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The use of the Model of Occupational Self Efficacy in improving the cognitive functioning of individuals with brain injury: A Randomised Control Trial

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Introduction

- Brain injury is a major **public health concern** internationally [Peters et al, 2015].
- Interestingly **age** was seen as a major indicator of return to work success [O Brian, 2007]
- Severe TBI has a **76% lower probability** of RTW (Moller et al., 2017)





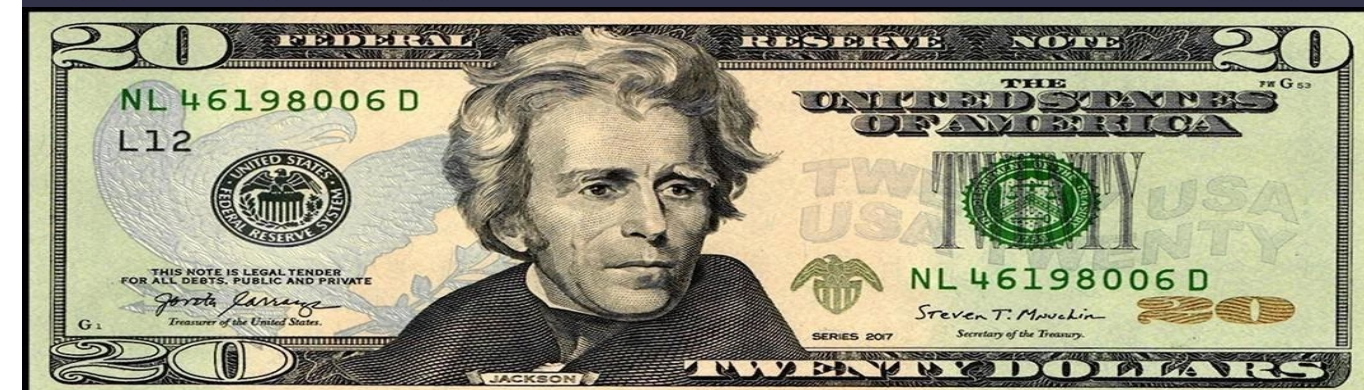
Rationale

- In South Africa the estimated cost for ICU intervention alone per year per tertiary hospital is estimated to be **R16 million** in 2019 (Mamo, 2019).
- The mean in-patient cost for mild, moderate and severe TBI was **48,709.24**, **R58 499.46** and **R86 533.87** respectively (Mamo, 2019). Up to **\$5 397** (per month)



