According to the Organisation for Economic Co-operation and Development (OECD) indicators (2019), only 7% of the South African population had attained a tertiary degree. This was the lowest of all OECD and partner countries. The OECD statistics indicated that the majority of the population has a secondary or upper secondary, non-tertiary qualification as their highest level of education (OECD, 2019).

The demographics of this study indicated that 91.4% of the sample completed grade 12 and two participants were in the process of completing grade 12. Four participants did not complete secondary school of which three finished grade 11 and one finished grade five. A total of 25.71% of the sample had a post-matric qualification (upper secondary qualification as defined by OECD), while 37.14% of the sample had a tertiary degree. This exceeded the OECD statistics for the South African population with 30%. The research site was a private hospital located within a well-developed suburb in Tshwane. Considering the geographical context of the hospital as well as the fact that admission to the hospital is dependent on membership to a medical aid or private funding, it can be concluded that people admitted to the hospital belong to a higher socio-economic group. Therefore, the overall level of education for this study was representative of the MDD population at the research site, and not the broader South African population.

Results from the SASH study indicated that people with grade 1-7 schooling were 2.11 times more likely to have lifetime major depressive episodes than those of higher levels of education (Tomlinson, et al., 2009). These results are in keeping with a pan-European study where higher education was associated with lower rates of mood disorders (Alonso, et al., 2004).

Gan et. al. (2012) investigated the relationship between educational status and features of major depression among 2000 Han Chinese women diagnosed with recurrent MDD across 53 hospitals in China. Their findings contradicted those of the above-mentioned pan-European and SASH studies. Their study posed that more years of education was a risk factor for recurrent MDD in Chinese women (Gan, et al.,

2012). In contrast to the SASH study, they did not find low educational levels to be associated with an increased number of depressive episodes. Furthermore, Gan et. al. (2012) found earlier age of onset to be associated with higher educational attainment.

The demographics of the sample of this study is in keeping with the results found by Gan et. al. (2012) as the majority of the sample had higher educational attainment and formed part of the age group 18 to 29 years.

It is however important to consider the help seeking behaviour of individuals with higher educational attainment. A systematic review on factors associated with help-seeking behaviour among individuals with MDD identified higher educational attainment as an enabler of help-seeking behaviour (Magaard, et al., 2017). These findings regarding help-seeking behaviour could be an additional contributing factor to the overall level of education of known MDD cases in South Africa and particularly the sample of this study.

## 5.3. Change in levels of activity participation

As indicated by Figure 4.2 and Table 4.8, a statistically significant positive change in mean APOM scores from baseline to discharge was found across all the domains of the APOM. The average APOM score of all the domains at baseline is 9.8, indicating Self-presentation, transitional phase.

Little is known about the average level of creative ability of MHCUs suffering from MDD at admission or at discharge from acute private mental health settings. A similar study however, which included multiple psychiatric diagnoses, was conducted in the UK. The overall mean APOM score at baseline was 7.71, indicating a level of Self-presentation therapist directed phase (Carter, 2013). In a South African study with a forensic population, the average level of creative ability at baseline was also Self-presentation, transitional phase (Brooke, 2015). While another South African study in a rural mental health context indicated that the overall level of creative ability of MHCUs upon admission was Self-differentiation, therapist directed phase (Silaule, 2016). From the findings of this study, it was found that baseline APOM scores for

MHCUs suffering from MDD (first admission) at the research site, were slightly higher than those at other settings.

The average APOM score for all the domains at discharge was 11.8, which represents the patient directed phase of Passive participation. Final APOM scores post-treatment for the UK population described earlier, was 10.12 (Passive participation, therapist directed) (Carter, 2013). Final APOM scores for the sample of this study were slightly higher than those of the UK sample.

Of the UK sample, 5% of the participants suffered from MDD. Baseline and final APOMS scores for the UK MDD group was 8.54 and 11.1, respectively. This shows increased scores for this diagnostic group when compared to baseline and final APOM scores for the rest of his sample (Carter, 2013). Considering the results of this study and findings of the MDD group in the UK sample, it can be hypothesised that the level of creative potential and creative ability of MHCUs suffering from MDD is slightly higher than that of other psychiatric diagnoses.

De Witt (2014) noted that at Passive participation, an individual can live independently with suitable support and structure. This could indicate that a person on this level is ready to be discharged from acute services. In this study, 98.3% of participants (n=59) were discharged on a level of Passive participation (a score between 10 and 12 on the APOM) or higher. Upon discharge, 52.5% of the participants were on therapist or patient directed phases of Passive participation, indicating that support is necessary for independent living. A total of 31.1% of participants were on the transitional phase of Passive participation at discharge. This indicates that independent living is possible if little problems are encountered and return to work (provided support at work is available) may also be possible (Van der Reyden, et al., 2019).

Eight participants (13%) of the sample were on the level of Imitative participation upon discharge, indicating independent living and an increased ability to fulfil work and social participation roles (Van der Reyden, et al., 2019) Two participants were discharged below the level of Passive participation and their APOM scores decreased from admission to discharge. It is interesting to note that the two participants with post-treatment APOM scores below 10, did not participate in occupational therapy groups as indicated in Fig 4.3.

Since the majority of participants were discharged on a level of Passive participation, further support and therapy are indicated post-discharge to assist with community re-integration. In South Africa limited funding, resources, and services are available in the private and public mental health sectors for outpatient treatment (Petersen & Lund, 2011). Limited treatment and follow up post-discharge leave MHCUs vulnerable and increase the risk for relapse and re-admission (Petersen & Lund, 2011).

Deterioration in activity participation post-discharge was confirmed by Silaule's (2016) study, where MHCUs did not receive occupational therapy intervention after they were discharged. Although the sample was smaller for post-discharge APOM assessments, her findings indicated that all domains of the APOM, except for Process skills, deteriorated from the first follow up assessment to the final follow up assessment (Silaule, 2016).

### 5.3.1. Change in mean post-treatment APOM scores

Balanced lifestyle was observed to have the greatest improvement (2.59 points on the APOM scale) from baseline to discharge and was followed by Affect (2.33 points on the APOM scale). These changes are in keeping with findings described by Carter (2013) and Silaule (2016), who used the APOM as an outcome measure in two inpatient mental health settings in the UK and a rural South African context. In both these studies, Affect showed the largest improvement from baseline to discharge, followed by Balanced lifestyle (as well as Role performance and Communication and Interaction skills in Silaule's sample).

The lowest positive change from baseline to discharge was indicated by Role performance with a change of 1.63 points on the APOM scale. Christiansen et al. (2005, p. 596) described roles within the context of human occupation as "a set of socially agreed upon expectations, functions or obligations that involve patterns, scripts, or codes of behaviour, routines, habits, and occupation that a person assumes and which become part of that person's social identity". Role performance as defined in the APOM manual is "the ability to meet the demands of roles in which the person engages. A set of socially agreed upon expectations, tasks or obligations that a person fulfils, and which become part of that person's social identity and participation in everyday life" (Casteleijn, 2010).

From these definitions it can be argued that a person's ability to meet the demands of their life roles is dependent on the development of aspects such as life skills, a balanced lifestyle, motivation, social identity, and communication and interaction skills, to name a few. All these aspects form part of the different items and domains of the APOM. Therefore, improvement in the Role performance domain was expected to be observed when improvement in the other domains occurred, possibly indicating that it would be the last domain to improve. Interestingly, Role performance was one of the domains that indicated the most improvement when correlated with the interpersonal group category (more detail is discussed under Section 5.4).

In Silaule's (2016) study however, Role performance was one of the domains with the largest improvement from baseline to discharge. It may be that the increased length of stay for her sample (four to 11 weeks) allowed the treatment programme to address Role performance specifically. Meanwhile, it can be expected that the precursors of Role performance would rather be addressed in an acute unit with a shorter length of stay.

Another component to consider is that within an inpatient context, the primary role being fulfilled by MHCUs during admission is often the patient role. Although the ability to fulfil various life roles are addressed in group therapy sessions at the research site, there are some environmental constraints involved with being admitted to a hospital. These prevent them from actively engaging in their everyday roles (for example as an employee or parent) and related expectations.

Changes in overall scores for all the domains of the APOM showed an average improvement of 2 points on the APOM scale. Overall APOM score improvement for the UK sample was 2.41. Baseline APOM scores however, across all the domains of the APOM was lower than scores found in this sample. Additionally, the UK sample consisted of multiple psychiatric conditions and mood disorders made up 29.1% of the sample (mainly consisting of recurrent depression and bipolar mood disorder). Lastly, it is important to note that the average length of stay of MHCUs suffering from depressive disorders in the UK sample was 72 days while the average length of stay for the sample of this study was 12 days. The difference in length of stay between the two samples can explain why a larger improvement in APOM scores was found in the UK sample.

#### *5.3.1.1. Significance of the change in mean APOM scores from baseline to discharge*

As mentioned in Chapter 4, the Standardised Response Mean (SRM) was used to calculate the effect size. Some authors in the medical field are of the opinion that clinicians rely too heavily on p-values to determine the effect of different treatment modalities, often underestimating the value of effect size statistics. McGough and Faraone (2009) asserted that effect size statistics provide a better estimate of treatment effects than p-values alone.

Effect size data for this study confirmed improvements of large effects (SRM>0.8) overall and across all the domains of the APOM. These findings are in keeping with effect sizes (using Cohen's d) from Carter's (2013) study on the UK population mentioned previously. The overall SRM for all the domains of the APOM for this study was SRM=1.69, while Carter's study had an overall effect size of d=1.26. Effect sizes reported by Carter (2013) represented various psychiatric conditions. Separate effect sizes for depressive disorders were not reported. However, considering increased APOM scores for this diagnostic group, a larger effect can be expected.

With both the results from this study and Carter's (2013) findings, Affect showed the largest effect of all the domains of the APOM with SRM=2.04 and d=1.38 respectively. It is important to note that the Affect domain is not exclusively addressed by occupational therapy. Psychopharmacology and psychotherapy provided by psychiatrists and psychologists at the research site play an integral part in the treatment of mood-related symptoms. Of all the domains of the APOM, Affect showed the weakest correlation between change in APOM scores and the total number of groups attended. In contrast, the Affect domain showed the highest correlation between participation in stress management groups and change in APOM scores of all the domains of the APOM. These findings are discussed in more detail under Section 5.5.

In this study, Role performance indicated the lowest effect size while Process skills showed the lowest effect for the UK sample (Carter, 2013). Difference in diagnoses should be considered when interpreting the difference in effect sizes for these two samples. More chronic conditions formed part of the UK sample including schizophrenia, personality disorders, and intellectual disability. Due to the prognosis

and nature of these conditions, one would expect a lower improvement in Process skills compared to other domains of the APOM.

Above mentioned effect sizes and improvement in post-treatment APOM scores were found to be statistically significant ($p<0.05$) for all the domains of the APOM. It can therefore be concluded that positive changes in APOM scores from baseline to discharge were not by chance but rather a result of intervention.

When interpreting the effect size statistics of this study, it should be considered that the criteria for effect size is relative, and that Cohen suggested that practitioners determine their own effect sizes for their populations (Cohen, 1988). At this point, when considering the effect sizes of previous APOM studies, it seems that effect sizes of 0.8 leaned towards moderate change while effect sizes from 1.3 – 2.0 pointed to large change. However, using the term large change may be misleading as even with effect sizes above 1.0, the real change in the APOM was only two phases on average.

Another critique to effect size is that the sample size and standard deviation of samples influence the final effect size. Although this study added to the existing body of knowledge about effect size in mental illness, more studies with large samples are still needed to stabilise median and large effect sizes when the APOM is the outcome measure.

## 5.4. Change in activity participation from baseline to final assessments

### 5.4.1. Correlation between dependent and independent variables

#### *5.4.1.1. Length of stay*

Correlations between length of stay and difference in APOM scores varied between negligible ($r_s$= 0 – 0.2) and low ($r_s$= 0.2 – 0.4) correlations. Only two domains of the APOM indicated statistical significance when correlated with length of stay. These were Process skills and Role performance. Silaule's (2016) findings regarding MHCUs in a rural context indicated significant correlations between APOM score differences and length of stay for all the domains of the APOM, except for Role performance and Self-esteem. However, the sample of her study comprised of various psychiatric

diagnoses but did not include MDD. In this study, statistical significance indicated by the correlation between Role performance and length of stay is supportive of previous thinking that longer admission time allows therapists to facilitate role performance more directly.

Overall, length of stay did not appear to have a significant relationship with activity participation as measured by the APOM in this study. According to Glick et al. (2011), longer admissions to hospital resulted in positive health outcomes as various recovery goals were addressed. These included social-interpersonal, vocational, and occupational aspects of patients' lives. In acute settings with a shorter length of stay, the focus of treatment was often on the reduction of acute signs and symptoms of MDD (Addisu, et al., 2015). Domains of the APOM that are associated with acute signs and symptoms include Affect, Motivation and Self-esteem. In this study, these formed part of the four domains that indicated the largest improvement in APOM scores. This supports the idea that acute settings aim to stabilise acute signs and symptoms.

With a primary focus on the stabilisation of severe symptoms in acute settings, less time and resources are available for rehabilitation and community re-integration (Lloyd & Williams, 2010). Most participants of this study were on the level of Passive participation during admission. Passive participation is characterised by the ability to live independently with the necessary structure and support. Therefore, clients are often discharged when they reach this level to make space for new admissions or when their medical funds run out (De Witt, 2014). Ideally, outpatient services should be provided post-discharge to ensure successful community re-integration as well as work hardening and rehabilitation (Victor, et al., 2017). Due to limitations in resources, these services are often not provided at acute settings and lack of funding prevents clients to follow up at private practices post-discharge.

The study by Carter (2013) on the UK population showed that APOM scores improved with longer periods of admission with a peak between eight and twelve weeks. After 12 weeks however, a decline in APOM scores was noted. He concluded that when admission time exceeds 12 weeks, institutionalisation may result in deterioration of activity participation. Results from a study by Brooke (2015) indicated deterioration in activity participation among institutionalised forensic MHCUs who were admitted for significantly longer periods.

In contrast to this study, the majority of Silaule's (2016) sample were on the level of Self-presentation, transitional phase upon discharge. On this level, norm awareness has not yet emerged, and individuals still require supervision for optimal functioning (Casteleijn & Holsten, 2019). Lower creative potentials for the participants of her study could contribute to the lower levels of creative ability observed upon discharge. Individuals suffering from mental illness who have plateaued in the chronic stage of illness, often function on the level of Self-presentation (Casteleijn & Holsten, 2019). This poses a possible explanation for discharge before a level of Passive participation could be reached. Another reason for discharge before individuals reached the level of Passive participation was limited resources to accommodate MHCUs and to facilitate community integration.

No significant correlation between length of stay and activity participation was established for the sample of this study. It should be noted that the participants of this study were on higher levels of creative ability upon admission in comparison to those of Silaule's (2016) study.

