Understanding The Influence Of Personality Traits On Test Anxiety Among International Medical Students In Malaysia

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Abstract:

In the contemporary academic landscape, students encounter heightened anxiety attributed to intense competition, with medical school students facing particularly elevated levels compared to other educational disciplines. Test anxiety, characterized by somatic, cognitive, and behavioral manifestations during exam preparation and performance, is a significant concern. This study aimed to ascertain whether extroversion or neuroticism, as personality trait dimensions, correlates more strongly with test anxiety. The research encompassed 190 first and second-year medical students at USM-KLE International Medical College, Belagavi, Karnataka, India. Personality dimensions were assessed using the Eysenck Personality Inventory, while test anxiety was measured using the Test Anxiety Inventory (TAI) developed by Charles D. Spielberger. Findings indicate that higher neuroticism scores correspond to elevated test anxiety among students (with a significant 't' value of 5.34 at the 0.05 level of significance). The implications of this study underscore the importance of implementing intervention strategies such as breathing exercises and relaxation techniques for students grappling with heightened test anxiety.

Key Words: Test Anxiety, Extroversion, Neuroticism

Introduction:

In the contemporary educational milieu, students are confronted with heightened levels of stress, primarily driven by fierce competition. Particularly, medical school students endure heightened anxiety compared to their peers in other academic fields. A prominent manifestation of this stress is test anxiety, a distinct phenomenon characterized by somatic, cognitive, and behavioral symptoms during both the preparation for and execution of exams. Frequently, students find themselves unable to perform at their best during exams due to this anxiety.

Understanding the underlying factors contributing to test anxiety is of paramount importance. Personality, as a dynamic construct, not only shapes our general behavior but also influences our responses in various situations, potentially aiding in the management of test anxiety. Test anxiety has been extensively studied, with consensus emerging in the 1970s around its two primary components: worry and emotionality. Pioneering researchers such as Liebert and Morris (1967) identified these components, defining worry as cognitive factors reflecting a lack of confidence or detrimental thoughts before and during exams. Similarly, emotionality encompasses indicators of autonomic arousal or physical symptoms of anxiety.

According to Sarason (1979), anxiety arises from a perceived inability to handle challenges or unresolved concerns adequately. Emotionality, as elucidated by Liebert and Morris (1967), can be observed through physical reactions before and during exams. While mild physical symptoms are common even among non-anxious students, severe physical responses are characteristic of individuals experiencing test anxiety and may persist throughout the examination.

This paper aims to explore the relationship between personality traits, specifically extroversion and neuroticism, and test anxiety among first and second-year medical students at USM-KLE International Medical College, Belagavi, Karnataka, India. By employing the Eysenck Personality Inventory and the Test Anxiety Inventory (TAI) developed by Charles D. Spielberger, this research seeks to determine whether neuroticism or extroversion exhibits a stronger correlation with heightened levels of test anxiety. Understanding these dynamics can provide insights for the development of effective intervention strategies, such as breathing exercises and relaxation techniques, to alleviate test anxiety among medical students.

Review of literature:

In the realm of academia, anxiety serves as a psychological mechanism that, at an optimal level, can invigorate students and enhance their performance within a learning environment. However, when anxiety surpasses manageable levels, its consequences become maladaptive, detrimentally impacting academic outcomes. The pervasive sensation of nervousness, often accompanied by physiological disturbances, has the potential to undermine students' academic achievements.

The current research endeavours to elucidate the correlation between personality dimensions, specifically extroversion and neuroticism, and test anxiety. Identifying an appropriate model to explore students' test anxiety in relation to their personalities is a crucial undertaking. Personality models that delineate distinguishing factors can furnish a fitting framework for investigating test anxiety and subsequently formulating interventions to alleviate its effects.

Personality, as a dynamic construct, significantly influences individuals' behavior across various contexts. Braden (1995) delineates three educational purposes of personality research: (i) examining the impact of normal personality variations on academic outcomes, (ii) studying abnormality and exceptionality to develop diagnostic tools for identifying students with dysfunctional personalities, and (iii) designing intervention programs and instructional strategies to cater to the needs of such students. Thus, understanding students' personality traits is instrumental in fostering self-mastery among those grappling with test anxiety.

Seligman et al. (2001) define test anxiety as the apprehension, uneasiness, or nervousness experienced by students who fear failure in examinations. Factors contributing to test anxiety may include associations between grades and personal worth, fear of embarrassment by teachers, undertaking courses perceived as beyond one's abilities, concerns about parental or peer disapproval, time pressures, and feelings of loss of control. Test anxiety encompasses emotional, cognitive, behavioral, and physical components, with symptoms ranging from sweating and dizziness to racing heartbeats and nausea.