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Approaches in treatment

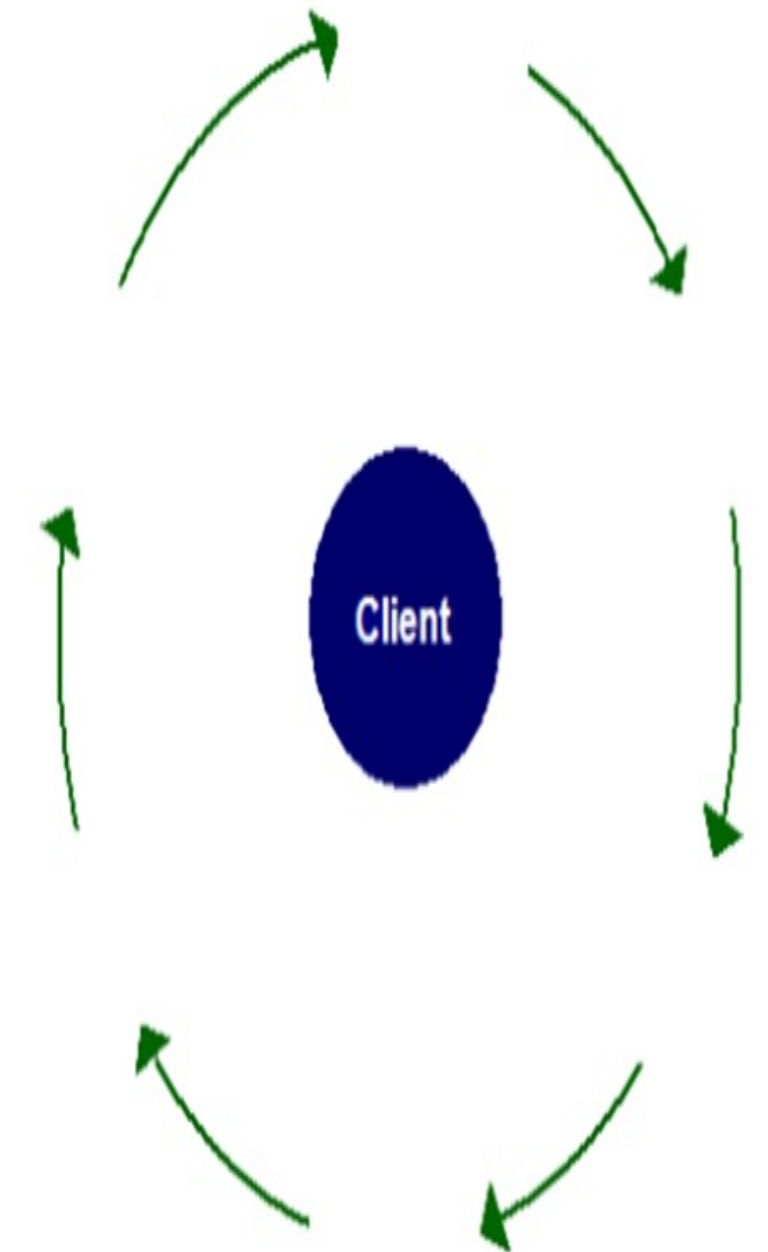
- Historically the **remedial approach** was most commonly used for the treatment of Brain Injury (Lee, Powell & Esdaile, 2001)
 - Memory
 - Perceptual skills
- **Multi faceted nature of brain injury** - resulted in the use of **compensatory approaches** (Mateer, 2005)
 - Successful participation in ADL
 - Assistive devices