It can be concluded that individuals with higher levels of creative ability upon admission, are likely to acquire the necessary skills to prepare them for discharge at a faster rate than those functioning on lower levels of creative ability. Therefore, admission time for individuals on higher levels of creative ability upon admission is expected to be shorter than those of individuals on lower levels of creative ability.

#### *5.4.1.2. Total number of groups attended*

Relations between the total number of groups attended by each participant and mean difference in APOM scores showed moderate correlations ($r_s$ = 0.4 – 0.6) across all the domains of the APOM. Similarly, Carter (2013) found statistically significant correlations between mean change of APOM scores from baseline to discharge, and the total number of OT groups attended by participants. In his study, participants who attended 20 to 30 groups during admission demonstrated the most consistent improvement in creative ability. Mean improvement in APOM scores across his sample was 2.41 points on the APOM scale. Participants who attended fewer groups (0 – 9 groups) showed the least improvement. The mean improvement in APOM scores for this group was below 2.41.

Results from this study as well as Carter's UK population indicated that the total number of occupational therapy groups attended by participants were superior to length of stay when correlated with change in APOM scores. This is in contrast with results found by Silaule (2016) where length of stay tested superior to occupational therapy attendance when correlated with change in APOM scores. Affect was the only domain with a statistically significant correlation with OT attendance in her sample.

Differences in findings regarding length of stay and occupational therapy intervention in above mentioned studies can be attributed to the fact that participants from Silaule's study were on lower levels of creative ability upon admission and discharge. Lower levels of creative ability may indicate severe psychosis or other acute symptoms (for example withdrawal from substances). In these cases, the length of admission plays an integral part to stabilisation of symptoms (Glick, et al., 2011).

#### *5.4.1.3. Type of groups attended: Interpersonal group therapy*

The interpersonal group category had both the highest and most significant correlations with APOM domains of all the group categories. Interpersonal groups at the research site are comprised of both open and closed groups with various themes related to interpersonal relationships, addictive behaviour, and self-esteem. Correlations across all the domains of the APOM yielded statistically significant results. Domains with the highest correlations were Motivation (0.54), Communication and Interaction skills (0.48), and Role performance (0.48).

Interpersonal group therapy at the research site is based on the Interactive Groupwork Model discussed in Chapter 2. All the therapists at the research site attend post-graduate short courses to ensure successful implementation of the Interactive Groupwork Model as part of the occupational therapy programme. One of the core concepts underpinning the model is that mental illness is rooted in poor social relationships (Fouche, 2014). Therefore, group therapy provides interactive experiences where members grow through relationships and get the opportunity to change social relationships. These experiences possibly contributed to improved Communication and Interaction skills observed in this study.

Additionally, direct communication between members is facilitated in these groups and is an essential principle of the Interactive Groupwork Model (Fouche, 2014). In this

way, communication skills are addressed in all the interactive groups at the research site, regardless of the theme of the group.

Another core concept of the Interactive Groupwork Model is that groups are seen as a micro sample of society. When describing this phenomenon, Fouche (2014) notes that “the way you interact with others in the outside world will be the same way in which you will act and treat others in the group” (Fouche, 2014, p. 1) Therefore, it can be concluded that the roles an individual tends to fulfil in their daily life, are most likely the roles he or she would fulfil in a group. The group setting creates opportunities for clients to explore new roles, refine current roles, or become aware of the roles they fulfil in society.

Jacobson and Greenley (2001) described four internal conditions that need to be present for recovery to take place. One of the conditions they identified is connection, describing it as the part of recovery that has to do with re-joining the social world. Jacobsen and Greenley (2001, p483) asserted that “to connect is to find roles to play in the world.” Therefore, a person gains understanding and knowledge of their roles through connection with the world (Jacobson & Greenley, 2001). This is in keeping with the principles of the Interactive Groupwork Model where being part of a group is a representation of society. This is where a person gets the opportunity to practice social skills, become skilled in their roles, and form healthy relationships in a safe environment (Fouche, 2014). Connection as part of recovery is facilitated between participants through the use of the Interactive Groupwork Model in the interpersonal group category, contributing to improved Role performance post-treatment.

Motivation can be defined as “the want, need and desire to do something” and “the reason for action” (Van der Reyden, et al., 2019, p. 285). Motivation can further be divided into two categories, namely intrinsic and extrinsic motivation. Intrinsic motivation is “the basic need and drive to be active that must be satisfied. This need comes from the individual and is driven by internal rewards” (Van der Reyden, et al., 2019, p. 284) Extrinsic motivation is characterised by “the conscious or unconscious stimulus, incentive or motive for action towards a goal that may be triggered by external circumstances, such as danger, or by internal circumstances such as hunger” (Van der Reyden, et al., 2019, p. 282; Creek, 2003). According to the VdTMoCA, individuals functioning on the level of Passive participation still present with an external

locus of control. Therefore, the use of extrinsic motivation is an effective therapeutic medium to encourage activity participation, which may eventually lead to an internal locus of control.

On the level of passive participation, individuals are motivated by opportunities to participate in activities with others. This is done to gain skills and knowledge that can eventually enable independent functioning (Van der Reyden, et al., 2019). Although participation is often passive, gaining approval and acceptance from the group is a key external motivator on this level of creative ability. As previously discussed, the Interactive Groupwork Model makes use of Yalom's curative factors to facilitate the group process and to ensure a safe environment conducive to growth (Fouche, 2014). Curative factors such as the instillation of hope, universality, and cohesion (fostering belonging) are facilitated to establish relationships between group members (Yalom, 1975; Yalom & Leszcz, 2005). Positive emotions associated with the facilitation of these curative factors directly address the motivation of MHCUs on Passive participation as they experience belonging, approval, and acceptance (Gastongguay & Pincus, 1998).

Mental health care users on the level of Passive participation are motivated to learn new norms of appearance, behaviour, and task performance. Although they are aware of the norms, the ability to adhere to these norms is still developing, often causing anxiety in unfamiliar situations (Van der Reyden, et al., 2019). Davidson's (2018) study identified that MHCUs experienced occupational therapy groups using the Interactive Groupwork Model as an opportunity to learn through the group space. The safe environment and acceptance of the group allowed MHCUs to experiment with new behaviours and ways to complete tasks until they reach success. Additionally, the therapeutic factors most valued by MHCUs during occupational therapy groups were found to be the sense of being accepted by group members, gaining success, interacting with others, and hope (Eklund & Bäckström, 2006). Since these factors are catered for within the interpersonal group category and members' need for approval and interaction are being met, increased motivation is expected.

It is interesting to note that, of all the domains of the APOM, Affect showed the weakest correlation (0.3) with the interpersonal group category. The Interactive Groupwork Model is characterised by the facilitation of Yalom's (1975) curative factors such as

cohesion, universality, altruism, and instillation of hope (Fouche, 2014) Curative factors like cohesion and universality are emphasised during the forming stage of the group to encourage social connections and emotional safety (Fouche, 2014). As the members get more comfortable and invested in the group, their willingness to address difficult issues and engage with negative emotions increases (Yalom, 1975; Yalom & Leszcz, 2005).

Caruso et al. (2013) identified five subscales of how MHCUs experience group therapy in a community mental health setting. One of the subscales was difficulties in open communication. The Interactive Groupwork Model is based on the belief that humans are social beings and that mental illness is often rooted in poor social relationships (Fouche, 2014). Aspects like direct communication and fostering healthy interpersonal relationships are foundational to the use of the Interactive Groupwork Model. Increased anxiety is therefore expected when new relationships and active participation are facilitated. This is because MHCUs find open communication within the group context difficult and have problems that are rooted in poor relationships. As daunting as the idea of new relationships may be, the group space provides opportunities for MHCUs to try out new behaviours in the group and allow the new way of relating to people to be transferred to relationships outside of the group (Yalom, 1975; Yalom & Leszcz, 2005; Fouche, 2014; Tasca, 2014).

Frantell (2016) found that increased engagement in the group process over time was an effective way to reduce avoidance. In her study, as groups continued over a period of eight weeks, members' likelihood to avoid difficult conversations or topics decreased (Frantell, 2016). Engaging with difficult topics or negative emotions can be facilitated using the Interactive Groupwork Model. This is because one of the core concepts of the model is to make members aware of what they are experiencing in the 'here and now'. Members are made aware of their feelings and how these change throughout the group towards different group members and during different activities. Once members have identified these feelings, a cognitive process follows (Fouche, 2014). During this process members get the opportunity to stand outside of the group and make sense of the possible meaning or cause of the feeling. Once the group session is over, MHCUs continue to process these experiences (Rauch, 2016).

One of the advantages identified by MHCUs regarding the use of the Interactive Groupwork Model in occupational therapy groups, was recognising personal shifts (Davidson, 2018). Although clients identified personal shifts as a contributing factor to their recovery, it was often accompanied by difficult emotions and discomfort. Christiansen (LCMHC, CSAT-S), founder and clinical director of Namaste Center for Healing, explained that throughout the therapy process, clients may at times present with a low mood following therapeutic sessions. She added that after completion of a session, clients continue to process the discomforts or shifts triggered within the session (Rauch, 2016). Confrontational feelings triggered within the interpersonal groups can contribute to the lower correlation observed in the Affect domain of this study.

A study investigating MHCUs' perceptions of the contribution of the Interactive Groupwork Model to their recovery, identified the following theme; "helping me to navigate life while living with my illness," with a subcategory of "learning through the group space" (Davidson, 2018). Although the group space could at times elicit negative emotions or address uncomfortable topics, MHCUs perceived interpersonal learning that emerge from these interactions as crucial to understanding and coping with their diagnoses.

Negative emotional responses of MHCUs were found to be significantly more prevalent in the middle phase of treatment in comparison to the beginning or end phases (Gastongguay & Pincus, 1998). The curative factors facilitated during the forming phase of the group usually elicit positive emotions to make MHCUs feel comfortable and build cohesion (Yalom & Leszcz, 2005). The second phase of the group process, the storming phase, was found to be associated with increased conflict between group members and negative emotional responses (Gastongguay & Pincus, 1998). This is followed by the norming phase where members feel comfortable with their differences and therefore, an increase in positive emotional responses was observed (Yalom & Leszcz, 2005).

Shorter length of stay at the research site can result in premature termination of the group process. It may be that the shorter duration of closed groups resulted in members being discharged before the norming phase of the group had been reached. Personal shifts that occur within the group space can result in increased activity

participation in most of the domains of the APOM. However, unresolved group conflict and associated negative emotions can contribute to lower correlation between interpersonal groups and the affect domain upon discharge.

#### *5.4.1.4. Type of groups attended: Stress management groups*

The stress management group category at the research site comprises of tension release exercise groups, relaxation therapy and interactive stress management groups. Although interactive stress management groups are based on the Interactive Groupwork Model, it differs from the interpersonal group category in that the focus is solely on the 'here and now' as the experience of mindfulness is facilitated.

The relationship between attendance of stress management groups and change in APOM scores indicated statistically significant, low to moderate correlations across all the domains of the APOM. Affect, Motivation, and Self-esteem showed the highest correlations of all the domains of the APOM. The findings of this category contrasted those of the total number of groups attended where the weakest correlation was represented by Affect. In this category however, Affect represented the domain with the highest correlation between stress management groups and change in APOM scores.

Above mentioned domains of Motivation, Affect and Self-esteem including their associated items make up what is referred to as client factors. These can also be described as the signs and symptoms of MDD. The third edition of the Occupational Therapy Practice Framework defined client factors as "specific capacities, characteristics, or beliefs that reside within the person and that influence performance in occupations" (AOTA, 2014, p. 7). Client factors include various body functions (cognitive, conative, and affective components) which are affected by the absence or presence of mental illness. The remaining domains of the APOM are categorised as occupational performance skills (Process skills, Life skills, and Communication and interaction skills) and performance patterns (Role performance and Balanced lifestyle).

When client factors are compromised by the presence of mental illness, it has a negative impact on an individual's occupational performance skills and occupational patterns, and subsequently their ability to participate in meaningful occupations. Therefore, the domains of Affect, Self-esteem, and Motivation are often addressed

first as these components make up the acute signs and symptoms of depression Improvement in these domains often motivate and enable MHCUs to address other occupation-based problems.

In this study, the stress management group category appeared to be the most effective group category in addressing acute symptoms of MDD. These findings are in keeping with the results of a meta-analysis of the effectiveness of mindfulness-based therapies in the reduction of depressive symptoms (McCarney, et al., 2012). A total of 11 studies were included in the analysis. Reduction in current depressive symptomology as measured by the Beck Depression Inventory (BDI) was found to be 8.73, indicating a large effect with d=0.83. From the findings of their study the authors concluded that the implementation of mindfulness-based techniques as an intervention strategy for mood and anxiety related disorders could effectively reduce current distress from depression (McCarney, et al., 2012).

#### *5.4.1.5. Type of groups attended: Craft groups*

In order to meet the specific needs of MHCUs, occupational therapists should ensure that intervention is client centred. In a study on MHCUs' view on occupational therapy in acute mental health, service users identified craft groups the most helpful activity among a list of 16 activities presented by occupational therapists (Lim, et al., 2007).

Ramano (2017) compared two treatment programmes for MHCUs suffering from MDD. In one programme, five of the nine group sessions included a tangible craft activity. Tangible craft activities were only included in two of the nine sessions for the second programme. Results from his study indicated a difference in the reduction of depressive symptoms as perceived by participants. The first group, where craft activities were included for the majority of the sessions, tested superior with statistically significant improvement in five of the nine items of the PHQ-9 (Ramano, 2017). Previous studies investigating the effectiveness of craft groups as intervention for MHCUs suffering from MDD yielded positive results for facilitation of social interaction, improved confidence, self-expression, improved daily functioning, and increased quality of admission when admitted to inpatient settings (Lim, et al., 2007; Chandraiah, et al., 2012; Horghagen, et al., 2014).

Results associated with the relationship between the attendance of craft groups and change in APOM scores for this study, were insignificant. A negligible correlation was found for all the domains of the APOM except for the Life skills domain, where a low correlation was indicated. In contrast to findings of Ramano's study, attendance of craft groups did not appear to have a significant impact on the Affect domain as measured by the APOM.

Various factors should be considered with the interpretation of above-mentioned correlations. One of these factors is that 30 participants did not attend any craft groups during admission while 19 participants attended only one to five craft groups. A total of 12 participants attended between six and 12 craft groups during their admission to the research site. Poor attendance of craft groups for the sample of this study could contribute to inconclusive results.

Another factor which may have influenced participants' choice of group attendance is their levels of creative ability during admission. The majority of the sample was on the level of Passive participation or in the process of transitioning to this level. Passive participation is characterised by increased anxiety when faced with the possibility of failure (Van der Reyden, et al., 2019). Individuals on this level are usually aware of norms but do not have the necessary skills to comply to norms. They need support and structure to experience success. Therefore, they might experience an increased fear of failure when participating in craft activities as they are aware of the expectations associated with the activity but find it difficult to meet these expectations. Increased anxiety associated with unfamiliar situations (such as craft groups) and the need to be accepted by others may encourage MHCUs on Passive participation to choose interpersonal group sessions rather than craft groups.

