UNIVERSITI TEKNOLOGI MARA

THE EFFECT OF PSYCHOLOGICAL MOODS, SERUM CORTISOL AND *COMT* POLYMORPHISM TOWARDS ACADEMIC ACHIEVEMENT AMONG FEMALE UNDERGRADUATE STUDENTS IN UITM

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AUTHOR'S DECLARATION

I declare that the work in this thesis 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 thesis 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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ABSTRACT

The psychological health among undergraduate students has gained wide attention from society. Yet, only a few studies examined the psychological health of undergraduate students along their study period of a semester. The aim of this study is to determine the effect of psychological moods and genetic polymorphism towards academic achievement among female undergraduate students in UiTM. This study used a follow-up study design to determine the levels of depression, anxiety, stress, perceived stress and the concentration of cortisol and cortisone at three different time points in a semester which are the beginning of the semester (TP1), the middle of the semester (TP2) and the final examination week (TP3). A total of 52 female undergraduate students from Universiti Teknologi MARA Selangor Branch, Puncak Alam Campus, were administered with the Depression, Anxiety and Stress Scale (DASS) questionnaire consisting of 42 questions to assess the depression, anxiety and stress levels and 11 questions of Perceived Stress Scale (PSS) questionnaire to determine the perceived stress level. The serum cortisol level was determined using a validated Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) method. The *COMT* polymorphism were determined using an in-house tetra-primer PCR method. The data were analysed using Paired sample t-test, Pearson Correlation, MANOVA test and Backward Multiple Regression analysis using SPSS software. This study demonstrated that female undergraduate students experienced the highest level of psychological mood problems during the middle of the semester. There was a significant increase in depression, anxiety, stress, perceived stress and cortisol levels from TP1 to TP2. The *COMT* polymorphism showed no association with any of the psychological mood parameters. Multiple regression showed that out of all psychological mood variables studied, only stress level as measured using DASS questionnaire and perceived stress level as measured using PSS questionnaire showed statistically significant results in predicting students' academic achievements. This study provides empirical evidence that high stress level as measured using DASS promotes better academic achievement while perceived stress as measured using PSS was predicted to give a negative outcome in academic performance. This research suggests that addressing these levels of psychological health are important in helping the students to improve their quality of life.

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TABLE OF CONTENT

Page