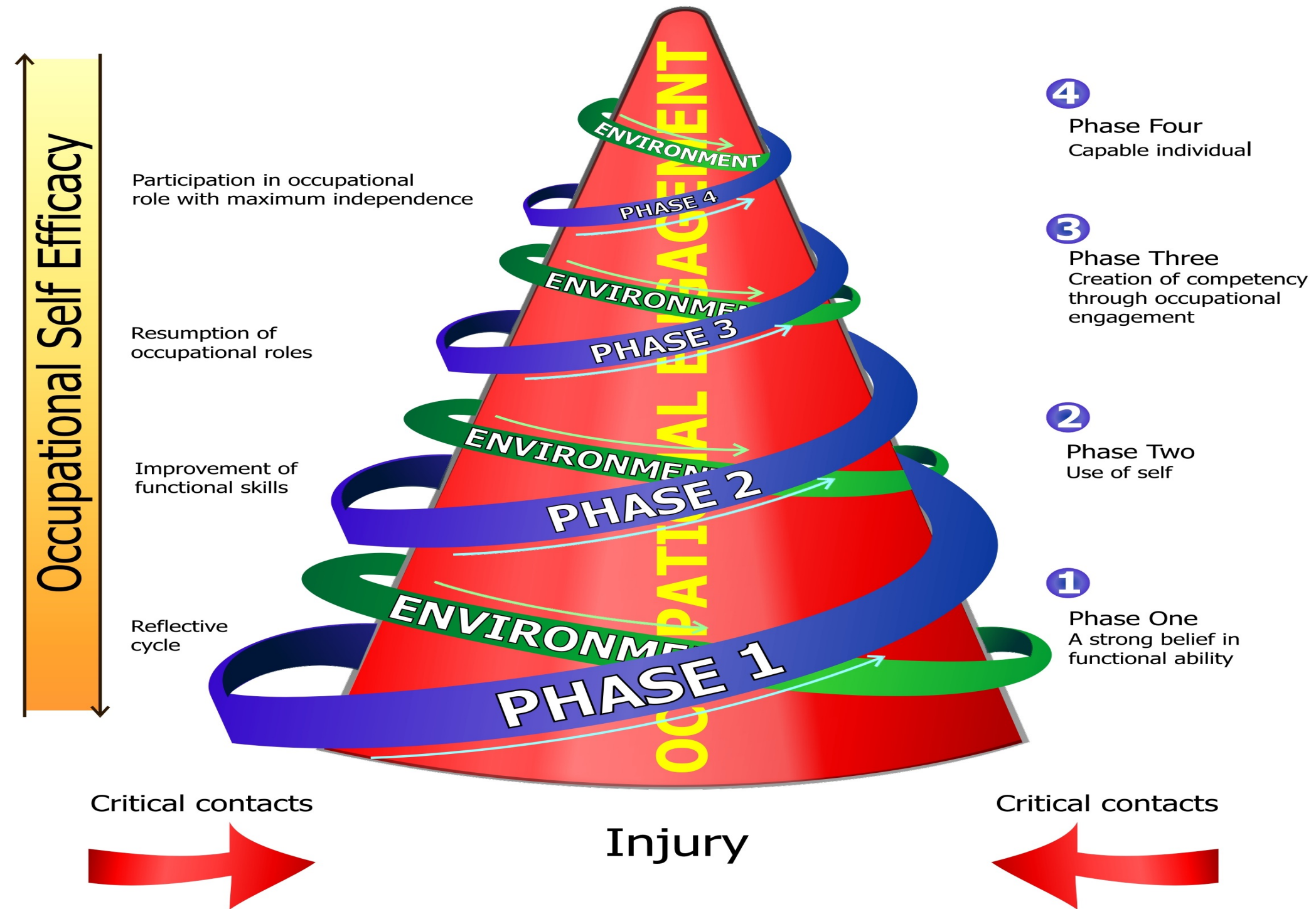
Need for a new approach

- **Quality of intervention** programmes tend to be ineffective when the health professional does not take the client's **self identified needs** into consideration, hence **client centeredness** (Soeker & Pape, 2019)



OCCUPATIONAL SELF EFFICACY

AN OCCUPATIONAL THERAPY PRACTICE MODEL
FOR THE RETURN OF THE BRAIN INJURED INDIVIDUAL TO WORK





Published work related to MOOSE

- Soeker, M.S, Smith, M. & Hess- April, L. (2024) The experiences and perceptions of individuals with **stroke** about the usefulness of the Model of Occupational Self Efficacy in a rural setting in Cape Town, South Africa. Journal of Vocational Rehabilitation (Accredited). DOI: 10.3233/JVR-230041
- **Soeker, M.S.**, Abbas I & Karachi, F. (2023) The Effectiveness of the Model of Occupational Self- Efficacy in Improving the Quality of Life and Self- Efficacy Beliefs in Individuals Living with a **Schizophrenia**: A Pre- and Post- Intervention Pilot Study. Journal of Vocational Rehabilitation. Vol. 59, no. 2, pp. 221-23. DOI: 10.3233/JVR-230039
- Abbas, I & **Soeker, M.S.** (2020) The Model of Occupational Self Efficacy, a model to enhance self-efficacy and identity in individuals diagnosed **with schizophrenia**. South African Journal of Occupational Therapy, 50 (3), 22- 29.
- **Soeker, M.S.** & Ganie, Z. (2019) The experiences of employers and care givers of individuals returning to work through the use of the Model of Occupational Self Efficacy for returning **brain injured individual** to work. Work. 64, 355- 370
- **Soeker, M.S.** & Darries, Z. (2019) Challenges women with **traumatic brain injury** experience in their work environment after vocational rehabilitation. Work. 64, 477- 486. >