#### *5.4.1.6. Type of groups attended: Open and closed groups*

In occupational therapy, little is known about the difference in group therapy outcomes for open and closed groups. In a Canadian study, Tourigny and Hébert (2007) aimed to investigate the efficacy of open group therapy for sexually abused teenagers and establish whether differential benefits were linked to open versus closed groups. Their findings indicated significant gains for sexually abused girls attending open groups when compared to the teenage girls in the control group for the majority of variables considered in the study. However, no significant differences were identified between

the benefits of open versus closed groups. The authors concluded that both open and closed group formats were likely to be associated with the same significant benefits for sexually abused teenagers (Tourigny & Hébert, 2007).

Outcomes of this study associated with open and closed were different to those of the sample of sexually abused teenagers. Closed groups had higher correlations with change in APOM scores than open groups across all the domains of the APOM. The exception is the affect domain, which showed a moderate correlation (0.32) for both open and closed groups. Correlations between open and closed groups and change in APOM scores varied between low and moderate correlations and were found to be statistically significant across all the domains of the APOM.

The open group category is comprised of various types of groups namely craft groups, stress management groups and interpersonal groups while the majority of the groups within the closed group category are interpersonal groups. The interpersonal group category had the highest correlation APOM scores. It could be that closed groups tested superior to open groups as a result of aforementioned correlations. Additionally, a closed group has strong cohesive factors as more time is allowed for relationships to develop between members. High levels of group cohesion predicts a reduction in psychological symptoms and is associated with higher levels of self-esteem (Alonso, 2011)

Little is known about the differences in benefits of open and closed group in occupational therapy. Above mentioned results may be a stepping stone for future studies exploring this matter.

## 5.5. Relationship between domains of activity participation and PHQ-9 scores

Positive change in activity participation as a result of occupational therapy intervention was indicated by one previous study using the PHQ-9 as outcome measure (Ramano, 2017), as well as several other studies using the APOM as outcome measure (Carter, 2013; Brooke, 2015; Silaule, 2016). Therefore, the researcher investigated the relationship between perceived depression of MHCUs and activity participation. The null hypothesis could not be rejected as the results indicate that correlations between

APOM and PHQ-9 scores range between non-existent (0) and minimal (±0.2). Additionally, none of the correlations are statistically significant.

### 5.5.1. Limitations associated with the use of the PHQ-9

The PHQ-9 has been widely used as a screening tool in primary health care settings. Inoue et. al. (2012) investigated the utility and limitations of the PHQ-9 in a clinic specialising in psychiatric care. Their findings indicated that the PHQ-9 was effective in the screening of the presence of a 'current depressive episode' but, other than primary health care settings, it was not useful for diagnostic purposes. Although it was found to be useful for the screening of a 'current depressive episode,' the PHQ-9 is not suitable for the screening of major depressive disorder as it does not account for crucial diagnostic and symptomatic exclusions (Wittkampf, et al., 2007). Due to low specificity and a low positive predictive value when used in the specialised psychiatric clinic, the PHQ-9 yields false positive results for MHCUs suffering from various psychiatric disorders. These include current major depressive episode, obsessive compulsive disorder, adjustment disorder, eating disorders, insomnia, dementia, and schizophrenia (Inoue, et al., 2012).

A study investigating discrepancies between the results of depressed MHCUs' Global Rating of Change and PHQ-9 scores identified four main themes based on MHCUs perceptions of these discrepancies. Participants reported several perceived shortcomings of the PHQ-9 as the main reason for incongruities between the two tools as certain essential aspects associated with low mood were not included in the questionnaire (Robinson, et al., 2017). The missing components were identified in a study by Malpass et. al. (2010) and included apathy, libido, and making important life decisions. These factors were reported by MHCUs as essential to their health and well-being (Malpass, et al., 2010). In both these studies, MHCUs criticised the discrete scoring system of the PHQ-9 as it did not allow enough scope to report on the intensity of symptoms (Malpass, et al., 2010; Robinson, et al., 2017). Mental health care users were found to under-report symptoms of suicidal ideation as the questionnaire is focused on the frequency of symptoms associated with suicidal ideation rather than the intensity thereof (Malpass, et al., 2010). Another theme that rose from the

investigation was the tendency to underscore as a means of self-motivation (Robinson, et al., 2017).

In an interview with *The Telegraph*, Dr Davies (researcher at the University of Roehampton and co-founder of the Council for Evidence-Based Psychiatry) criticised the use of the PHQ-9 in the diagnosis of depression. He noted that the nine-question form sets the threshold for depression "far too low". This leads to misdiagnosis and the ineffective or unnecessary use of medication (Hayward, 2017).

At the research site, the PHQ-9 is used to measure the impact of treatment and is not used for diagnostic purposes. However, above-mentioned factors of under-scoring, low thresholds for depression, limited items or opportunities to report on severity of symptoms, and false positive results for several diagnoses should be considered when interpreting scores. In addition, the Cronbach alpha value in this study was 0.5 and far below the expected alpha of 0.85. The consistency of the PHQ-9 in this sample was thus poor and continued use of this tool in the setting should be reconsidered.

### 5.5.2. Impact of mental health care users' level of Creative Ability on PHQ-9 scores

Lower levels of creative ability as described by the VdMoCA are associated with significant functional difficulties (De Witt, 2014). Clients functioning on the levels of Self-differentiation and Self-presentation (scores below 10 on the APOM) experience challenges in relating to their social world. These challenges are due to reduced social judgement and difficulties with abstract reasoning. Clients functioning on these levels often require close supervision due to a reduced ability to regulate their emotions, poor task concept, an external locus of control, as well as poor home- and personal management (Van der Reyden, et al., 2019).

According to the VdMoCA, improved norm awareness is expected when clients reach the level of Passive participation (a score above 10 on the APOM) (De Witt, 2014). It is also on this level that insight into an individual's condition, associated symptoms, and its functional implications starts improving. On this level of creative ability, abstract thinking and abstract concepts start to emerge and therefore an improved insight can be observed (Van der Reyden, et al., 2019).

Due to the severity of functional difficulties experienced on the lower levels of creative ability, it is expected that even a slight improvement in APOM scores can result in improved functioning and therefore an improved mood. An improvement of two points on the APOM score can for example mean that a client shifts from Self-presentation patient directed phase (a score of eight on the APOM) to Passive participation, therapist directed phase (a score of 10 points on the APOM). Although a score of 10 is below the average final APOM score for this study, an improvement in functional ability has taken place within the individual. Improved functioning is likely to have a positive impact on MHCUs' perceived depression, even though a score of 10 is considered as a low score for the sample of this study.

The findings of this study indicated that 75% of participants with final APOM scores between 10 and 11 have a final PHQ-9 scored between zero and four. In this category, the severity of depressive symptoms is classified as none to minimal. This indicated that MHCUs with lower scores on the APOM perceived their depressive symptoms as less severe. It is however of utmost importance to consider an individual's creative capacity when interpreting these scores. Individuals with lower creative capacities will eventually reach a plateau once optimal medical intervention has been reached. MHCUs with lower creative capacities, who perceive their depressive symptoms as less severe, will also present with lower scores on the APOM although depressive symptoms have improved. MHCUs on lower levels of creative ability may also under- or over-score their depressive symptoms due to the poor insight and lack of norm awareness associated with these levels.

The group who perceived their depressive symptoms upon discharge as most severe, were participants with APOM scores between 11 and 12 (Passive participation patient directed phase). This group is characterised by high anxiety levels associated with the fact that these individuals are aware of norms but lack the necessary skills to comply with the norms (Van der Reyden, et al., 2019). Anxiety levels are especially high in unfamiliar situations such as discharge from hospital and community re-integration. Increased PHQ-9 scores can therefore be expected from this group upon discharge. Participants with scores above 12 on the APOM consistently scored between zero and five on the PHQ-9. This indicated an inverse relationship between APOM scores and perceived depression for this portion of the sample.

In conclusion, MHCUs' perceived depression as measured by the PHQ-9 is not a suitable measure to determine improved activity participation during admission.

## 5.6. Conclusion

In contrast to previous studies, the relationship between change in APOM scores and length of stay was insignificant. A positive change in scores was found across all the domains of the APOM with most participants being discharged on a level of Passive participation or higher. When comparing the results of this study to previous studies using the APOM in mental health settings, MHCUs suffering from MDD appeared to have slightly higher levels of creative ability and creative capacity. In keeping with previous studies, the Balanced lifestyle and Affect domains indicated the largest improvements from baseline to discharge.

The interpersonal group therapy showed the highest correlations with change in APOM scores, indicating positive results for the use of the Interactive Groupwork Model. Insignificant correlations between APOM and PHQ-9 scores and poor consistency of the PHQ-9 indicated that the use of the PHQ-9 to measure functional outcomes at the research site should be re-evaluated.

# CHAPTER 6: CONCLUSION

## 6.1. Introduction

The aim of the study was to track and describe change in activity participation of MHCUs with MDD attending occupational therapy group sessions at a private psychiatric hospital and to determine the relationship between activity participation domains and MDD as perceived by the MHCUs. The limitations of the study, future recommendations and evaluation of the study is presented in this chapter, followed by the final conclusion of the research report.

## 6.2. Limitations of the study

### 6.2.1. Methodological limitations:

This study made use of a quasi-experimental design with convenience sampling. Causality of results were therefore limited as there was no randomisation of sampling. Generalisation of the results were further limited by the fact that data collection occurred at only one psychiatric facility. Correlations discussed in the study represented identified relationships between dependent and independent variables, but there was no description of the causal effects of independent variables on one another.

For the first six months of data collection, the researcher was employed at the research site and was therefore involved in the treatment of participants. To limit bias, the researcher was not part of any treatment during the following phases of data collection.

### 6.2.2. Limitations of data

Only MHCUs with a primary diagnosis of MDD were considered for inclusion in this study. Little is still known about the impact of occupational therapy groups on the activity participation of MHCUs with various diagnoses in private psychiatric facilities.

Secondary diagnoses or comorbid conditions of all the participants were not available to the researcher. Comorbid conditions were likely to influence the activity participation but were not recorded or discussed in this study.

Participation in the occupational therapy programme is voluntary. It is therefore possible that participants with severe depression who did not have the necessary drive to participate in groups, were not picked up by the researcher or were not motivated to participate in the study. This may have influenced the average level of creative ability of the sample for this study.

The four participants who did not attend occupational therapy groups should not have been included in the analysis of the final APOM scores. There should have been an exclusion criteria of users who did not attend any treatment, should be omitted form analysis. It is however important to note that the Wilcoxon matched pairs test indicated highly statistically significant results across all the domains of the APOM with p-values of 0.0000. Removing the four participants from the analysis would therefore not have a significant impact on the results of the study, infact, the results should even more significant.

### 6.2.3. Instrument limitations

The APOM is an objective outcome measure administered by trained occupational therapists. The subjective experiences of clients were captured by the PHQ-9 and considered during the administration of the APOM. However, results of this study indicated that there were weak correlations between APOM scores and participants' perceived depression. Further investigation is needed to identify reasons for these discrepancies. Other self-report questionnaires can be used in conjunction with the APOM to identify a compatible tool to measure perceived change in activity participation.

## 6.3. Recommendations

In this study, no follow up assessments were conducted post-discharge as it did not form part of the study objectives. However, it may be interesting to measure the change in activity participation after MHCUs have been discharged. Both the public and private mental health sectors of South Africa lack the funding and resources for outpatient services. Future studies investigating change in activity participation post-

discharge can determine whether inpatient groups are sufficient for community re-integration for MHCUs with MDD.

It is recommended that similar studies be conducted at various private psychiatric settings. This will allow for generalisation of the results of the study and to expand the knowledge base of activity participation of MHCUs with MDD in private psychiatric settings.

Furthermore, the inclusion of more diagnoses in a similar group programme can investigate the impact of occupational therapy groups on the activity participation of MHCUs with different diagnoses. If the researcher's premise that overall APOM scores for MHCUs with MDD are higher than those of other diagnoses is true, it may be worth comparing average APOM scores of different diagnostic groups. This can further aid the research site and similar settings in treatment planning and implementation.

In this study, there was a statistically significant correlation between open and closed groups and APOM scores. Stronger correlations between activity participation and closed groups were identified across the domains of the APOM. With shorter length of stay in hospitals, the majority of the occupational therapy groups in private settings consist of open groups. It may be worth investigating whether these findings were only true for the sample of this study or whether closed groups are in fact more effective than open groups in occupational therapy. Further investigation in the differences and benefits of closed and open occupational therapy groups is recommended.

Previous studies identified a positive relationship between the use of craft groups and reduction of depressive symptoms. In this study however, correlations between the craft group category and activity participation of MHCUs with MDD yielded insignificant results. Since most of mental health occupational therapy practices make use of craft groups, further investigation into the impact of craft groups on activity participation is crucial. Future studies should compare craft group outcomes of MHCUs with MDD at various settings since the presentation of craft groups differs between occupational therapy practices.

The researcher expected a positive relationship between perceived depression and the domains of the APOM. However, the results of this study indicated negligible correlations. Negligible correlations between activity participation (as objectively measured by the researcher) and perceived depression of MHCUs could be attributed

to incompatibility of the two measures. The PHQ-9 focuses on the frequency of depressive symptoms while the APOM includes a wide variety of body functions, performance skills, and performance patterns. Since the PHQ-9 is often used to measure success of treatment in depression, further investigation regarding the suitability of the PHQ-9 to measure change in activity participation is needed.

## 6.4. Evaluation of the study

This study was based on the real-life situation at the research site. During data collection, participants continued with occupational therapy groups and other treatment sessions without changing intervention strategies. Although the study represented the real-life situation at the research site, routine outcome measurement using the APOM does not form part of daily practice. Therefore, APOM assessments and feedback sessions had to be arranged in MHCUs' free time and assessments had to be conducted after hours as the researcher was working full time.

Selecting appropriate candidates for the study was a challenging and time-consuming process. It was arranged with the psychiatrists at the research site to refer MHCUs, who fitted the inclusion criteria of the study, to the researcher. However, due to limited contact with psychiatrists and high caseloads, only a few psychiatrists made referrals. This resulted in a labour-intensive process whereby the researcher made use of the bed list and consulted with each ward at the hospital to confirm which MHCUs were admitted for the first time. Once all the 'first admissions' had been identified, the researcher contacted their psychiatrists to confirm their diagnoses.

Participants were often discharged without the researcher's knowledge. This especially happened when a specific discharge date was established by the psychiatrist, but due to various reasons, was not adhered to. Discharge without the researcher's knowledge was common over weekends when the researcher had limited contact with participants or staff at the research site. Early discharge resulted in missing data.

Using the APOM as routine outcome measure at the research site was determined feasible. Since only five occupational therapists are responsible for the group programme, the time-consuming nature of the tool was found to be a barrier to

implementation. Therefore, the research site has adopted routine outcome measurement using only certain items of the APOM to track change during admission.