Liu et al. (2006) argue that test anxiety is linked to personality traits and self-esteem, positing that introverted, emotionally unstable, psychotically inclined, or individuals with low self-esteem are more likely to experience heightened levels of test anxiety. Despite numerous studies on test anxiety aimed at delineating its components and devising effective treatment plans for distressed students, limited attention has been devoted to identifying specific personality characteristics associated with heightened test anxiety. However, research has consistently identified three personality dimensions—locus of control, neuroticism, and extraversion—as pertinent factors in understanding test anxiety (Butterfield, 1964; Allen, Giat, & Cherney, 1974; Watson, 1967; Dobson, 2000; Khosravi & Bgdeli, 2008; Schmidt & Riniolo, 1999).

Aim and Purpose of the Study:

The aim of this study is twofold:

- To assess the levels of test anxiety experienced by first and second-year medical students.
- To investigate the correlation between personality dimensions (extroversion and neuroticism) and test anxiety among these students.

Objective:

- The main objectives of this research are:
- To determine which personality dimension (extroversion or neuroticism) has a greater impact on test anxiety among medical students.

Hypotheses:

Based on the research objectives, the following hypotheses are proposed:

- Students scoring high on neuroticism will exhibit significantly greater levels of test anxiety.
- Conversely, students scoring high on extroversion will demonstrate significantly lower levels of test anxiety.

Sample:

The sample for this study comprises first and second-year medical students from USM-KLE International Medical College in Belagavi, Karnataka, India. The distribution of students across the two years and gender is as follows:

Phase-I	No of Students	Male	Female
Year-1 2015-2016	97	21	76
Year-1 2016-2017	93	39	54
Total	**190**	**60**	**130**

Variables:

- Independent Variable: Test Anxiety
- Dependent Variables: Extroversion, Neuroticism

Assessment Tools:

Two standardized assessment tools are utilized in this study:

- Test Anxiety Inventory (TAI): Developed by Charles D. Spielberger, the TAI comprises 20 statements. It measures test anxiety as a situation-specific personality trait and provides scores for total test anxiety (TAI-T) as well as for two components: worry (W) and emotionality (E).
- Eysenck Personality Inventory Form-A: This 57-item inventory measures extroversion, neuroticism dimensions, and includes a lie scale to detect response bias.

Inclusion Criteria:

First and second-year medical students at USM-KLE International Medical College are included in the study.

Exclusion Criteria:

Students from other medical colleges are excluded from the study.

Population under Study:

The population under study comprises first and second year medical students at USM-KLE International Medical College in Belagavi
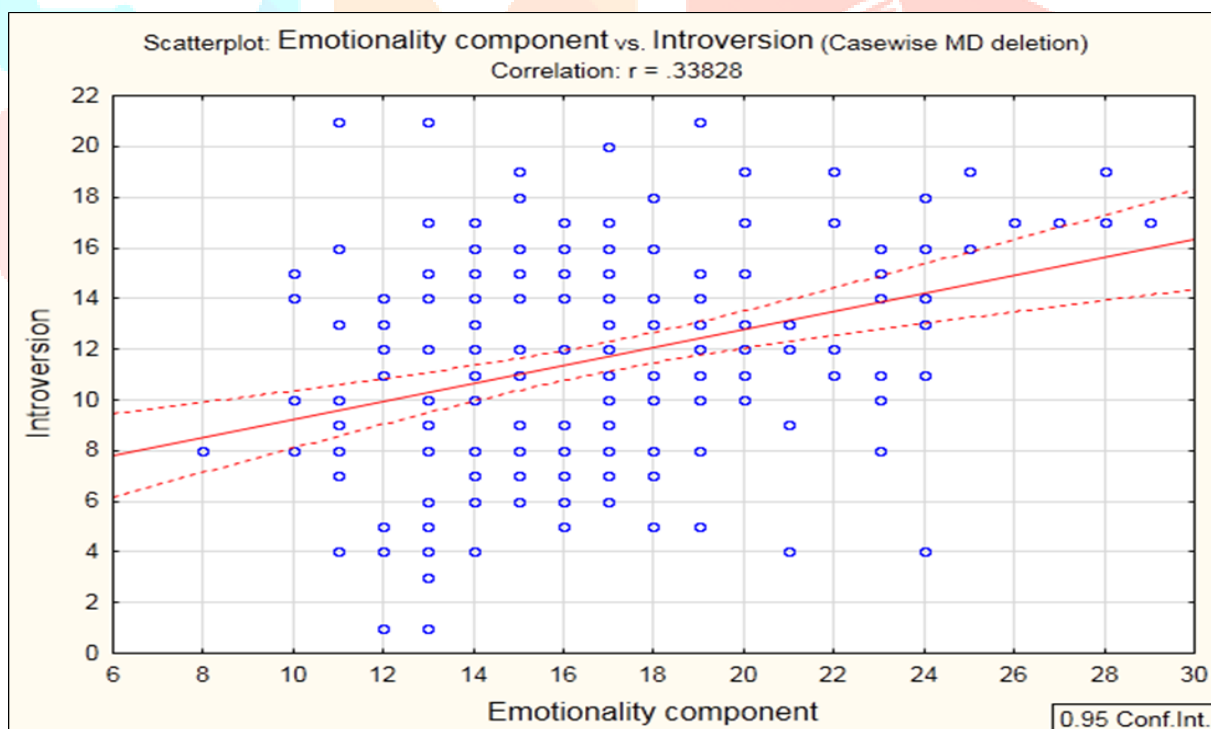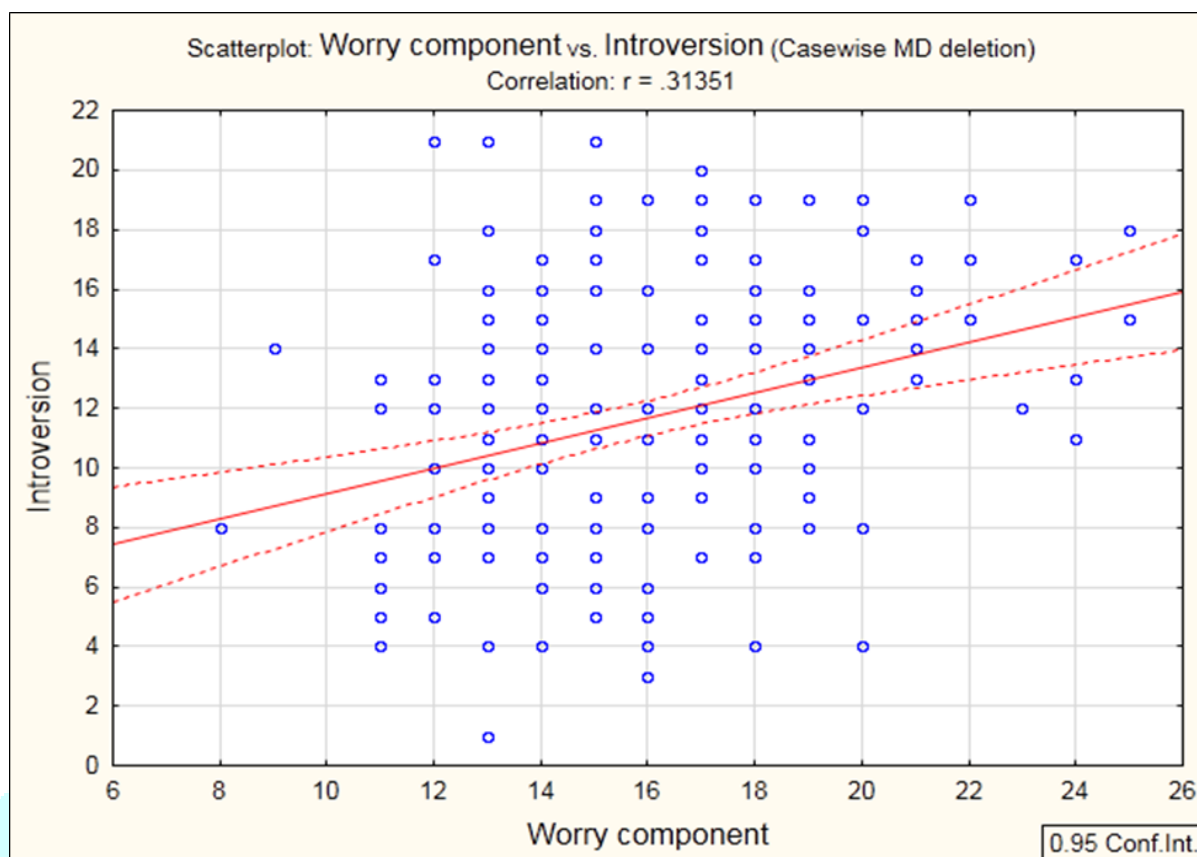
Results and Discussion