Aim- Phase One

- To determine whether the **client`s cognitive performance improves** after participating in the MOOSE when compared to usual treatment.
- To determine whether the **client`s Work Rehabilitation Skills improves** after participating in the MOOSE when compared to usual treatment.
- To determine whether the **client`s level of depression improves** after participating in MOOSE when compared to usual treatment.
- To determine whether the **client`s level of anxiety improves** after participating in MOOSE when compared to usual treatment. >



Selection of participants

- **Random sampling**
 - Statistical records of two tertiary hospitals.
 - **14 Participants per arm** (n- 28)
- Inclusion and exclusion criteria
 - Individuals were diagnosed with either a **mild, moderate or severe brain injury** according to the Glasgow Coma Scale.
 - They must have been **employed** for remuneration before their injury and at least for 3 months.
 - The participants must be **06- 36 months** post TBI and must have received rehabilitation from a multiple disciplinary team.
- **Exclusion:** Members who had active symptoms related to a psychiatric disorder according to **the DSM IV**, and individuals with multiple disabilities were also excluded.





Data analysis

- **Questionnaires:**
 - Work Rehabilitation Questionnaire (WORQ),
 - Beck Anxiety Questionnaire,
 - Becks Depression Questionnaire,
 - Rowland Universal Dementia Assessment Scale (RUDAS) questionnaire
- **Descriptive statistical analysis using SPSS was used in the study**



Ethics

- Informed consent
- Voluntary Participation
- Confidentiality insured
- Availability of support services





Characteristics of experimental group

- Characteristics of the 14 participants present in the experimental group [n= 14]
- Reveal that [1/14] participants were female and [13/14] were male participants.
- Furthermore, the mean age of the participants were $\bar{x}= 34$ years old, the oldest participant being 47 years old.
- Fourteen percent [2/14] of the participants had a diagnosis of mild brain injury, 71 percent [10/14] of the participants had a diagnosis of moderate brain injury according to the Glasgow Coma Scale and 14 percent [2/14] of the participants had a diagnosis of severe brain injury.



Characteristics of control group

- Characteristics of the 14 participants present in the control group [n= 14]
- Reveal that [4/14] participants were female and [10/14] were male participants.
- Furthermore, the mean age of the participants were \bar{x} = 38 years old, 55 years old.
- Fourteen percent [2/14] of the participants had a diagnosis of mild brain injury, 79 percent [11/14] of the participants had a diagnosis of moderate & 7 percent [1/14] severe TBI

Structure of usual treatment programme

<u>Week</u>	<u>Intervention</u>	<u>Activities – One hour sessions with the participants</u>
Week 1 -2	Focus on improving attention, orientation and insight	<ul style="list-style-type: none"> • Practical ways to improve attention: synonym and antonym worksheets, thinking skills questionnaire, rearrange the sentence worksheet, Thurstone questionnaire
Week 3- 4	Focus is on improving memory and executive functions	<ul style="list-style-type: none"> • Using external aids to assist memory • Plan you schedule
Week 5- 6	Vocational exploration	<ul style="list-style-type: none"> • Vocational exploration for participants who are currently unemployed i.e. learnership, recruitment agencies for persons with disabilities

Structure of rehabilitation programme

<u>Week</u>	<u>Stages of the Model</u>	<u>Activities – One hour sessions that was had with the participants</u>
Week 1 -2	Stage 1: Strong belief in one's self	<ul style="list-style-type: none"> • Reflexivity (Gibbs Cycle) • Building IPR (Interpersonal Relationship) with the client, to gain insight into the client's holistic context. • Self-concept activity; Estimate of self-concept: Looking at yourself critically: Writing down words which describe who you are
Week 3- 4	Stage 2: Use of self.	
Week 5- 6	Stage 3: Competency through occupation engagement	<ul style="list-style-type: none"> • Interpersonal skills • Time management, improving concentration and executive functioning. • Engage in simulated work tasks • Work Test Placement • Emotional Adjustment • Work test placement
Week 7- 8	Stage 4: Capable individual	