Despite above mentioned challenges, the completion of 150 APOMs during the course of the study had helped the researcher to estimate a MHCU's level of creative ability while interacting with them in a clinical setting and therefore adjusting therapy accordingly. Another positive factor was the positive change in APOM scores following participation in occupational therapy groups. Positive change in APOM scores were confirmed by MHCUs' subjective report during their final interviews when most participants explained the influence of occupational therapy groups on their recovery and overall functioning. Furthermore, the results of the study can assist with the re-evaluation of the current programme at the research site and with making the necessary adjustments to improve MHCUs' activity participation during admission in the future.

Rich information emerged from the interviews with MHCUs during APOM assessments. A mixed method design including qualitative data could have provided additional information regarding trends and changes in participants' activity participation.

Interpreting the results of this study was a rewarding process as rich evidence emerged which could be used to assert the importance of occupational therapy within acute mental health settings. Results associated with open and closed groups were especially rewarding as clinical observations indicated that closed groups were more effective, but to date, no scientific proof was available to confirm these observations. This study thus adds valuable new evidence.

## 6.5. Conclusion

The overall aim of this study was to track changes in activity participation of MHCUs with MDD during their admission to a private psychiatric facility in Gauteng. The purpose of the study was to determine the impact of different types of occupational therapy groups on the activity participation of participants as measured by the APOM. Additionally, the study aimed to determine whether a relationship exists between change in APOM scores and perceived depression as measured by the PHQ-9.

Overall, the findings of the study yielded several positive results. A statistically significant positive change in activity participation from baseline to discharge was found across all the domains of the APOM. The largest positive change was indicated by the Balanced lifestyle domain, followed by the Affect domain. Role performance indicated the lowest positive change from baseline to discharge.

The number of groups attended during admission had moderate correlations with change in activity participation and was found to be statistically significant. In contrast, correlations between length of stay and change in APOM scores were found to be negligible and insignificant. These findings highlight the importance of the occupational therapy programme at the research site as well as the influence of group participation on MHCUs' quality of life.

Changes associated with the different types of occupational therapy groups indicated that closed groups were superior to open groups when correlated to change in activity participation. No research has been done on the difference in open and closed groups using the Interactive Group Model in occupational therapy. The findings of this study can serve as a stepping stone for future experimental studies with a randomised sample, investigating the difference in outcomes between open and closed groups in occupational therapy.

The stress management group category was found to be most effective in addressing acute signs and symptoms of depression such as Affect. The interpersonal group category had the highest and most significant correlations with change in APOM scores. In this category, treatment is planned according to the interactive groupwork model, indicating the benefits of using this model in acute private psychiatric settings.

Findings indicated insignificant correlations between perceived depression and APOM scores. The PHQ-9 is the chosen outcome measure at the research site to track change from baseline to discharge and is used routinely. The results of this study suggested that PHQ-9 scores should be interpreted with caution when change in functional performance is concerned. Results from this study further suggested that improvement in perceived depression does not necessarily translate to the same degree of improved functional performance.

In conclusion, the researcher cannot claim that improvement in APOM scores was a result of occupational therapy groups alone since this was a non-randomised study where each user was his or her own control. According to the findings of this study however, it can be concluded that occupational therapy groups play a valuable and integral role in the road to recovery for MHCUs with MDD during their admission to a private psychiatric setting.

# References


Addisu, F., Wondafrash, M., Chemali, Z., et al. (2015). Length of stay of psychiatric admissions in a general hospital in Ethiopia: a retrospective study. *International Journal of Mental Health Systems,* 9(13). doi: 10.1186/s13033-015-0006-x

Alonso, J., Angermeyer, M.C., Bernert, S., et al. (2004). 2-Month comorbidity patterns and associated factors in Europe: results from the European study of the epidemiology of mental disorders (ESEMeD) project. *Acta Psychiatrica Scandinavica. Supplementum,* 109(420), pp. 28-37.

Alonso, J., 2011. *Cohesion's Relationship to Outcome in Group Psychotherapy: A Meta-Analytic Review of Empirical Research*: A dissertation submitted to the faculty of Brigham Young University in partial fulfillment of the requirements for the degree of Doctor of Philosophy . Available at: https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=3657&context=etd. Accessed 14 July 2020.

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental Disorders: DSM-5.* 5th ed. Washington, DC: APA.

AOTA. (2014). Occupational therapy practice framework: domain and process, 3rd ed. *American Journal of Occupational Therapy,* 68(1).

Ardal, G. & Hammar, A. (2011). Is impairment in cognitive inhibition in the acute phase of major depression irreversible? Results from a 10-year follow-up study. *Psychology and Pscychotherapy,* 84 (2), pp. 141-150.

Babiss, F. (2002). An ethnographic study of mental health treatment and outcomes: doing what works. *Occupational Therapy in Mental Health,* 18(3), pp. 1-14.

Balinger, C. (2012). The Elizabeth Casson memorial lecture 2012: The efffectiveness, impact and legacy of occupational therapy. *British Journal of Occupational Therapy,* 75(8), pp. 350-358.

Baum, C. & Christiansen, C. (2005). The result of interventions in occupational therapy practice, In: Christiansen, C., Baum, C. & Bass-Haugen, J. eds. *Occupational Therapy: Performance, Participation and Well-being. 3rd ed.* New York: Slack Incorporated, pp. 523-534.

Bloomer, J. & Williams, S. (1987). *Bay Area Functional Performance Evaluation.* 2nd ed. USA: Maddak Inc.

Bonde, J. (2008). Psychosocial factors at work and risk of depression: a systematic review of the epidemiological evidence. *Occupational and Environmental Medicine,* 65, pp. 438-445.

Botha, M. (2011). *Validation of the Patient Health Questionnaire (PHQ-9) in an African Context,* Mini - dissertation (article format ) submitted to in partial fulfilment of the requirements for the degree Master of Arts (Research Psychology) at the North - West University (Potchefstroom Campus). Available at: https://dspace.nwu.ac.za/bitstream/handle/10394/4647/Botha_MN.pdf?sequence=2&isAllowed=y. Accessed 12 January 2020.

Brink, T. & Janakes, C. (1979). Buber's interpersonal theory as a hermeneutic. *Journal of Religion and Health,* 18(4).

Brooke, C. (2015). *Selected psychometric properties of the activity participation outcome measure to describe trends in a forensic population of mental health care users*: 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. Available at: https://pdfs.semanticscholar.org/2a12/7614e885870d82fa295a72652146466b7382.pdf. Accessed on 15 June 2018.

Buber, M. (1937). *I and Thou (Translated by Smith).* Edinburgh: T and T Clark.

Buist-Bouwman, M.A., Ormel, J., De Graaf, R., et al. (2008). Mediators of the association between depression and role functioning. *Acta Psychiatrica Scandinavica,* 118, pp. 451-458.

Burns, T. (2007). Evolution of outcome measures in schizophrenia. *British Journal of Psychiatry,* 191, pp. S1-S6.

Camp, A. (2015). *The responsiveness to change and relevance of the Activity Participation Outcome Measure in patients with traumatic brain injury in an acute neurological rehabilitation setting,* A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science in Occupational Therapy Available

at: https://www.physio-pedia.com/Traumatic_Brain_Injury_Outcome_Measures_Overview. Accessed on 14 July 2018.

Carter, M. (2013). *Analysis of routine outcome measurement data in mental health occupational therapy,* Northhampton: Dissertation submitted for the degree of Master of Science.

Casteleijn, D. (2010). *Development of an outcome measure for occupational therapists in mental healthcare settings.* Submitted in fulfilment of the requirements for the degree Philosophiae Doctor in Occupational Therapy, University of Pretoria.

Casteleijn, D. (2013). Stepping stones from input to outcomes. *South African Journal of Occupational Therapy,* 43(1), pp. 2-9.

Casteleijn, D. (2014). Using measurement principles to confirm the levels of creative ability as described in the Vona du Toit Model of Creative Ability. *South African Journal of Occupational Therapy,* 44(1), pp. 14-19.

Casteleijn, D. & Graham, M. (2012). Domains for occupational therapy outcomes in mental health practices. *South African Journal of Occupational Therapy,* 42(1), pp. 26-34.

Casteleijn, D. & Holsten, E. (2019). Creative ability - its emergence and manifestation, In: Van der Reyden, D., Casteleijn, D., Sherwood, W., et al. eds. *The Vona du Toit Model of Creative Ability.* Cape Town: The Vona and Marie du Toit Foundation, pp. 119-124.

Casteleijn, J.M.F. (2011). *Development of an outcome measure for occupational therapists in mental healthcare settings.* [Online] Available at: https://repository.up.ac.za/bitstream/handle/2263/28019/Complete.pdf?sequence=7&isAllowed=y [Accessed 2019 December 2019].

Cha, D., Carmona, N.E., Subramaniapillai, M., et al. (2017). Cognitive impairment as measured by the THINC-integrated tool (THINC-it): association with psychosocial function in major depressive disorder. *Journal of Affective Disorders,* 222, pp. 14-20.

Chandraiah, S., Anand, S. & Avent, L. (2012). Efficacy of group art therapy on depressive symptoms in adult heterogeneous psychiatric outpatients. *Art Therapy,* 29(2), pp. 80-86.

Chard, D. (2000). An investigation into the use of the Assessment of Motor and Process Skills (AMPS) in clinical practice. *British Journal of Occupational Therapy,* 63(10), pp. 481-488.

Chen, Z. & Eng, J. (2015). Use of the Australian Therapy Outcome Measures for Occupational Therapy (AusTOMs-OT) in an early supported discharge programme for stroke patients in Singapore. *British Journal of Occupational Therapy,* 78(9), pp. 570-575.

Chisholm, D., Flisher, A.J., Lund, C., et al. (2007). Scale up services for mental disorders: a call for action. *Lancet,* 370(94), pp. 1241-52.

Christiansen, C. & Townsend, E. (2004). *Introduction to Occupation: The Art and Science of Living.* Upper Saddle River: Pearson Education, Inc.

Clark, F., Parham, D., Carlson, M.E., et al. (1991). Occupational science: academic innovation in the service of occupational therapy's future. *American Journal Of Occupational Therapy,* 45(4), pp. 300-310.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences.* 2nd ed. Hillsdale, NJ: Erlbaum.

Cole, M. (2012). *Group dynamics in occupational therapy: the theoretical basis and practice application of group intervention.* Thorofare: SLACK Inc.

Colquhoun, H., Letts, L., Law, M. et al. (2010). Routine administration of the Canadian Occupational Performance Measure: effect on functional outcome. *Australian Occupational Therapy Journal,* 57, pp. 111-117.

Cooke, D., McKenna, K., Flemming, J., et al. (2006). Construct and ecological validity of the Occupational Therapy Adult Perceptual Screening Test (OT-APST). *Scandinavian Journal of Occupational Therapy,* 13, pp. 49-61.

Coombs, T., Stapley, K. & Pirkis, J. (2011). The multiple uses of routine mental health outcome measures in Australia and New Zealand: experiences from the field. *Australasian Psychiatry,* 19(3), pp. 247-253.

Creek, J. (2003). *Occupational therapy defined as a complex intervention.* London: College of Occupational Therapists.

Creswell, J.W., Klassen, A.C., Plano Clark, V.L., et al. (2011). Best practices for mixed methods research in the health sciences. *Bethesda (Maryland): National Institutes of Health,* 29, pp. 1-39.

Crouch, R. & Alers, V. (2014). Occupational therapy with mood disorders, In: Crouch, R. & Alers, V. eds. *Occupational Therapy in Psychiatry and Mental Health 5th edition.* Oxford: Wiley-Blackwell, pp. 389-407.

Cutchin, M. (2004). Using Deweyan philosophy to rename and reframe adaptation-to-environment. *American Journal of Occupational Therapy,* 58, pp. 303-312.

Davidson, S. (2018). *Perception of mental health care users on the contribution of the interactive groupwork model in occupational therapy groups to their recovery,* University of Cape Town: In partial fulfilment of the requirements for the degree MSc Occupational Therapy.

De Witt, P. (2014). Creative ability: A model for individual and group occupational, In: Crouch, R. & Alers, V. eds. *Occupational Therapy in Psychiatry and Mental Health.* London: Wiley, pp. 3-32.

Demyttenaere, K., Enzlin, P., Dewé, W., et al. (2001). Compliance with antidepressants in a primary care setting, 1: Beyond lack of efficacy and adverse events. *Journal of Clinical Psychiatry,* 62(22), pp. 30-33.

Desha, L. & Ziviani, J. (2007). Use of time in childhood and adolescence: a literature review on the nature of activity participation and depression. *Australian Occupational Therapy Journal,* 54, pp. 4-10.

Dickie, V., Cutchin, M. & Humphry, R. (2006). Occupation as transactional experience: a critique of individualsm in occupational science. *Journal of Occupational Science,* 13(1), pp. 83-93.

Donnelly, M., Scott, D., McGilloway, S., et al. (2011). *Patient outcomes: what are the best methods for measuring recovery from mental illness and capturing feedback from patients in order to inform service.* [Online] Available at: http://www.publichealth.hscni.net/sites/default/files/Patient%20Outcomes.pdf [Accessed 10 January 2020].

Drum, D., Becker, S.M & Hess, E. (2011). Expanding the application of group interventions: emergence of groups in health care settings. *Journal of Specialists in Group Work,* 36(4), pp. 247-263.

Du Toit, V. (1974). An investigation into the correlation between volition and its expression in action. *South African Journal of Occupational Therapy,* pp. 6-9.

Du Toit, V. (1991). *Patient volition and action in occupational therapy.* 4th ed. Pretoria: Vona & Marie du Toit Foundation.

Duncan, M. & Prowse, C. (2014). Occupational therapy with mood disorders, In: Crouch, R. & Alers, V. eds. *Occupational Therapy in Pscyhiatry and Mental health .* United Kingdom: John Wiley & Sons, Ltd, pp. 389-407.

Durocher, E. et al., 2014. Occupational Justice : A Conceptual Review, *Journal of Occupational Science*, 21(4), pp.418–430.

Durocher, E., *Rappolt*, S. & Gibson, B.E. (2017). Occupational justice: future directions. *Journal of Occupational Science,* 21(4), pp. 5-17.

Eaton, J., McCay, L., Semrau, M., et al., (2011). Scale up of services for mental health in low-income and middle-income countries. *Lancet,* 378, pp. 1592–1603.

Eklund, M. & Bäckström, M. (2006). The role of perceived control for the perception of health by patients with persistent mental illness.. *Scandinavian Journal of Occupational Therapy,* 13(4), pp. 249–256.

Etikan, I., Musa, S.A. & Alkassim, R.S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics,* 5(1), pp. 1-4.

Fisher, A. & Jones, K. (2010). *Assessment of Motor and Process Skills, Vol. 1: Development, standardization, and administration manual.* 7th ed. Fort Collins, CO: Three Star Press.