Statistical Analysis:

Table No. 1 showing the Correlation between Introversion scores with total anxiety and its components by Karl Pearson's correlation coefficient:

Variables	Correlation between Introversion scores with		
	r-value	t-value	p-value
Worry component	0.3135	4.5027	0.0001*
Emotionality component	0.3383	4.9025	0.0001*
Sub-scale score	0.2651	3.7491	0.0002*
Total anxiety	0.3647	5.3414	0.0001*

*p<0.05

In the aforementioned table, a statistically significant correlation between test anxiety and neuroticism scores is observed. Several researchers have investigated this relationship and have consistently found a moderate positive correlation between test anxiety level and neuroticism (Fitch, 2005; Tu & Shi, 2008). This correlation holds true across all three components of test anxiety: worry, emotionality, and subscale scores.

For instance, Liu, Meng, and Xu (2006) demonstrated that the prevalence of test anxiety was higher among introverted students (72.3%) compared to extroverted students (53.2%) ($p < .05$). Moreover, studies by Dobson (2000) and Khosravi and Bgdeli (2008) also confirmed significant correlations between neuroticism and test anxiety. However, the expected significance between students with low extraversion scores and those with high test anxiety was not consistently found.
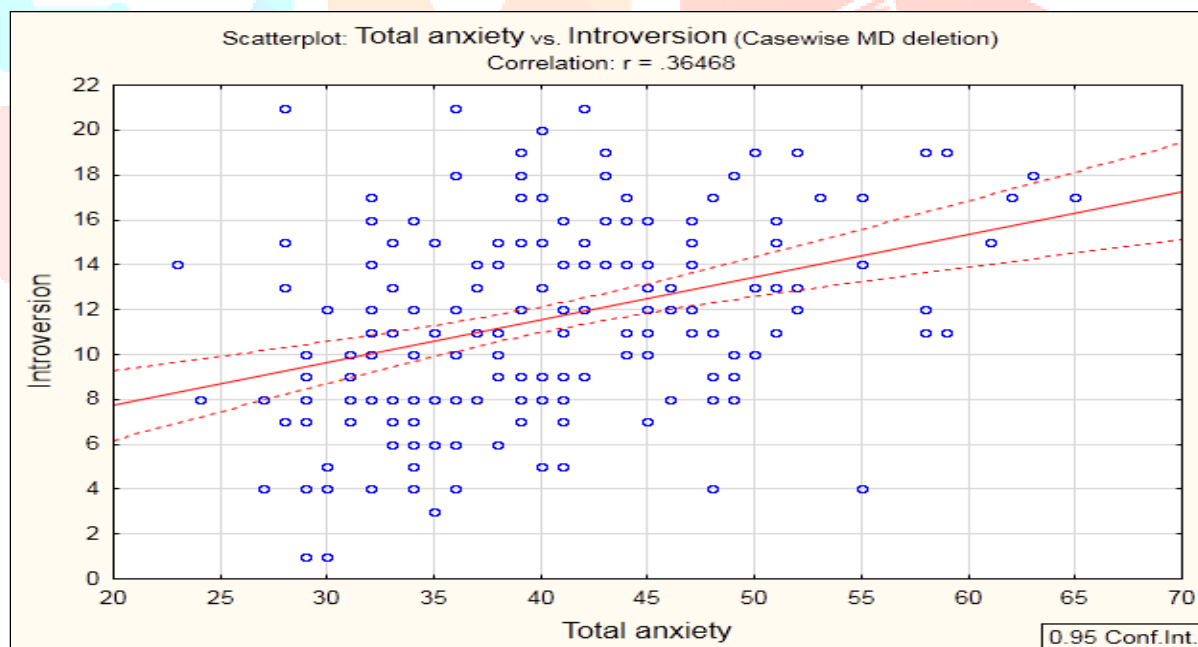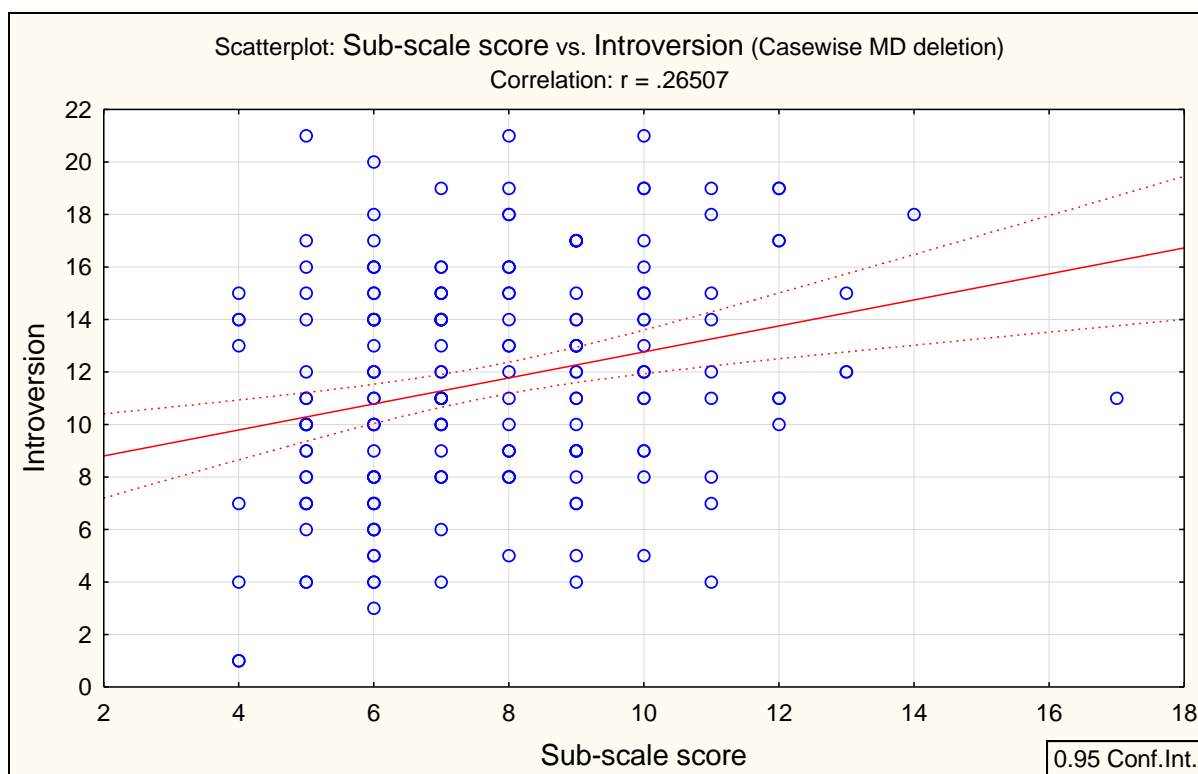
Scatterplot: Worry component vs. Introversion (Casewise MD deletion)
Correlation: r = .31351