Results: Pre intervention

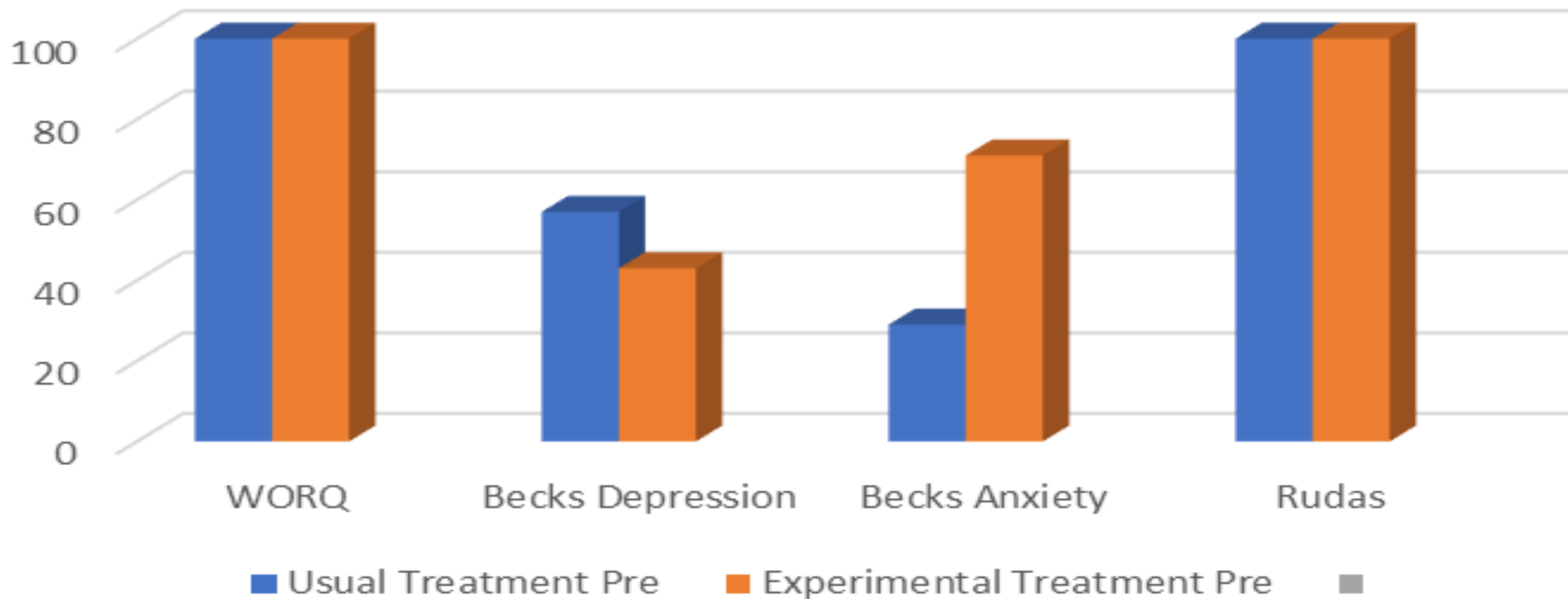
- **WORQ-** Usual treatment- Mean score (107), MOOSE (experimental treatment)- 107.
 - **Equal score in both usual care and the MOOSE group**
- **Beck Depression-** Usual treatment- Mean score (23), MOOSE (experimental treatment)-21.
 - **57% increase in depression score in the usual care group**
- **Beck Anxiety-** Usual treatment- Mean score (14), MOOSE (experimental treatment)- 18.
 - **71% increase in anxiety in the MOOSE group**
- **RUDAS-** Usual treatment- Mean score (26), MOOSE (experimental treatment)- (24).
 - **Similar score in both usual care and the MOOSE group**





