# UNIVERSITI TEKNOLOGI MARA

# WORKING MEMORY, EXECUTIVE FUNCTION AND PROCESSING SPEED OF PATIENTS WITH SCHIZOPHRENIA IN SUPPORTED EMPLOYMENT PROGRAM IN HOSPITAL PERMAI

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## MMed (Psych)

## November 2019

# AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This dissertation has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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Dissertation Title      : Working Memory, Executive Function and Processing Speed of Patients with Schizophrenia in Supported Employment Program in Hospital Permai

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# ABSTRACT

**Background:** Employment is one of the important components of rehabilitation among patients with schizophrenia that promotes functional recovery. Patients demonstrate impairment in various cognitive domains, particularly in working memory, executive function and processing speed. It was proposed that employment may have beneficial impact on working memory, executive function and processing speed.

**Objective:** This study aimed to determine the level of working memory, executive function and processing speed and their associated employment as well as socio-demographic and clinical factors of patients with schizophrenia in supported employment program in Hospital Permai.

**Methodology:** This is a cross-sectional study involving 118 patients with schizophrenia who were enrolled in Hospital Permai's supported employment program. Those who fulfilled the inclusion criteria and gave informed consent were recruited. Socio-demographic, employment and clinical data were obtained from an interview with the patient and from the clinical notes. The diagnosis of schizophrenia was confirmed by Mini International Neuropsychiatric Interview (M.I.N.I). The level of working memory was assessed using Weschler Memory Scale Third edition -Letter-Number Span and Spatial Span, the executive function was assessed using Neuropsychological Assessment Battery (NAB)- Mazes and the processing speed was measured using Brief Assessment of Cognition in Schizophrenia (BACS) – Category Fluency, Symbol Coding and Trail Making Test: Part A. Then, the findings of these tests were entered into MATRICS Consensus Cognitive Battery (MCCB) Scoring Program and the T score for the domain was generated.

**Results:** From bivariate analysis, factors found to be associated with working memory were being married ($p=0.032$), successful employment ($p<0.001$) and good past work history ($p=0.002$), while factors found to be associated with executive function were successful employment ($p=0.014$), good past work history ($p=0.003$), typical antipsychotic ($p=0.037$) and good adherence to medication ($p=0.027$). Younger age and male gender were found to be associated with processing speed ($p=0.014$ and $p=0.045$ respectively). From multivariate analysis, significant predictors of working memory were successful employment (OR: 12.498; 95% CI: 2.552-61.206; $p=0.002$) and good past work history (OR: 3.356; 95% CI: 1.053-10.700; $p=0.041$), while significant predictors of executive function were successful employment (OR: 4.496; 95% CI: 1.106-18.280; $p=0.036$), good past work history (OR: 3.321; 95% CI: 1.028-10.727; $p=0.045$) and good adherence to medication (OR: 8.235; 95% CI: 1.478-45.867; $p=0.016$).

**Conclusion:** Successful employment and good past work history were significant predictors for working memory and executive function. In addition, good adherence to medication was a significant contributing factor for executive function.

# ACKNOWLEDGEMENT

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