Scatterplot: Emotionality component vs. Introversion (Casewise MD deletion)
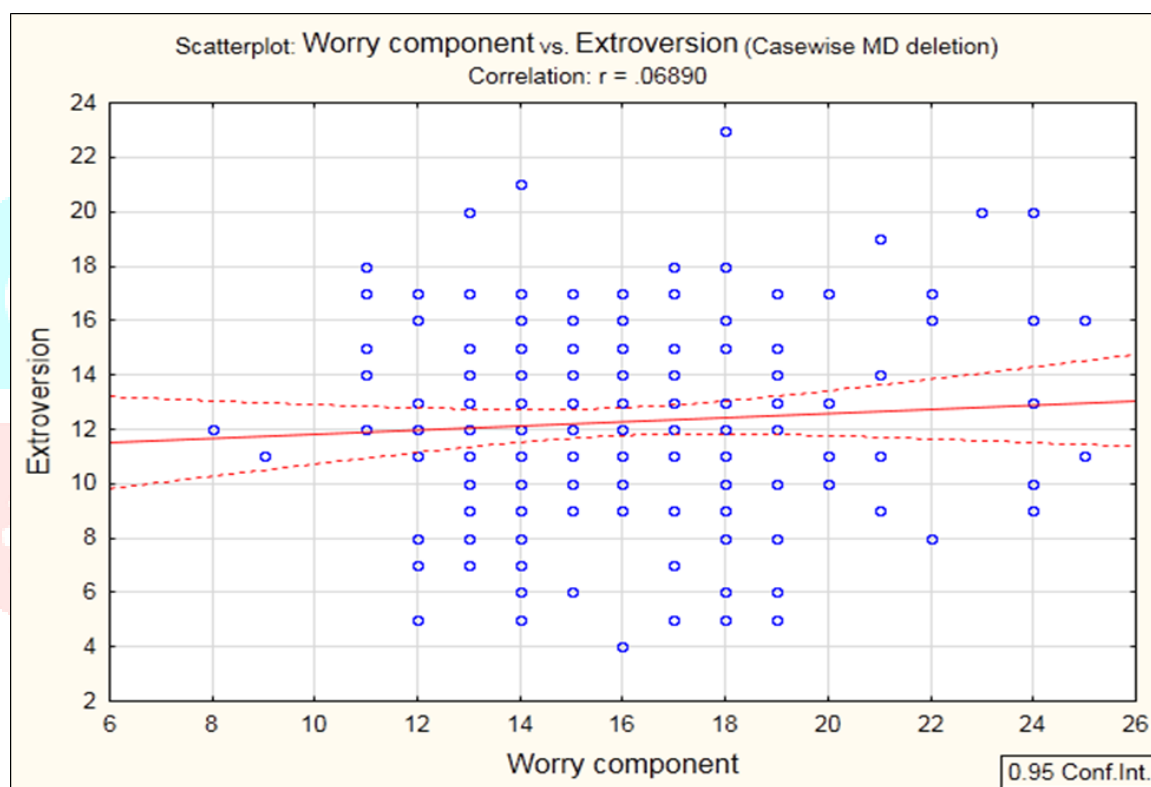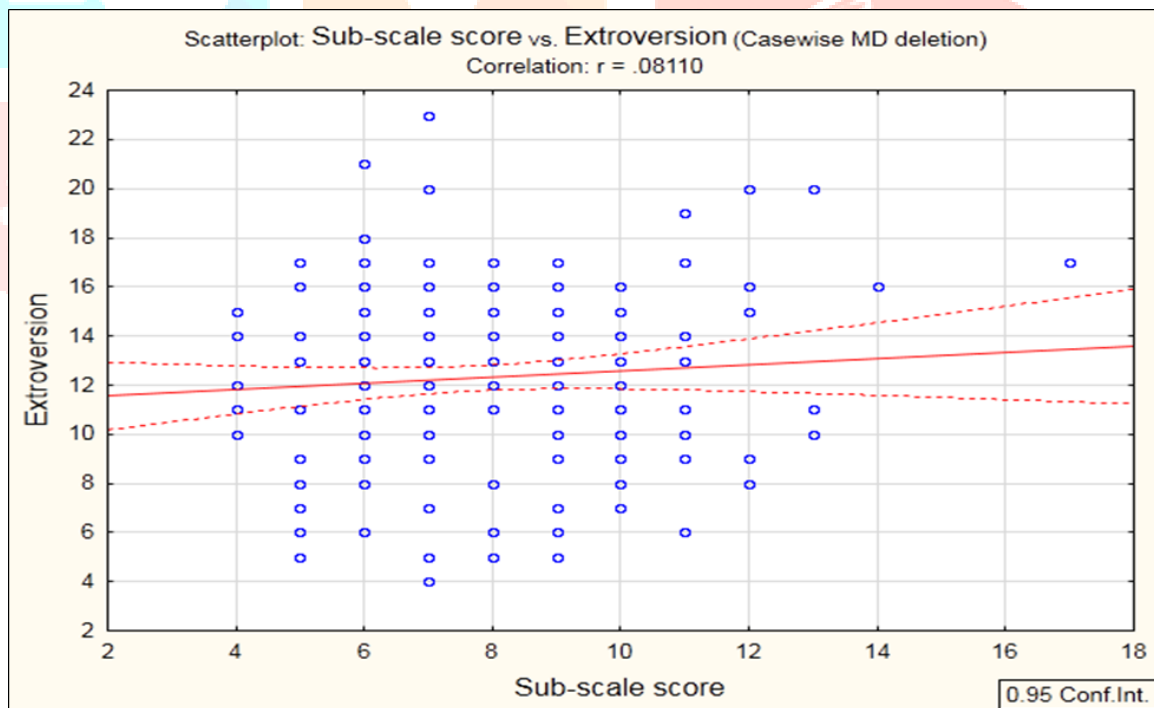