Fouche, L. (2014). Experiential workshop in occupational group therapy: *Core Concepts of the Interactive Occupational Therapy Group Model*. Unpublished OT Grow workshop notes on the Interactive Groupwork Model.

Frantell, K. (2016). *Positive and negative emotion, group climate, and ethnocultural empathy in intergroup dialogue,* University of Tennessee, Knoxville: A thesis presented for the Master of Arts Degree.

Freeman, C. (2013). Dealing with major depression. *South-African Pharmaceutical Journal,* 80(6), pp. 16-21.

Fried, E. & Nesse, R., (2014). The impact of individual depressive symptoms on impairment of psychosocial functioning. *PLoS One,* 9.

Gan, Z., Li, Y., Xie, Z., et al., (2012). The impact of educational status on the clinical features of major depressive disorder among Chinese women. *Journal of Affective Disorders,* 136(3), pp. 988-922.

Gastongguay, L. & Pincus, A. (1998). The role of emotion in group cognitive-behavioural therapy for binge eating disorder: when things have to feel worse before they get better. *Psychotherapy Research,* 8(2), pp. 225-238.

Glick, I., Sharfstein, S.S. & Schwartz, H. (2011). Inpatient psychiatric care in the 21st century: the need for reform. *Psychiatric Services,* 62(2), pp. 206-209.

Global Burden of Disease Study 2013 Collaborators. (2015). Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990–2013: a systematic analysis for the global burden of disease study 2013. *Lancet,* 386, pp. 743-800.

Gray, J. (1997). Application of the phenomenological method to the concept of occupation. *Journal of Occupational Science,* 4(1), pp. 5-17.

Grobler, G. (2013). Major depression treatment guidelines. *South African Journal of Psychiatry,* 19(3), pp. 157-163.

Gulliver, A., Griffiths, K. & Christensen, H. (2010). Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC Psychiatry ,* 10(113).

Halvorsen, M., Høifødt, R.S., Myrbakk, I.N., et al. (2012). Cognitive function in unipolar major depression: a comparison of currently depressed, previously depressed, and never depressed individuals. *Journal of Clinical and Experimental Neuropsychology,* 34(7), pp. 782-790.

Hammell, K. (2009). Self-care, productivity, and leisure, or dimensions of occupational experience? Rethinking occupational “categories”. *Canadian Journal of Occupational Therapy,* 76(2).

Harris, A.D., Mcgregor, J.C., Perencevich, E.N., et al. (2006). The use and interpreatation of quasi-experimental studies in medical informatics. *Journal of the American Medical Informatics Association,* 13(1), pp. 16-23.

Harrison, J., Lophaven, S. & Olsen, C. (2016). Which cognitive domains are improved by treatment with vortioxetine?. *International Journal of Neuropsychopharmacology,* 19(10), pp. 1-6.

Hasselbalch, B., Knorr, U. & Kessing, L.V. (2011). Cognitive impairment in the remitted state ofunipolar depressive disorder: a systematic review. *Journal of Affective Disorders,* 134, pp. 20-31.

Hasselkus, B. (2011). *The meaning of everyday occupation.* 2nd ed. Thorofare: SLACK Incorporated.

Hayward, E. (2017). Doctors are over diagnosing depression 'because of a basic quiz by a drugs firm making antidepressants'. *MailOnline*. [Online] Available at: https://www.dailymail.co.uk/health/article-4528690/Doctors-diagnosing-depression.html [Accessed 12 February 2020].

Hitch, D. (2007). A critique of the Assessment of Motor and Process Skills (AMPS) in mental health practice. *Mental Health Occupational Therapy ,* 12(1), pp. 4-13.

Homer, S. (2014). Improving health and access to health services through community-based rehabilitation, In: Crouch, R. & Alers, V. eds. *Occupational Therapy in Psychiatry and Mental Health .* United Kingdom : John Wiley & Sons, Ltd, pp. 126-147.

Horghagen, S., Gostvedt, B. & Alsaker, S. (2014). Craft activities in groups at meeting places: supporting mental health users' everyday occupations. *Scandinavian Journal of Occupational Therapy,* 21, pp. 145–152.

Howe, C. & Schwartzberg, S. (2001). *A functional approach to group work in occupational therapy.* 3rd ed. Baltimore: Lippincott Williams & Wilkins.

Hyder, A. & Morrow, R. (2006). Culture, behavior, and health, In: Merson, M., Black, R. & Mills, A. eds. *International Public Health: Diseases Programs, Systems and Policies.* Gaithersburg, MD: Aspen Publishers, pp. 41-66.

Inoue, T., Tanaka, T., Nakagawa, S., et al. (2012). Utility and limitations of PHQ-9 in a clinic specializing in psychiatric care. *BMC Psychiatry,* 12(73).

IsHak, W.W., James, D.M., Mirocha, J., et al. (2016). Patient-reported functioning in major depressive disorder. *Therapeutic Advances in Chronic Diseases,* 7, pp. 160-169.

IsHak, W.W., Mirocha, J., Pi, S., et al. (2014). Patient-reported outcomes before and after treatment of major depressive disorder. *Dialogues in Clinical Neuroscience ,* pp. 171-183.

Jacobson, N. & Greenley, D. (2001). What is recovery? A conceptual model and explication. *Psychiatric Services,* 52(4), p. 482–485.

Keller, M., McCullough, J.P., Klein, D.N., et al. (2000). A comparison of nefazodone, the cognitive behavioral-analysis system of psychotherapy, and their combination for the treatment of chronic depression. *The New England Journal of Medicine,* 342(20), pp. 1462-1470.

Kielhofner, G. (2006). *Research in occupational therapy: methods of inquiry for enhancing practice.* Philadelphia: F.A. Davis.

Kielhofner, G. & Forsyth, K. (1997). The Model of Human Occupation: an overview of current concepts. *British Journal of Occupational Therapy,* 60(3), pp. 103-110.

Kirsh, B. & Cockburn, L. (2009). The Canadian Occupational Performance Measure: a tool for recovery-based practice. *Psychiatric Rehabilitation Journal,* 32(3), pp. 171-176.

Klyczek, J. & Mann, W. (1990). Concurrent validity of the task-oriented assessment component of the Bay Area Functional Performance Evaluation with the American Association on mental deficiency adaptive behaviour scale. *American Journal of Occupational Therapy ,* 40(10), pp. 907-912.

Kramer, J., Kielhofner, G., Lee, S., et al. (2009). Utility of the Model of Human Occupation Screening Tool for detecting client change. *Occupational Therapy in Mental Health,* 25, pp. 181-191.

Kroenke, K., Spitzer, R. & Williams, J., 2001. Validity of a Brief Depression Severity Measure. *Journal of General Internal Medicine ,* 16(9), pp. 606-613.

Kroenke, K. & Spitzer, R.L. (2002). The PHQ-9: a new depression diagnostic and severity measure. *Psychiatric Annals,* 32(9), pp. 509-515.

Kronenberg, F., Kathard, H., Rudman, D.L., et al. (2015). Can post-apartheid South Africa be enabled to humanise and heal itself?. *South African Journal of Occupational Therapy,* 45(1), pp. 20-27.

Kumar, R. (2011). *Research methodology: a step-by-step guide for beginners.* 3rd ed. London: Sage Publications Ltd.

Laver-Fawcett, A. (2007). *Principles of assessment and outcome measurement for occupational therapists and physiotherapists: theory, skill and application.* Hoboken, New Jersey: John Wiley & Sons.

Law, M. (2002). Participation in the occupations of everyday life, 2002 distinguished scholar lecture. *American Journal of Occupational Therapy,* 56, pp. 640–649.

Law, M., Baptiste, S. & Mills, J. (1995). Client-Centred Practice: What does it Mean and Does it Make a Difference? *Canadian Journal of Occupational Therapy*, *62*(5), 250–257. https://doi.org/10.1177/000841749506200504

Law, M., Baptiste, S., Carswell, A., et al. (2004). *The Canadian Occupational Performance Measure.* 4th ed. Toronto: CAOT.

Law, M. & Baum, C. (2001). Measuring occupational performance - supporting best practice in occupational therapy, In: Law, M., Baum, C. & Dunn, W. eds. *Measurement in Occupational Therapy.* New York: Slack Incorporated, pp. 4-19.

Lee, R., Hermens, D., Porter, M., et al. (2012). A meta-analysis of cognitive deficits in first-episode major depressive disorder. *Journal of Affective Disorders,* 140, pp. 113–124.

Levine, R. & Brayley, C. (1991). Occupation as a therapeutic medium: a contextual approach to performance interventions, In: Christiansen, C. & Baum, C. eds. *Occupational Therapy: Overcoming Human Performance Deficits.* Thorofare, NJ: Slack.

Lim, K., Morris, J. & Craik, C. (2007). Inpatients' perspectives of occupational therapy in acute mental health. *Australian Occupational Therapy Journal,* 54, pp. 22-32.

Lloyd, C. & Williams, P. (2010). Occupational therapy in the modern adult acute care mental health setting: a review of current practice. *International Journal of Therapy and Rehabilitation,* 17(9), pp. 483–494.

Lowe, B., Unutzer, J., Callahan, C., et al. (2004). Monitoring depression treatment outcomes with the patient health questionnaire-9. *Medical Care,* 42(12), pp. 194-201.

Lund, C., Petersen, I., Kleintjes, S., et al. (2012). Mental health services in South Africa: taking stock. *African Journal of Psychiatry,* 15(6), pp. 402-405.

Mackenzie, K. (1996). Time-limited group psychotherapy. *International Journal of Group Psychotherapy,* 46, pp. 41-60.

Magaard, J., Seeralan, T., Schulz, H., et al. (2017). Factors associated with help-seeking behaviour among individuals with major depression: a systematic review. *PLoS One,* 12(5).

Malpass, A., Shaw, A. & Kessler, D. (2010). Concordance between PHQ-9 scores and patients' experiences of depression: a mixed methods study. *British Journal of General Practice,* 60(575), pp. 231–238.

Managh, M. & Cook, J. (1993). The use of standardized assessment in occupational therapy: The BaFPE-R as an example. *American Journal of Occupational Therapy,* 47(10), pp. 877-884.

Mann, W. & Huselid, R. (1993). An abbreviated task-oriented assessment (bay area functional performance evaluation). *American Journal of Occupational Therapy,* 47(2), pp. 111-118.

Maske, U., Buttery, A.K., Beesdo-Baum, K., et al. (2016). Prevalence and correlates of DSM-IV-TR major depressive disorder, self-reported diagnosed depression and current depressive symptoms among adults in Germany. *Journal of Affective Disorders,* 190, pp. 167-177.

Matsoso, M. & Fryatt, R. (2013). National health insurance: the first 18 months. *South African Medical Journal,* 103(3).

McCarney, R., Schulz, J. & Grey, A. (2012). Effectiveness of mindfulness-based therapies in reducing symptoms of depression: a meta-analysis. *European Journal of Psychotherapy & Counselling,* 14(3), pp. 279-299.

McCarthy, C. & Hart, S. (2011). Designing groups to meet evolving challenges in health care settings. *Journal for Specialists in Group Work,* 36(4), pp. 352-367.

McGough, J. & Faraone, S. (2009). Estimating the size of treatment effects: moving beyond p values. *Psychiatry (1550-5952),* 6(10), pp. 21-29.

McIntyre, R., Cha, D.S., Soczynska, J.K., et al. (2013). Cognitive deficits and functional outcomes in major depressive disorder: determinants, substrates, and treatment interventions. *Depression and Anxiety,* 30, pp. 515-527.

McKnight, P. & Kashdan, T. (2009). The importance of functional impairment to mental health outcomes: a case for reassessing our goals in depression treatment research.. *Clinical Psychology Review,* 29, pp. 243-259.

Middel, B. & Van Sonderen, E. (2002). Statistical significant change versus relevant or important change in (quasi) experimental design: some conceptual and methodological problems in estimating magnitude of intervention-related change in health services research. *International Journal of Integrated Care,* 2(15).

Murray, C. & Lopez, A. (1997). Alternative projections of mortality and disability cause 1990-2020: global burden of disease study. *Lancet,* 349, pp. 1498-1504.

Murray, G., Michalak, E.E., Axler, A., et al. (2010). Relief of chronic or resistant depression (Re-ChORD): a pragmatic, randomized, open-treatment trial of an integrative program intervention for chronic depression. *Journal of Affective Disorders,* 123, pp. 243-248.

Nahas, R. & Sheik, O. (2011). Complementary and alternative medicine for the treatment of major depressive disorder. *Canadian Family Physician,* 57(6), pp. 659-663.

Nglazi, M., Joubert, J., Stein, D., et al. (2016). Epidemiology of major depressive disorder in South Africa (1997-2015): a systematic review protocol. *BMJ Open,* 6(7).

Nieuwenhuizen, M.G., De Groot, S., Janssen, T.W., et al. (2014). Canadian Occupational Performance Measure performance scale: validity and responsiveness in chronic pain. *Journal of Rehabilitation Research and Development ,* 51(5), pp. 727-746.

Northen, H. & Kurland, R. (2013). *Social work with groups.* New York, NY: Columbia University Press.

Occupational Therapy Association of South Africa. (2014). Position statement on theraputic group work in occupational therapy. *South African Journal of Occupational Therapy,* 44(3), pp. 43-44.

Otieno, F. (2015). *Length of stay and influence of specific factors at the Tara H Moross Centre*: A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, in partial fulfillment of the requirements for the degree of Master of Public Health in the field of Hospital Management.

Parker, D. & Sykes, S. (2006). A systematic review of the Canadian Occupational Performance Measure: a clinical practice perspective. *British Journal of Occupational Therapy,* 69(4), pp. 150-160.

Parkinson, S., Chester, A., Cratchley, S., et al. (2008). Application of human occupation screening tool (MOHOST assessment) in an acute psychiatric setting. *Occupational Therapy in Health Care,* 22(2-3), pp. 63-75.

Peloquim, S. (2005). Eleanor Clark Slagle lecture: embracing our ethos, reclaiming our heart. *American Journal of Occupational Therapy,* 59, pp. 611-625.

Perry, A., Morris, M., Unsworth, C., et al. (2004). Therapy outcome measures for allied health practitioners in Australia: the AusTOMs. *International Journal for Quality in Health Care,* 16(4), pp. 285-291.

Petersen, I. & Lund, C. (2011). Mental health service delivery in South Africa from 2000 to 2010: One step forward, one step back. *South African Medical Journal,* 101(10), pp. 751-757.

Pillay, S. (2016). *Responsiveness to change and convergent validity of the Activity Participation Outcome Measure (APOM) in adolescent mental health care users*: 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.

Pizzagalli, D., Nitschke, J. & Davidson, R. (2009). Representation and regulation of emotion in depression, In: Gotlib, I.H. & Hammen, C.L. ed. *Handbook of Depression.* 2nd ed. New York: The Guilford Press, pp. 218-248.

Pollard, N. & Cook, S. (2012). The power of low-key groupwork activities in mental health support work. *Group Work,* 22(3), pp. 7-32.

