Study of Negative Emotionality as a Personality Dimension and its Influence on Academic Achievement among the year one Medical Students

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ABSTRACT

Personality dimension negative emotionality is known to be associated with academic achievement. The present study focuses on the influence of negative emotionality (neuroticism) on medical students’ academic achievements. The main objective of the study was to ascertain the negative emotionality scores among the first year medical students and finding out the association between negative emotionality and their academic achievements. Our subjects include 60 year one medical students of Universiti Sultan Zainal Abidin, Malaysia. They were selected by convenient sampling technique. The Medico-Psychological questionnaire was used to find out the negative emotionality scores among the students and these scores were compared with academic scores. Carl Pearson’s correlation coefficient method was carried out to find the significance of their association. The results revealed that there were significant correlation between negative emotionality and semester one and two academic scores (r= -0.824, p=<0.001, r= -0.753, p=<0.001). Thus the study result goes with the prediction that there is a significant correlation between academic achievement and negative emotionality. We concluded that negative emotionality has a negative impact on medical student’s academic achievement.
INTRODUCTION:
Negative emotionality is a fundamental personality trait in the study of psychology of students characterized by anxiety, moodiness, worry, envy, and jealousy. Individuals who score high on neuroticism are more likely to experience feelings such as anxiety, anger, envy, guilt, and low mood in a stress-inducing environment. They respond poorly to stressors, more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. The students are often self-conscious and shy. They may have trouble controlling urges and delaying gratification.

According to Eysenck’s (1967) theory of personality, neuroticism is interlinked with low tolerance for stress or aversive stimuli. They are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. Their negative emotional reactions tend to persist for unusually long periods of time, which means they are often in a bad mood. These problems in emotional regulation diminish the ability of a person scoring high on neuroticism to think clearly, make decisions, and cope effectively with stress. Lacking contentment in one's life achievements can correlate to high neuroticism scores and increase a person's likelihood of falling into clinical depression.

This personality trait leads to loss of psychological homeostasis and affecting medical student’s academic performance. The adoption to the medical training induce stress in students and inflates negative emotionality which negatively influence on their coping ability and academic achievement. Beginning of medical school students need to pose various stressors. Living away from home, making the transition to a more independent living with less supported condition, and coping with the study demands of the program are difficult for young people. Exposure to serious illnesses and deaths may provoke stressful reaction for some students. Studies which have tried to identify the sources of stress among medical students generally pointed to three main areas: academic pressures, social issues and financial problems. The majority of stressful incidents in traditional curricula are related to medical training rather than to personal problems. Workload and feeling overwhelmed by the information load are major sources of stress. Fears of failing or falling behind are particular preoccupations.

In the UK, the General Medical Council recommends that medical schools should have mechanisms in place to identify symptoms of stress that might be early signs of mental health issues or illness. Medical schools in the USA and Canada tackle the problem at an earlier stage by under taking prevention in the form of health promotion programs. These have been shown to reduce the effects of stress on medical student’s health and academic performance.

Staying with the strong emotions requires a high degree of awareness because intense emotions can hijack our reasoning powers. Maintaining awareness during the emotional processing will allow you to “ride the waves” as I like to call it. Therefore this study has made an effort to explore the influence of negative emotionality on medical student’s academic achievements in a new medical school in Malaysia.

Methodology
The study adopted descriptive survey with evaluative approach and the cross sectional research design. The subjects of the study were medical students of year one from the Universiti Sultan Zainal Abidin, Kuala Terengganu, Malaysia. Students were selected by convenient sampling technique. Sixty medical students were assessed to measure their extent of negative emotionality as dimension of personality. The students were voluntarily involved in the survey. It has been hypnotized that negative emotionality score significantly affects the academic achievement of medical students. The first objective of the study is to assess the extent of negative emotionality in medical students and the second objective is to find the association between extent negative emotionality and academic achievement of medical students.

Instrument used in the study
The Medico-Psychological Questionnaire for General Neuroticism is a standardised tool developed by Dr. J. Barath Raj (1960) was administered to the negative emotionality. The concurrent validity and reliability for the neuroticism dimension were found to be 0.90.8 Student’s academic scores were used with the official consent of the school. The data were analysed using SPSS 16 version and Carl Pearson’s correlation coefficient method was carried out.