Pre intervention

Pre intervention: Usual Treatment vs Experimental Treatment





Results: Post intervention

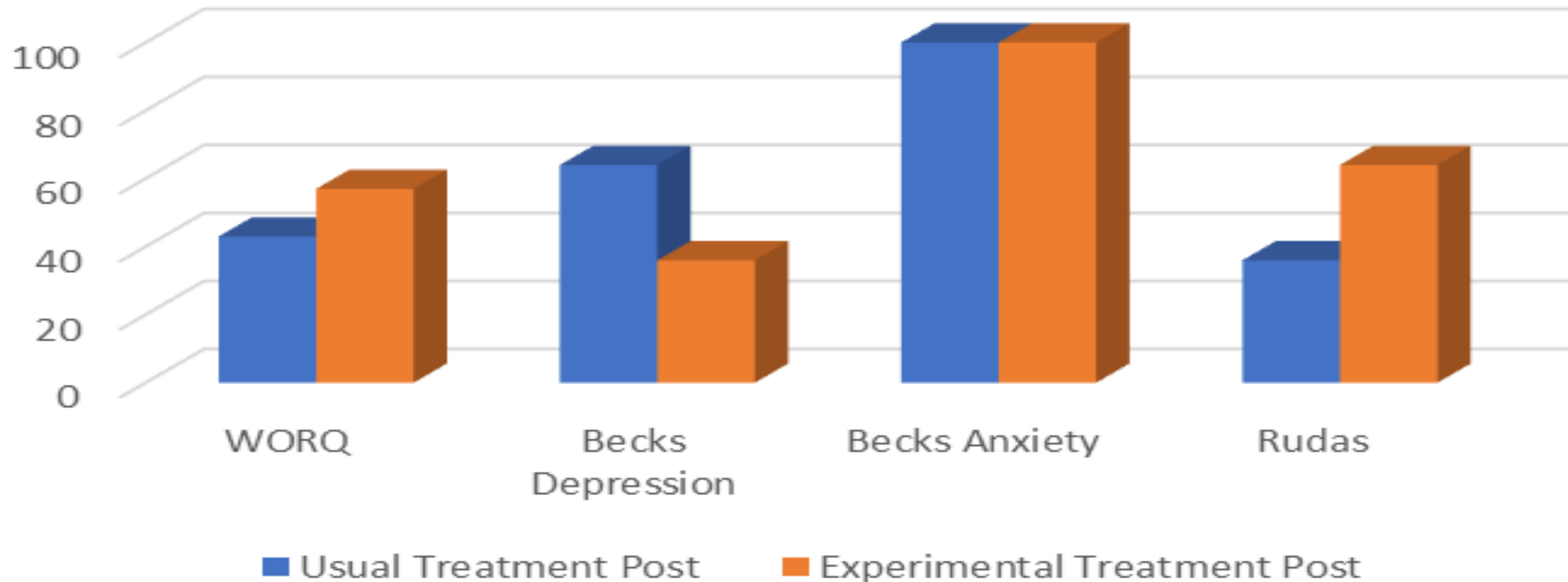
- **WORQ-** Usual treatment- Mean score (86), MOOSE (experimental treatment)- 96.
 - **57% of individuals had an increase in work related skills using MOOSE**
- **Beck Depression-** Usual treatment- Mean score (17), MOOSE (experimental treatment)- 21.
 - **64% of individuals had a decrease in depression symptoms using MOOSE**
- **RUDAS-** Usual treatment- Mean score (26), MOOSE (experimental treatment)- (26).
 - **64% of individuals had an improvement with cognitive functioning using MOOSE**
- **Beck Anxiety-** Usual treatment- Mean score (36), MOOSE (experimental treatment)- 24.
 - **There was an equal number of individuals that showed improvement between the two groups**





Post intervention

Post intervention: Usual Treatment vs Experimental Treatment





Conclusion

- The findings indicate that the **Model of Occupational Self efficacy** is a useful model to improve the individual with TBI's cognitive skills, reduce symptoms of depression and enhance their ability to RTW.
- The model encompasses principles that addresses participants **holistically** and allows individuals to come to terms with their challenges and become **goal directed**.





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Acknowledgement: TBI survivors

**For any enquiries or questions.
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Thank You.

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Questions?