Raghupathi, W. & Raghupathi, V. (2014). Big data analytics in healthcare: promise and potential. *Health Information Science and Systems,* 2(3).

Ramano, E. (2017). *A comparison of two occupational therapy group programmes on the task-oriented functioning of mental health care users with major depressive disorders.* Submitted in fulfilment of the requirements for the degree Doctor Philosophiae, University of Pretoria.

Rauch, J. (2016). Why you might feel bad (or worse) after therapy. *Talkspace*. [Online] Available at: https://www.talkspace.com/blog/why-you-might-feel-bad-or-worse-after-therapy/ [Accessed: 16 February 2020]

Reilly, M. (1962). The 1961 Eleanor Clarke Slagle lecture: occupational therapy can be one of the great ideas of 20th century medicine. *The American Journal of Occupational Therapy,* 16(1), pp. 1-9.

Riolo, L. (1992). Research for the health professional: a practical guide. *Journal of Neurologic Physical Therapy,* 16(1), p. 33.

Robinson, J., Khan, N., Fusco, L., et al. (2017). Why are there discrepancies between depressed patients' global rating of change and scores on the Patient Health Questionnaire depression module? A qualitative study of primary care in England. *BMJ Open ,* 7(4).

Sadock, B. J., Sadock, V. A. & Ruiz, P. (2015). *Kaplan and Sadock's synopsis of psychiatry: behavioral sciences/clinical psychiatry.* 11th ed. Philadelphia: Wolters Kluwer.

Scheibe, S., Preuschhof, C., Cristi, C. & RM, Bagby, 2003. Are there gender differences in major depression and its response to antidepressants?. *Journal of Affective Disorders ,* 75(3), pp. 223-235.

Schramm, E., Schneider, D., Zobel, I., et al. (2008). Efficacy of interpersonal psychotherapy plus pharmacotherapy in chronically depressed inpatients. *Journal of Affective Disorders,* 109(1-2), pp. 65-73.

Scott, J., Scott, R.G., Miller, W.L., et al. (2009). Healing relationships and the existential philosophy of Martin Buber. *Philosophy, Ethics, and Humanities in Medicine,* 4(11).

Shank, K. & Cutchin, M. (2010). Transactional occupations of older women aging-in-place: negotiating change and meaning. *Journal of Occupational Science,* 17(1), pp. 4-12.

Sheehan, D., Mancini, M., Wang, J., et al. (2016). Assessment of functional outcomes by Sheehan Disability Scale in patients with major depressive disorder treated with duloxetine versus selective serotonin reuptake inhibitors. *Human Psychopharmacology: Clinical and Experimental,* 31, pp. 53-63.

Silaule, O. (2016). *Routine measurement of outcomes for mental health care users attending occupational therapy in an acute mental health care unit within a rural context*: 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.

Slabbert, F., Harvey, B., Brink, C., et al. (2015). Prospective analysis of the medicine possession ratio of antidepressants in the private healthsector of South Africa, 2006 - 2011. *South African Medical Journal,* 105(2).

Snyder, H. (2013). Major depressive disorder is associated with broad impairments on neuropsychological measures of executive function: a meta-analysis and review. *Psychological Bulletin,* 139, pp. 81-132.

South Africa National Department of Health. (2013). *National mental health policy framework and strategic plan: 2013-2020.* [Online] Available at: https://www.health-e.org.za/wp-content/uploads/2014/10/National-Mental-Health-Policy-Framework-and-Strategic-Plan-2013-2020.pdf [Accessed 13 March 2020].

South Africa National Department of Health. (2015). *National health insurance for South Africa: towards universal health coverage. White paper (Vol. 48).* [Online] Available at: https://health-e.org.za/wp-content/uploads/2015/12/National-Health-Insurance-for-South-Africa-White-Paper.pdf [Accessed 16 March 2020].

Sundsteigen, B., Eklund, K. & Dahlin-Ivanoff, S. (2009). Patients' experience of groups in outpatient mental health services and its significance for daily occupations. *Scandinavian Journal of Occupational Therapy,* 16(3), pp. 172-180.

Swartzberg, S., Trudeau, S. & Vega, V. (2013). Principles of occupational therapy group outcome assessment in mental health. *Occupational Therapy in Mental Health,* 29, pp. 134-148.

Tasca, G. (2014). Attachment and group psychotherapy: introduction to a special section. *Psychotherapy,* 51, pp. 53-56.

Tavakol, M.D.R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education,* 2, pp. 53-55.

Thornicroft, G., Chatterji, S., Evans-Lacko, S., et al. (2017). Undertreatment of people with major depressive disorder in 21 countries. *The British Journal of Psychiatry,* 210(2), pp. 119–124.

Thornicroft, G. & Patel, V. (2014). Including mental health among the new sustainable development goals. *BMJ,* 349.

Tomlinson, M., Grimsrud, A.T., Stein, D., et al. (2009). The epidemiology of major depression in South Africa: results from the South African stress and health study. *South African Medical Journal,* 99(5).

Tourigny, M. & Hébert, M. (2007). Comparison of Open Versus Closed Group Interventions for Sexually Abused Adolescent Girls. *Violence and Victims,* 22(3), pp. 335-351.

Townsend, E. & Wilcock, A.A. (2004). Occupational justice and client centred practice: A dialogue in progress. *Canadian Journal of Occupational therapy,* 71(2), pp.75–87.

Trivedi, M. & Greer, T. (2014). Cognitive dysfunction in unipolar depression: Implications for treatment. *Journal of Affective Disorders,* 154, pp. 19-27.

Trivedi, M., Morris, D.W., Wisniewski, S.R., et al. (2013). Increase in work productivity of depressed individuals with improvement in depressive symptom severity. *American Journal of Psychiatry,* 170, pp. 633–641.

Tulloch, A., David, A. & Thornicroft, G. (2015). Exploring the predictors of early readmission to psychiatric hospital. *Epidemiology and psychiatric sciences,* pp. 1-13.

Tupper, D. & Cicerone, K. (1990). *The Neuropsychology of everyday life: issues in development and rehabilitation.* Boston: Kluwer Academic Publishers.

Tzoneva, D. (2014). Attending to mental crises. *Mental Health Matters,* 1(2), pp. 47-50.

Unsworth, C.A., Duckett, S.J., Duncombe, D., et al. (2004). Validity of the AusTOM scales: a comparison of the AusTOMS and EuroQol-5D. *Health and Quality of Life Outcomes,* 2, p. 64.

Van der Merwe, M. (2012). Psychiatry in distress: How far has South Africa progressed in supporting mental health? *Daily Maverick*. [Online] Available at: https://www.dailymaverick.co.za/article/2015-07-15-psychiatry-in-distress-how-far-has-south-africa-progressed-in-supporting-mental-health/ [Accessed 18 September 2018.

Van der Reyden, D. (1989). Vona du Toit memorial lecture: creative participation, 20 years later. *South African Journal of Occupational Therapy,* 19, pp. 28-36.

Van der Reyden, D., Casteleijn, D., Sherwood, W., et al. (2019). *The Vona du Toit Model of Creative Ability.* Cape Town: The Vona and Marie du Toit Foundation .

Van der Reyden, D. & Sherwood, W. (2019). The Vona du Toit Model of Creative Ability core constructs and concepts, In: Van der Reyden, D., Casteleijn, D., Sherwood, W. & De Witt, P. eds. *The Vona du Toit Model of Creative Ability .* Cape Town : The Vona and Marie du Toit Foundation , pp. 60-101.

van Knippenberg, D., Haslam, S. & Platow, M. (2007). Unity through diversity: value-in-diversity beliefs, work group diversity, and group identification. *Group Dynamics: Theory, Research, and Practice,* 11(3), pp. 207-222.

Victor, M., Lau, B. & Ruud, T. (2017). Predictors of return to work among patients in treatment for common mental disorders: a pre-post study. *BMC Public Health,* 18(27).

Wagner, S., Doering, B., Helmreich, I., et al. (2012). Meta-analysis of executive dysfunctions in unipolar major depressive disorder without psychotic symptoms and their changes during antidepressant treatment. *Acta Psychiatrica Scandinavica,* 152, p. 281–292.

Warner, R. (2012). *Applied statistics: from bivariate through multivariate techniques.* Philadelphia: Sage.

Watson, L. & Coetzee, Z. (2019). Background and origins of the Vona du Toit Model of Creative Ability 1962-1974, In: Van Reyden, D., Casteleijn, D., Sherwood, W. & De

Witt, P. eds. *The Vona du Toit Model of Creative Ability Origins, Constructs, Principles and Application in Occupational Therapy.* Cape Town: The Vona and Marie du Toit Foundation, pp. 29-34.

Weich, L. & Pienaar, W. (2009). Occurrence of comorbid substance use disorders among acute psychiatric inpatients at Stikland Hospital in the Western Cape, South Africa. *African Journal of Psychiatry,* 12(3), pp. 213-217.

Weinberger, A., Gbedemah, M., Martinez, A.M., et al. (2018). Trends in depression prevalence in the USA from 2005 to 2015: widening disparities in vulnerable groups. *Psychological Medicine,* 48(8), pp. 1308-1315.

WHO. (2001). *The world health report 2001: mental health: new understanding, new hope.* [Online] Available at: https://www.who.int/whr/2001/en/ [Accessed 27 February 2020].

WHO. (2016a). *World Health Organisation. Framework on integrated, people-centred health services World Health Assembly.* [Online] Available at: https://www.who.int/servicedeliverysafety/areas/people-centred-care/framework/en/ [Accessed 16 February 2020].

WHO. (2018a). *World Health Organisation.* [Online] Available at: http://www.who.int/en/news-room/fact-sheets/detail/depression [Accessed 3 January 2020].

WHO. (2020a). *World Health Organisation depression fact sheet.* [Online] Available at: https://www.who.int/news-room/fact-sheets/detail/depression [Accessed 27 February 2020].

WHO. (2020b). *World Health Organisation constitution.* [Online] Available at: https://www.who.int/about/who-we-are/constitution [Accessed 20 February 2020].

Willcock, A. A. (1999). Reflections on doing, being and becoming. *Australian Occupational Therapy Journal.*

Wittkampf, K., Naeije, L., Schene, A.H., et al. (2007). Diagnostic accuracy of the mood module of the Patient Health Questionnaire: a systematic review. *General Hospital Psychiatry,* 29, pp. 388-395.

Wolhutor, K. (2014). *The impact of adolescence initiated alcohol and cannabis abuse/dependence on the level of activity participation in adult males suffering from*

*psychotic disorder.* A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science in Occupational Therapy.

Wolmarans, D. W. & Brand, S. J. (2016). Mind your state: insight into antidepressant non-adherence. *South African Family Practice,* 58(4), pp. 5-8.

Yalom, I. (1975). *The theory and practice of group psychotherapy.* 2nd ed. United States of America: Basic Books Incorporated.

Yalom, I. & Leszcz, M. (2005). *The theory and practice of group psychotherapy.* 5th ed. Cambridge: Basic Books Incorporated.

Yerxa, E. (1998). Health and the human spirit for occupation. *American Journal of Occupational Therapy,* 52, pp. 412-422.

**APPENDIX A:** Example of one of the domains of the Activity Participation Outcome Measure (APOM) (IP no: 2018/01814)

PROCESS SKILLS DESCRIBED IN LEVELS OF PARTICIPATION

| | Tone (1, 2, 3) | Self-differentiation (4, 5, 6) | Self-presentation (7, 8, 9) | Passive participation (10, 11, 12) | Imitative participation (13, 14, 15) | Active participation (16, 17, 18) |
|---|---|---|---|---|---|---|
| Attention | Unaware of the task. | Fleeting attention to the task. | Focuses attention for short periods, easily distracted. | Focuses attention for duration of task performance but quality of attention sometimes poor, sometimes distracted. | Focuses attention for duration of task performance with good quality, not easily distracted. | Able to attend to task completely, quality of attention extremely good. |
| Pace | Not prepared to engage in a task. | No talk of pace or rate of work as actions are destructive or incidental. | Inconsistent pace or task execution, slow or poor rate and poor accuracy. | Pace starts to be consistent but still slow, accuracy sometimes poor. | Consistent pace, good rate of work according to the norm, good accuracy. | Consistent pace, good rate of work, sometimes exceeding the norm without risking accuracy. |
| Knowledge | No attempt to select appropriate tools and materials for the task. | No attempt to select appropriate tools and materials for the task. | Poor selection and impulsive use of appropriate tools and materials for the task. | Selects appropriate and necessary tools and materials for the task if task is familiar and structured. | Selects appropriate and necessary tools and materials for the task, even unfamiliar tasks. | Selects appropriate and necessary tools and materials for familiar and unfamiliar the tasks. |
| Knowledge | No evidence of knowledge of materials or tasks. Concepts are disrupted. | Minimal knowledge of materials and tasks. Identifies elementary concepts e.g body, colour and numbers. Knows functions and characteristics of elementary concepts. | Basic knowledge of intrinsic properties of materials. Identifies elementary and combined concepts. | More developed knowledge of materials and tasks. Identifies combined concepts. | Sufficient knowledge of materials and tasks, knows where to find additional information if he does not know. Complex and abstract concepts are more extensive. | Good knowledge, will seek out interesting facts or more advanced information. Complex and abstract concepts are extended and well developed. |
| Skills | No handling of materials or tools. | Poor or inappropriate handling of material and tools. Poor maneuvering of objects held in the hand. | Appropriate handling but poor maneuvering of tools. Uses tools and materials according to their intended purposes. | Skill starting to improve and handling of tools is improving but yet not according to the norm. Uses tools and materials according to their intended purposes. | Good skills and handling of tools, comply with the norm. Uses tools and materials according to their intended purposes. | Good skills and handling of tools, is able to learn new skills, tool handling is swiftly. Adapts tools or materials for better performance. |
| Task Concept | No task concept. | No task concept but able to follow an instruction or command. | Beginning to understand the task and could identify with task. Will begin with a task but not able to plan logical order of the task independently. Task concept unconsolidated. | Needs assistance in beginning the task, deciding when to do next step and when task is complete. Better performance with familiar tasks - might be able to complete familiar tasks. Task concept almost consolidated, avoids evaluation of the task. | Able to begin, order steps logically, continue and complete steps without hesitation. Shows satisfaction and evaluate the task. Task concept is consistent and consolidated. | Shows initiative and originality in task execution, able to improve on performance due to critical evaluation of a task. |
| Organizing space and objects | No ability to organize space and objects for task performance. | Actions in task performance aimless, incidental and sometimes destructive, no ability to organize space and objects. | Willing to explore with materials and tools but no intention to organize the workspace. Area to be structured by therapist. No attempt to restore workspace. | Beginning to organize own work space and objects for familiar tasks, needs assistance with unfamiliar tasks. Will restore if asked to. | Able to organize space and objects, follows/imitates the procedure as set out by others. Restores workspace without reminding. | Able to organize space and objects in own original manner. Willing to assist others. Always restores workspace and remind others to do so. |
| Adaptation | No engagement in tasks and therefore unable to anticipate or correct for errors. | Engagement in tasks incidental or destructive and no ability to anticipate or correct for errors. | Engage in tasks to explore, needs prompting to anticipate or correct for errors but no learning from the consequences of errors. | Anticipated one or two apparent, simple errors and able to correct these errors. Beginning to learn from the consequences of errors. | Anticipated a number of apparent, complicated errors and some complex errors and are able to correct these errors. Learns from the consequences of errors. | Anticipate and correct for errors to ensure good quality end product. Learns from errors and will come up with original solutions. |

**APPENDIX B:** Sample size calculation

The researcher used information from a sample size calculation course presented by Jonathan Levin (division of Epidemiology and Biostatistics, University of Witwatersrand) on the 29th of May 2017 to calculate sample size.