Aims and objectives
The present study focuses on the influence of negative emotionality (neuroticism) on medical students’ academic achievements. The main objective of the study was to ascertain the negative emotionality scores among the first year medical students and finding out the association between
negative emotionality and their academic achievements

**Research design:**

Methods and Material: Our subjects include 60 year one medical students of Universiti Sultan Zainal Abidin, Malaysia. They were selected by convenient sampling technique. The Medico-Psychological questionnaire was used to find out the negative emotionality scores among the students and these scores were compared with academic scores. Carl Pearson’s correlation coefficient method was carried out to find the significance of their association. Statistical analysis used: SPSS Version 16The results revealed that there were significant correlation between negative emotionality and semester one and two academic scores ($r = -0.824$, $p < 0.001$, $r = -0.753$, $p < 0.001$). Thus the study result goes with the prediction that there is a significant correlation between academic achievement and negative emotionality. We concluded that negative emotionality has a negative impact on medical student’s academic achievement.

**Key Messages**

Conceptualization of this result helps students to develop insight into their emotionality and self-monitor their emotional stability, which in turn can improve their academic achievement and professional personality. It helps mentors and counsellors to develop better understanding of their mentees and counselees.

**Results and discussion:**

Our study results revealed that 60 medical students of year one vary in their personality trait. The forecasted views in the hypothesis that negative emotionality affects students’ academic achievement has been depicted in figure one and two increased level of negative emotionality was clearly associated with decreased academic achievement. The mean (SD) of negative emotionality were 14.7(3.29). Our study result come out with the linearity of correlation between negative emotionality score and semester 1 academic scores ($r = -0.824$, $p < 0.001$) and semester 2 academic scores ($r = -0.753$, $p < 0.001$). The higher the negative emotionality score, the lower the students’ academic achievement.

**Table 1: Correlation between negative emotionality scores and academic performance in semesters one and two (n=60)**

<table>
<thead>
<tr>
<th>Negative Emotionality Scores [neuroticism]</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$r$</td>
<td>$p$ value*</td>
<td></td>
</tr>
<tr>
<td>Scores_SEM_1</td>
<td>-0.824</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Scores_SEM_2</td>
<td>-0.753</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

*Pearson’s correlation

**Table 2: Correlation between first semester scores and second semester scores (n=60)**

<table>
<thead>
<tr>
<th>Scores_SEM_2</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>$r$</td>
<td>$p$ value*</td>
<td></td>
</tr>
<tr>
<td>Scores_SEM_1</td>
<td>0.820</td>
<td>&lt; 0.001</td>
</tr>
</tbody>
</table>

*Pearson’s correlation
DISCUSSION:
Negative emotionality is a personality dimension which has a negative effect on student’s academic achievement. The optimal level academic achievement and the negative emotionality score of students should be less than sixteen, an adverse effect on student achievement above score sixteen is found in our study. The correlation between the two variables that is negative emotionality score and academic achievement was found to be significant in the present study; this shows our study results go with our predicted hypothesis that the high negative emotionality scores associated with low students’ academic achievement. The overall result brings out the importance of conceptualizing the positive and negative effects of this dimension in their personality development and towards their academic achievement. The finding of this study is consistent with meta-analysis has provided the first comprehensive empirical review of the validity of the Eysenck personality scales as statistical predictors of academic performance. As expected, academic performance medical students was significantly associated with neuroticism. Similar finding has been found with study conducted on year one medical students of USM-KLE International Medical Programme Belgaum, Karnataka, India. In this study the result shows the significant correlation between academic performance and neuroticism. Research study by University of Medicine and Pharmacy Cluj-Napoca, Romania on Personality factors associated with academic stress in first year medical students Academic stress was predicted by trait anxiety, gender (female) and neuroticism also share similar views with our results. FilipLievens, et al. in their studies on medical students' personality characteristics and academic performance: a five-factor model perspective in,
(n=785) in five Flemish universities found that the medical student score highest on extroversion and agreeableness. Medical students' who score high in gregariousness, neuroticism and excitement-seeking are significantly less likely to sit examination successfully.11 The study conducted on meta-analysis of the relationship between big five personality traits and students’ academic achievement study conducted by University Technology Mara, Malaysia found that the personality is likely to play significant roles in influencing students' academic achievement shares the similar views with our study.12 Therefore optimize their achievement not only academics but in other fields too as we know that future of our country lies in these budding personalities.

CONCLUSION
Our study result reveals the impact of negative emotionality, the existing trait of personality in medical students and its association with their academic achievement. The prediction here goes with our study results that the negative emotionality (neuroticism) has a negative impact on medical student’s academic achievement. Thus the study result can help the students to develop insight into their emotionality and self-monitor their emotional stability thereby they can improve their academic achievement and professional personality. Further study result can also be used by mentors and counsellors to develop better understanding about their students so that they can go with the ease when they guide and counsel mentees and counselees.

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