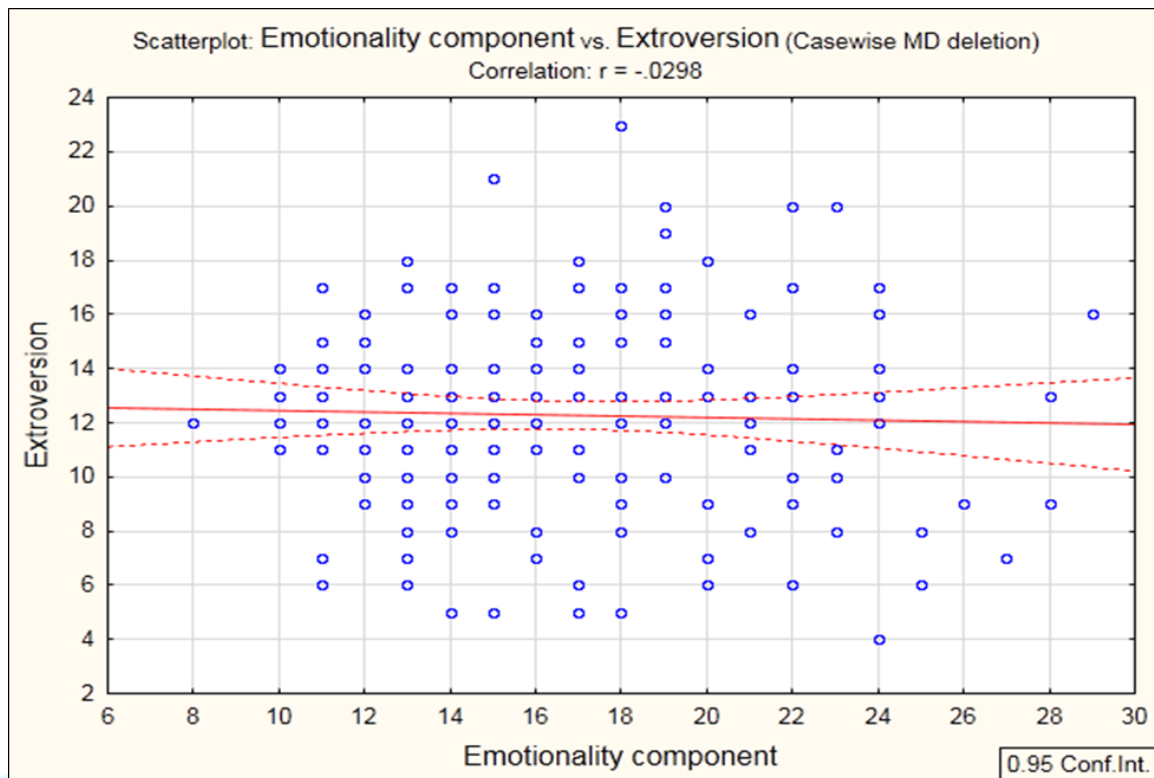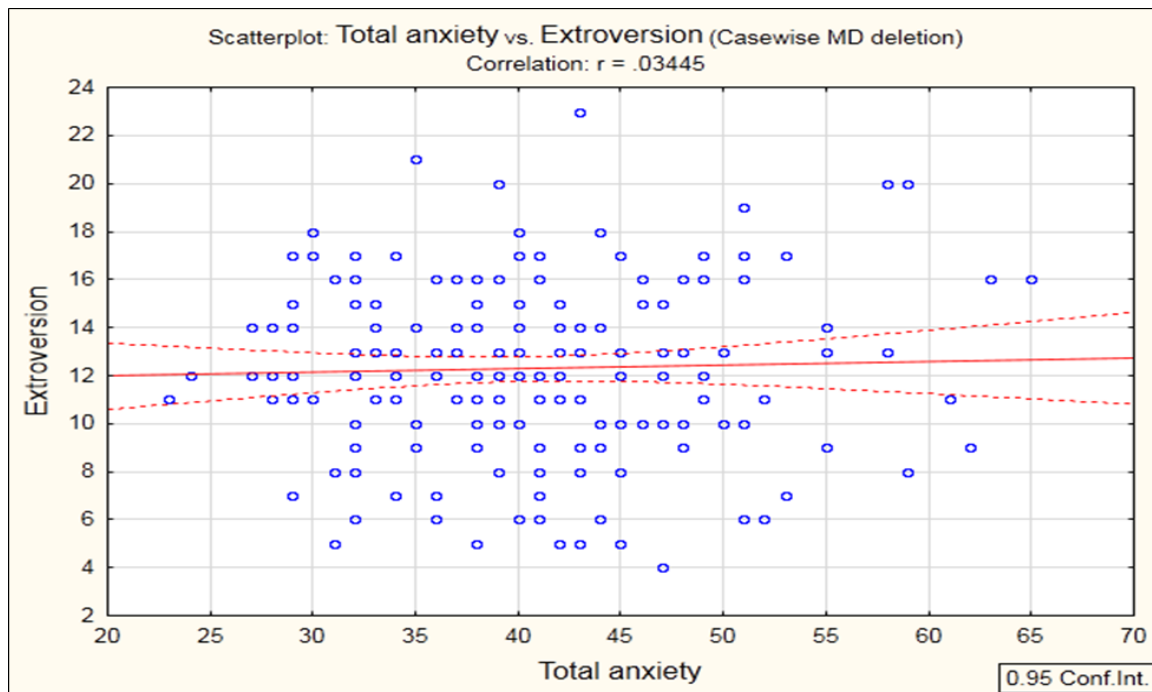Correlation: r = .33828

