

Examining Cognitive and Psychological Health in Malaysia: A Socio-demographic Analysis using MoCA and DASS

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ABSTRACT

This paper analysed data from the Ageless Cognitive Assessment, a tool used to evaluate cognitive function in older Malaysians. Its objective was to examine the relationship between cognitive function, psychological distress, and socio-demographic characteristics among the elderly in Malaysia, using the MoCA and DASS. The study included 919 participants aged 60 and above from three cohorts (MELoR, TUA, and New Recruit). Kruskal-Wallis and Mann-Whitney tests identified factors influencing the MoCA and DASS scores. Results showed Chinese ethnicity had a superior cognitive capacity ($p < 0.05$), with an average rank of 348.79. DASS ratings indicated significant differences ($p < 0.05$) in psychological distress, with the Chinese group exhibiting higher scores, reflecting increased depression, anxiety, and stress. A significant difference ($p < 0.05$) in DASS scores was observed between genders, with females experiencing higher psychological distress than males. Despite these differences, no significant variations were found in the total MoCA or DASS scores between single or married respondents, indicating marital status did not significantly affect cognitive function or psychological suffering. These findings underscore the influence of ethnicity and gender on psychological distress and cognitive function, highlighting the need for targeted interventions to address disparities.

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INTRODUCTION

With the aging of global populations, the cognitive and psychological well-being of elderly individuals has emerged as a vital focus of research (United Nations, 2022). Cognitive decline and psychological

suffering are common in the elderly, rendering them especially susceptible to a reduced quality of life (Wittlinger et al., 2022).

The current paper examines data from the 2021 Ageless Cognitive Assessment. The objective of this study is to examine the relationship between cognitive function, psychological distress, and other socio-demographic characteristics among the older population in Malaysia. We use the Montreal Cognitive Assessment (MoCA), which assesses cognitive function, to evaluate quality of life (QoL). Additionally, we utilise the Depression, Anxiety, and Stress Scale (DASS) to evaluate psychological distress, providing a holistic picture of an individual's mental health. Understanding how socio-demographic factors such as ethnicity, gender, and marital status influence these outcomes is essential for targeted interventions (Avery et al., 2023).

Problem Statement

Various studies such as Smith and Read (2024) and Weissman et al. (2018) have reported ethnic and gender disparities in cognitive health and psychological distress, yet these disparities remain underexplored in specific populations. For example, research has suggested that cognitive performance may differ across ethnic groups due to the various socio-economic, educational, and cultural factors (Beydoun et al., 2014). Similarly, psychological distress, particularly depression and anxiety, is more common in certain ethnicities and among females due to the complex socio-cultural and biological influences (González et al., 2015). Understanding these disparities within different demographic contexts is vital for developing culturally sensitive healthcare policies and interventions tailored to the needs of these diverse populations. While existing studies such as Novak et al. (2020) suggest disparities in cognitive performance and psychological distress across ethnic and gender groups, a comprehensive data specific to elderly Malaysians are limited.

Research Question

This study aims to examine how socio-demographic factors influence the cognitive function and psychological distress, as measured by the MoCA and DASS, among elderly participants. It also seeks to explore the impact of these factors on their mental and cognitive well-being (Ageless Cognitive Assessment, 2021). The findings would guide healthcare practitioners and policymakers in designing culturally and gender-sensitive interventions to address the unique challenges faced by diverse demographic groups.

METHODOLOGY

This cross-sectional study implemented a comprehensive survey utilising validated instruments (MoCA and DASS) to assess the participants' cognitive function and psychological distress. We recruited from the Ageless Cognitive Assessment's data a total

of 919 elderly individuals, aged 60 years or older, from three cohorts: MELoR (Malaysian Elderly Longitudinal Research), TUA (Towards Useful Ageing), and New Recruit (Ageless Cognitive Assessment, 2021). The Ageless Cognitive Assessment collected data through structured interviews and self-administered questionnaires, focussing on the cognitive function, psychological distress, and socio-demographic variables such as age, gender, marital status, and ethnicity. As the data was not normally distributed, we used nonparametric tests such as the Kruskal-Wallis and Mann-Whitney test to evaluate the influence of socio-demographic factors on the cognitive function and psychological distress assessments.

RESULTS AND DISCUSSION

The analysis revealed significant differences ($p < 0.05$) in both the MoCA and DASS scores across ethnicities and genders. When comparing ethnicities, the Chinese group displayed the highest average rank for MoCA (348.79), suggesting potentially better cognitive performance. Conversely, the Chinese group also had the highest average rank for the DASS scores (117.37), indicating a possibility of higher levels of depression, anxiety, and stress compared to other ethnicities. Interestingly, gender also played a role, with females having a higher average rank for the DASS scores (115.68) compared to males, suggesting potentially greater mental health concerns among females.

The research showed a notable disparity in the total MoCA scores among various ethnic groups ($p < 0.05$). Individuals of Chinese ethnicity exhibited outstanding cognitive capacity, as evidenced by their average rank of 348.79, surpassing that of other ethnic groups. A notable discrepancy was seen in the DASS ratings of different ethnic groups, indicating a substantial difference in psychological distress ($p < 0.05$). The Chinese ethnic group once again demonstrated higher DASS scores, with a mean rank of 117.37, indicating elevated levels of depression, anxiety, and stress in comparison to other ethnicities.

The findings revealed a noteworthy disparity in the DASS scores between genders ($p < 0.05$). Female individuals demonstrated a greater degree of psychological distress compared to male individuals, as indicated by their higher average rank of 115.68 in the DASS scores. Despite variations in ethnicity and gender, there were no notable disparities in the total MoCA scores or DASS scores among different marital status groups ($p > 0.05$). These findings indicate that the marital status of individuals in this sample does not have a substantial impact on their cognitive function or psychological suffering.

CONCLUSION

The analysis revealed significant differences in both the MoCA and DASS scores across ethnicities and genders, but not marital status. Chinese individuals exhibited the highest cognitive performance (MoCA) but also reported the highest levels of psychological distress

(DASS). Females demonstrated higher levels of psychological distress (DASS) compared to males. Marital status did not significantly impact cognitive function or psychological distress in this sample. These findings underscore the importance of considering both ethnicity and gender when assessing cognitive health and mental well-being. To address these issues, we need to develop culturally sensitive interventions and conduct further research to investigate the underlying factors that contribute to these disparities.

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