*Sample size calculation formula used:*

σM = σ/√$n$

σM = standard error (SE) of the mean

σ = the standard deviation (SD) of the original distribution

n = the sample size

Values from a previous study was used to set SE (0.295) and SD (2.19). These values represent MHCUs with an ICD-10 code of F30-39 (mood disorders).
(Carter, 2013)

$$SE = \frac{SD}{\sqrt{n}}$$

$$n = \frac{(SD)^2}{(SE)^2}$$

$$n = \frac{(2.19)^2}{(0.295)^2}$$

$$n = \frac{4.7961}{0.087}$$

$$n = 55.13 \approx 56$$

Non-response estimation was set at 10% (56 x 1.1 = 61.6 ≈ 62)

Confounding variables (psychotherapy and psychiatrists' intervention) were also considered and another 10% added to the sample size (62 x 1.1 = 68.2 ≈ 69)

A sample size of 69 will be used for this study.

Other methods considered:

Five psychiatrists treated a total of 500 MDD MHCUs in 2016:

Raesoft: 38 — 38 x 1.1 42 (non-response)

Maccor: 38 — 42 x 1.1 **47** (confounders)

OR

Total MDD first admissions at the research site in 2016 was 1066:

Raesoft: 73 — 73 x 1.1 81 (non-response)

Maccor: 72 — 90 x 1.1 **90** (confounders)

**APPENDIX C:** Demographic information sheet

## DEMOGRAPHIC INFORMATION SHEET

Code _____

Level of education: _____

Type of employment: _____

Last date attended work: _____

Relationships at work:

_____

_____

Main responsibilities at work:

_____

_____

Relationships with family:

_____

_____

Family responsibilities:

_____

_____

Are you responsible for your own budget?

_____

_____

Chores or responsibilities at home such as cooking, cleaning, gardening etc.

_____

_____

**APPENDIX D:** Patient Health Questionnaire – 9 (PHQ – 9)

| PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9) | | | | |
|---|---|---|---|---|
| Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)* | Not at all | Several days | More than half the days | Nearly every day |
| **1.** Little interest or pleasure in doing things | 0 | 1 | 2 | 3 |
| **2.** Feeling down, depressed, or hopeless | 0 | 1 | 2 | 3 |
| **3.** Trouble falling or staying asleep, or sleeping too much | 0 | 1 | 2 | 3 |
| **4.** Feeling tired or having little energy | 0 | 1 | 2 | 3 |
| **5.** Poor appetite or overeating | 0 | 1 | 2 | 3 |
| **6.** Feeling bad about yourself — or that you are a failure or have let yourself or your family down | 0 | 1 | 2 | 3 |
| **7.** Trouble concentrating on things, such as reading the newspaper or watching television | 0 | 1 | 2 | 3 |
| **8.** Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual | 0 | 1 | 2 | 3 |
| **9.** Thoughts that you would be better off dead or of hurting yourself in some way | 0 | 1 | 2 | 3 |
| FOR OFFICE CODING *0* + _____ + _____ + _____ =Total Score: _____ | | | | |

**APPENDIX E:** APOM scoring sheet

Date of assessment: _____

Patient research ID: _____

| 1. PROCESS SKILLS | |
|---|---|
| Attention | |
| Pace | |
| Knowledge - of tools and materials | |
| Knowledge – concept formation | |
| Skills to use tools and materials | |
| Task concept | |
| Organizing space and objects | |
| Adaptation | |
| **2. COMMUNICATION/INTERACTION SKILLS** | |
| Physicality – Physical contact | |
| Physicality – Gazes | |
| Physicality – Gestures | |
| Physicality – Use of body | |
| Information exchange – Use of speech | |
| Information exchange – Expression of needs | |
| Information exchange – Initiate interaction | |
| Relations – Social norms | |
| Relations – Rapport | |

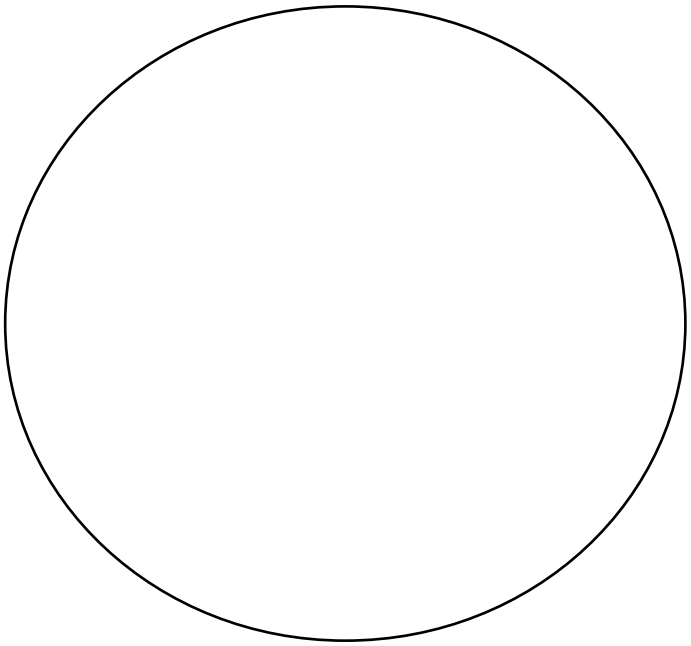
| 3. LIFE SKILLS | |
|---|---|
| Personal care, hygiene and grooming | |
| Personal safety | |
| Care of medication | |
| Use of transport | |
| Domestic skills | |
| Child care skills | |
| Money management, budgeting skills | |
| Assertiveness | |
| Stress management | |
| Conflict management | |
| Problem solving skills | |
| Pre-vocational skills | |
| Vocational skills | |
| **4. ROLE PERFORMANCE** | |
| Awareness of roles | |
| Roles expectations | |
| Role balance | |
| Competency | |
| **5. BALANCED LIFESTYLE** | |
| Time use and routines | |
| Habits | |
| Mix of Occupations | |

| 6. MOTIVATION | |
|---|---|
| Active involvement | |
| Motives and drives | |
| Shows interest | |
| Goal directed behaviour | |
| Locus of control | |
| **7. SELF-ESTEEM** | |
| Commitment to task/situation | |
| Using feedback | |
| Self-worth | |
| Attitude towards self – self-assurance | |
| Attitude towards self – satisfaction with self | |
| Awareness of qualities | |
| Social presence | |
| **8. AFFECT** | |
| Repertoire of emotions | |
| Control | |
| Mood | |

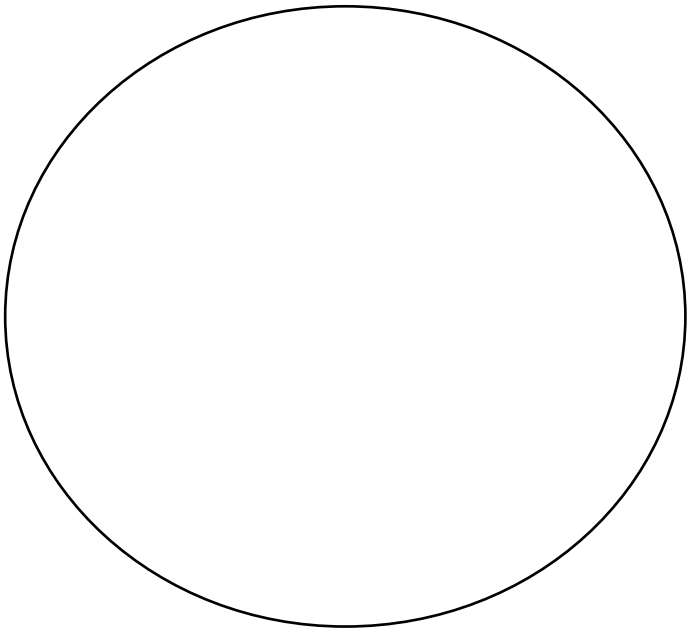
**APPENDIX F:** Pie chart of daily routine

Please complete the 24-hour pie chart to indicate how much time you spend on different activities everyday (include sleep, work (if applicable), self-care, recreation (like hobbies) and other daily responsibilities or activities):

Week day:

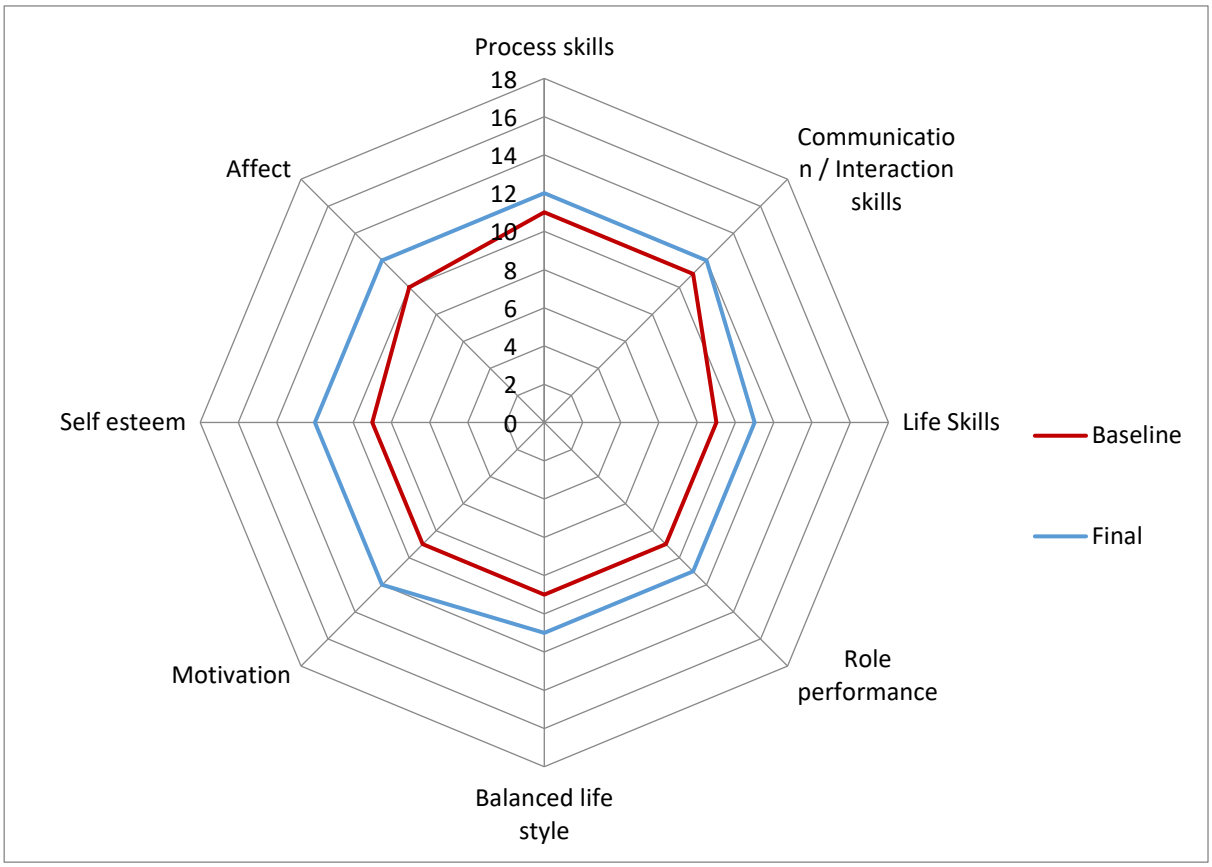


Weekend:



**APPENDIX G:** Example of spider graph (used to give feedback to participants and psychiatrists)

APOM Summary: Research ID 49



**APPENDIX H:** Ethical Clearance certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

R14/49 Ms AF Fourie

## HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
## CLEARANCE CERTIFICATE NO. M170913

| | |
|---|---|
| **NAME: (Principal Investigator)** | Ms AF Fourie |
| **DEPARTMENT:** | School of Therapeutic Sciences<br>Department of Occupational Therapy<br>Medical School |
| **PROJECT TITLE:** | Trends in activity participation of mental health care users with major depressive disorder attending occupational therapy groups |
| **DATE CONSIDERED:** | 29/09/2017 |
| **DECISION:** | Approved unconditionally |
| **CONDITIONS:** | |
| **SUPERVISOR:** | Professor D Casteleijn and Ms O Silaule |
| **APPROVED BY:** | CB Penny<br>Professor CB Penny, Chairperson, HREC (Medical) |
| **DATE OF APPROVAL:** | 16/01/2018 |

**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 Research Office Secretary on 3rd floor, Phillip V Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.
I/We fully understand the conditions under which I am/we are authorised 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 to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially reviewed in **September** and will therefore be due in the month of **September** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature _____ Date _____

**PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES**

**APPENDIX I:** Permission letter – CEO of research facility

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa
Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

The Hospital Manager

Dear

**Change in activity participation of mental health care users with major depressive disorder attending occupational therapy groups.**

I am currently a postgraduate student at the University of the Witwatersrand planning to conduct a study on the measurement of outcomes of mental health care users (MHCUs) with major depressive disorder (MDD) attending the occupational therapy programme at (the research site)

*Purpose of the study*

As there is currently limited research on the effect of occupational therapy on mental health care users' activity participation during admission in private psychiatric settings, this study is being done to get a better understanding of the effect. The results of study could assist occupational therapy programmes to be more evidence based and serve as evidence of cost-effectiveness for medical aids.

I would like to request permission from the hospital to conduct the study at (the research site).

*Outcome measures*

The outcome measures to be used in this study are the Activity Participation Outcome Measure (to measure functional ability), also known as the APOM, and the PHQ-9 (to measure perceived depression of MHCUs with MDD).

*What is expected from the participants in this study?*

Participants will be interviewed by the researcher before participating in the Occupational therapy programme. The interview will consist of questions regarding medical and some personal information, one craft activity, the PHQ-9 questionnaire and information about daily routines. This will take about 30-45 minutes to complete. After completion of the interview, introduction session (as part of the programme) and their first occupational therapy group, the participant will get a score for his/her participation on the Activity Participation Outcome Measure (APOM). This assessment can also assist in choosing occupational therapy activities and groups that will address specific needs. Participants will continue with occupational therapy groups of their choice as part of their treatment at the

hospital. The assessment will be repeated one or two days before discharge to see if their performance is changing after treatment. The assessment scores will be entered into a computer programme and later used to calculate change from beginning to end of treatment (observations by therapists during group sessions will also be used for final scoring). These changes will also be available to MHCUs before discharge.