Table No.2 showing the Correlation between Extroversion scores with total anxiety and its components by Karl Pearson's correlation coefficient:

Variables	Correlation between Extroversion scores with		
	r-value	t-value	p-value
Worry Component	0.0689	0.9419	0.3475
Emotionality Component	-0.0298	-0.4067	0.6847
Sub-scale score	0.0811	1.1098	0.2685
Total Anxiety	0.0345	0.4702	0.6388

*p<0.05

Scatterplot: Worry component vs. Extroversion (Casewise MD deletion)
Correlation: r = .06890

Scatterplot: Emotionality component vs. Extroversion (Casewise MD deletion)
Correlation: r = -.0298

Scatterplot: Sub-scale score vs. Extroversion (Casewise MD deletion)
Correlation: r = .08110

Scatterplot: Total anxiety vs. Extroversion (Casewise MD deletion)
Correlation: r = .03445

Discussion:

Naturally, individual differences influence students' experiences of test anxiety. Students prone to high emotionality (inability to regulate emotions) are more likely to also suffer higher test anxiety than those who are not. This is because individuals who exhibit difficulty regulating their emotions often show difficulty in regulating task-irrelevant thinking and thus are more prone to distraction, which produces increased test anxiety (Hayes & Embretson, 2013).

Hayes and Embretson (2013) hypothesized that both the ability to regulate emotions and the ability to maintain the order of one's thoughts (collectively referred to as self-regulation) impact the level of test anxiety experienced, as well as actual test performance. Individuals who have difficulty regulating their thoughts are less able to focus during exams. They are therefore more likely to experience higher anxiety about taking exams as well as decreased exam performance. In other words, task-irrelevant thinking leads to cognitive resources being spent on distracting information instead of on the exam, the result being poorer performance.

The findings of the present study suggest that students scoring high on the neuroticism dimension of the Eysenck Personality Inventory (EPI) tend to experience higher levels of test anxiety. Conversely, students with higher scores on the extroversion dimension of the EPI tend to experience less test anxiety.

Conclusion: The present study demonstrates a significant correlation between test anxiety and neuroticism, supporting the hypotheses that students scoring high on neuroticism will exhibit significantly greater test anxiety, and students scoring high on extroversion will display significantly less test anxiety. These findings underscore the importance of considering individual differences in personality traits when assessing and addressing test anxiety in educational settings.

Research Implications:

Understanding the influence of personality traits on test anxiety among international medical students in Malaysia has several important implications for both research and practice in the field of education and psychology.

Tailored Interventions: The findings suggest that interventions designed to address test anxiety should consider individual differences in personality traits, particularly neuroticism and extroversion. Tailored interventions that consider students' personality profiles may be more effective in reducing test anxiety and improving academic performance.

Curriculum Design: Educators and curriculum designers may need to consider integrating strategies to address test anxiety into the medical education curriculum. This could include incorporating stress management techniques, mindfulness practices, and other coping strategies that are tailored to the specific needs of international medical students.

Student Support Services: Universities and educational institutions may need to enhance support services for international students, including counseling and mental health resources, to help students cope with test anxiety. Providing access to trained professionals who can offer guidance and support can be crucial in addressing the psychological challenges associated with studying abroad.

Cross-Cultural Perspectives: Exploring the influence of personality traits on test anxiety among international medical students in Malaysia provides valuable insights into cross-cultural differences in educational experiences and psychological well-being. Future research could further investigate how cultural factors interact with personality traits to influence test anxiety and academic performance.

Longitudinal Studies: Longitudinal studies could be conducted to examine the long-term effects of test anxiety on academic outcomes and career trajectories among international medical students. Understanding how test anxiety evolves over time and its impact on students' professional development can inform interventions aimed at promoting resilience and success in the medical field.

In conclusion, exploring the influence of personality traits on test anxiety among international medical students of Malaysia has implications for designing effective interventions, supporting students' well-being, and advancing our understanding of cross-cultural differences in educational experiences. This research contributes to the broader literature on student mental health and academic success in diverse educational settings.

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