There are no known risks in the study and participation in this study is voluntary. All information obtained during the study, will be kept strictly confidential. All research data will be stored in a locked place and the computer based information will be password protected. Only me and my supervisor will see the information. Results of the study will be available to the hospital (and participants on request).

For more information, contact me at annaliefourie@yahoo.com or 0842624440. For any other queries, please feel free to contact my supervisor, Prof Daleen Casteleijn, at 011 717 3701. Should there be any ethical queries about the research you are welcome to contact the Human Research Ethics Committee (HREC) Chairman Prof P Cleaton-Jones at peter.cleaton-jones@wits.ac.za for reporting of complaints or problems.

Contact details for the administrative offices: Ms. Z Ndlovu/ Mr Rhulani Mkansi/ Mr Lebo Moeng, Tel: 011 717 2700/2656/1234/1252, or email: Zanele.ndlovu@wits.ac.za; Rhulani.mkansi@wits.ac.za; Lebo.moeng@wits.ac.za

Thank you

Annalie Fourie

Permission to conduct the following study (as outlined in the information sheet) at Denmar Specialist Psychiatric Hospital: Trends in activity participation of mental health care users with major depressive disorder attending occupational therapy in a private acute psychiatric hospital.

Hospital Manager: A.S. MEIRINK

Signature: _____

Date: 14/07/2017

denmar
SPECIALIST PSYCHIATRIC HOSPITAL
90609, Garsfontein, 0042
Tel nr: 012 998-6062 /3 /4
Fax nr: 012 998-7184

**APPENDIX J:** Permission letter – Director of occupational therapy practice at the research site

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa
Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

Dear

**Change in activity participation of mental health care users with major depressive disorder attending occupational therapy groups.**

I am currently a postgraduate student at the University of the Witwatersrand planning to conduct a study on the measurement of outcomes of mental health care users (MHCUs) with major depressive disorder (MDD) attending the occupational therapy programme at (the research site).

*Purpose of the study*

As there is currently limited research on the effect of occupational therapy on mental health care users' activity participation during admission in private psychiatric settings, this study is being done to get a better understanding of the effect. The results of study could assist occupational therapy programmes to be more evidence based and serve as evidence of cost-effectiveness for medical aids.

I would like to request permission to use Smuts D Occupational Therapists Inc's facilities for interviews of MHCUs and to get feedback from occupational therapists on MHCUs participation in groups.

*Outcome measures*

The outcome measures to be used in this study are the Activity Participation Outcome Measure (to measure functional ability), also known as the APOM, and the Patient Health Questionairre-9 (to measure perceived depression of MHCUs with MDD).

*What is expected from the participants in this study?*

Participants will be interviewed by the researcher before participating in the Occupational therapy programme. The interview will consist of questions regarding medical and some personal information, one craft activity, the PHQ-9 questionnaire and information about daily routines. This will take about 30-45 minutes to complete. After completion of the interview, introduction session (as part of the programme) and their first occupational therapy group, the participant will get a score for his/her participation on the Activity

Participation Outcome Measure (APOM). This assessment can also assist in choosing occupational therapy activities and groups that will address specific needs. Participants will continue with occupational therapy groups of their choice as part of their treatment at the hospital. The assessment will be repeated one or two days before discharge to see if their performance is changing after treatment. The assessment scores will be entered into a computer programme and later used to calculate change from beginning to end of treatment (observations by therapists during group sessions will also be used for final scoring). These changes will also be available to MHCUs before discharge (in the form of a spider graph).

There are no known risks in the study and participation in this study is voluntary. All information obtained during the study, will be kept strictly confidential. All research data will be stored in a locked place and the computer based information will be password protected. Only my supervisor and I will see the information. Results of the study will be available to the practice (and participants on request).

For more information, contact me at annaliefourie@yahoo.com or 0842624440. For any other queries, please feel free to contact my supervisor, Prof Daleen Casteleijn, at 011 717 3701. Should there be any ethical queries about the research you are welcome to contact the Human Research Ethics Committee (HREC) Chairman Prof P Cleaton-Jones at peter.cleaton-jones@wits.ac.za for reporting of complaints or problems. Contact details for the administrative offices: Ms. Z Ndlovu/ Mr Rhulani Mkansi/ Mr Lebo Moeng, Tel: 011 717 2700/2656/1234/1252, or email: Zanele.ndlovu@wits.ac.za; Rhulani.mkansi@wits.ac.za; Lebo.moeng@wits.ac.za

Thank you

Annalie Fourie

Permission to conduct the following study (as outlined in the information sheet) at Smuts D Occupational Therapists Incorporated: Trends in activity participation of mental health care users with major depressive disorder attending occupational therapy in a private acute psychiatric hospital.

Director of Smuts-D Occupational Therapists Inc. Debbie Smuts

Signature: _____

Date: 12/7/2017

**APPENDIX K:** Letter to psychiatrists at research site

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa
Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

Dr

Dear

**Change in activity participation of mental health care users with major depressive disorder attending occupational therapy groups.**

I am currently a postgraduate student at the University of the Witwatersrand planning to conduct a study on the measurement of outcomes of mental health care users (MHCUs) with major depressive disorder (MDD) attending the occupational therapy programme at (the research site). I am writing to inform you about the study as I will be recruiting patients from your practice into the study. I would appreciate input about the patient ability to provide informed consent and a confirmation of their diagnosis

*Purpose of the study*

As there is currently limited research on the effect of occupational therapy on mental health care users' activity participation during admission in private psychiatric settings, this study is being done to get a better understanding of the effect. The results of study could assist occupational therapy programmes to be more evidence based and serve as evidence of cost-effectiveness for medical aids.

*What is expected from the participants in this study?*

Participants will be interviewed by the researcher before participating in the Occupational therapy programme. The interview will consist of questions regarding medical and some personal information, one craft activity, the PHQ-9 questionnaire and information about daily routines. This will take about 30-45 minutes to complete. After completion of the interview, introduction session (as part of the programme) and their first occupational therapy group, the participant will get a score for his/her participation on the Activity Participation Outcome Measure (APOM). This assessment can also assist in choosing occupational therapy activities and groups that will address specific needs. Participants will continue with occupational therapy groups of their choice as part of their treatment at the hospital. The assessment will be repeated one or two days before discharge to see if their

performance is changing after treatment. The assessment scores will be entered into a computer programme and later used to calculate change from beginning to end of treatment (observations by therapists during group sessions will also be used for final scoring). These changes will also be available to MHCUs before discharge (in the form of a spider graph).

There are no known risks in the study and participation in this study is voluntary. All information obtained during the study, will be kept strictly confidential. All research data will be stored in a locked place and the computer based information will be password protected. Only my supervisor and I will see the information. Results of the study will be available to the practice (and participants on request).

For more information, contact me at annaliefourie@yahoo.com or 0842624440. For any other queries, please feel free to contact my supervisor, Prof Daleen Casteleijn, at 011 717 3701. Should there be any ethical queries about the research you are welcome to contact the Human Research Ethics Committee (HREC) Chairman Prof P Cleaton-Jones at peter.cleaton-jones@wits.ac.za for reporting of complaints or problems. Contact details for the administrative offices: Ms. Z Ndlovu/ Mr Rhulani Mkansi/ Mr Lebo Moeng, Tel: 011 717 2700/2656/1234/1252, or email: Zanele.ndlovu@wits.ac.za; Rhulani.mkansi@wits.ac.za; Lebo.moeng@wits.ac.za

Thank you

Annalie Fourie

**APPENDIX L:** Information sheet and informed consent (MHCUs)

**Change in activity participation of mental health care users with major depressive disorder attending occupational therapy groups.**

Good Day,

I am Annalie Fourie, currently a postgraduate student at the University of the Witwatersrand planning to conduct a study on the measurement of outcomes of mental health care users with major depressive disorder attending the occupational therapy programme at (the research site)

*Purpose of the study*

As there is currently limited research on the effect of occupational therapy on mental health care users' activity participation during admission in private psychiatric settings in South Africa, this study is being done to get a better understanding of the effect. The results of the study could assist occupational therapy programmes to be more evidence based and serve as evidence of cost-effectiveness for medical aids.

I am inviting you to take part in this study.

*What is expected from the participants in this study?*

I am requesting that you take part in the occupational therapy programme at (the research site). Before participating in the various groups, I will have an interview with you. The interview will consist of questions regarding medical and some personal information, one craft activity (making an envelope), a short questionnaire called the PHQ-9 and information about daily routines. This will take about 30-45 minutes to complete. After completion of the interview, introduction session and your first occupational therapy group, you will get a score for your participation on a measure called the Activity Participation Outcome Measure. This assessment can assist in choosing occupational therapy activities and groups that will address your specific needs. You will then continue to participate in occupational therapy groups of your choice as part of your treatment at the hospital. The assessment will be repeated after you participated in the programme to see if your performance is changing after treatment. The scores of your assessment will be entered into a computer programme and later used to calculate any changes from beginning to end of treatment. Changes in performance will be available to you in the form of a spider graph before you get discharged.

There are no known risks in the study and your participation in this study is voluntary. You may refuse to participate or withdraw at any time without any consequence.

All information obtained during the study, will be kept strictly confidential by using a code instead of your name so that you cannot be identified. Only my supervisors and I will have access to the information. Results of the study will be available on request.

For more information, contact me at 012 998 6062/3/4/5 or annaliefourie@yahoo.com. For any other queries, please feel free to contact my supervisors, Prof Daleen Casteleijn at 011 717 3701. Should there be any ethical queries about the research you are welcome to contact the Human Research Ethics Committee (HREC) Chairman Prof P Cleaton-Jones at peter.cleaton-jones@wits.ac.za for reporting of complaints or problems. Contact details for the administrative offices: Ms. Z Ndlovu/ Mr Rhulani Mkansi/ Mr Lebo Moeng, Tel: 011 717 2700/2656/1234/1252, or email: Zanele.ndlovu@wits.ac.za; Rhulani.mkansi@wits.ac.za; Lebo.moeng@wits.ac.za

If you are willing to take part in the research please sign the form attached.

Thank you

Annalie Fourie

## Informed Consent

**I agree to participate in the study:** Change in activity participation of mental health care users with major depressive disorder attending occupational therapy groups (as outlined in the information sheet).

| | |
|---|---|
| Full name in print: | |
| Signature: | |
| Date: | |

**APPENDIX M:** Plagiarism declaration to be signed by all higher degree students

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

FACULTY OF HEALTH SCIENCES

**PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS**

SENATE PLAGIARISM POLICY: APPENDIX ONE

I Annalie Meyer (Student number: 1700679) am a student registered for the degree of MSc. Occupational Therapy in the academic year 2019-2020.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.
- I have included as an appendix a report from "Turnitin" (or other approved plagiarism detection) software indicating the level of plagiarism in my research document.

Signature:  Date: 30/03/2020

1

**APPENDIX N:** Turn it in report summary

CHANGE IN ACTIVITY PARTICIPATION OF MENTAL HEALTH CARE USERS WITH MAJOR DEPRESSIVE DISORDER ATTENDING OCCUPATIONAL THERAPY GROUPS

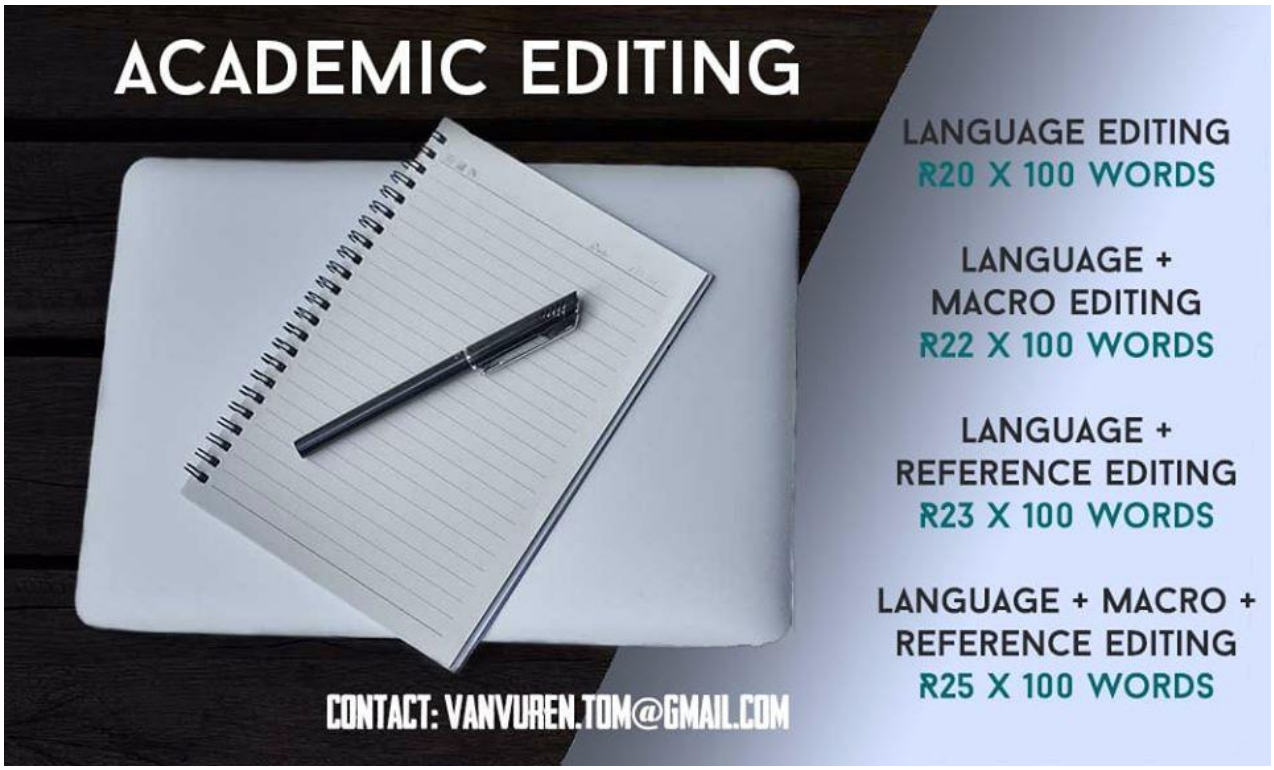
ORIGINALITY REPORT

| 11% | 6% | 4% | 8% |
|---|---|---|---|
| SIMILARITY INDEX | INTERNET SOURCES | PUBLICATIONS | STUDENT PAPERS |

PRIMARY SOURCES

**APPENDIX O:** Information on Language Editor

Change in activity participation of mental health care users with major depressive disorder attending occupational therapy groups, by A Meyer, was language edited by GT Van Vuren.




Gerrit Thomas Van Vuren

BA Languages: English Studies (UP) (Cum Laude)

BOccTher (UP) (Cum Laude)