

Assessment of Psychological Hazards and Physiological Stress Reaction Among Military Reserve Cadets

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Structured Abstract

Background: Military reserve cadets face significant psychological and physiological challenges due to the dual demands of academic responsibilities and intensive military training. These stressors can influence their mental health and physiological responses, impacting overall well-being and performance. This study aimed to determine the stress levels of cadets using the Perceived Stress Scale (PSS) and Depression Anxiety Stress Scale (DASS), measure physiological stress reactions (BMI, blood pressure, and heart rate), and examine the relationship between stress levels and physiological parameters.

Methods: A cross-sectional study was conducted involving 106 military reserve cadets. Psychological stress was assessed using validated instruments, including the PSS and DASS, while physiological parameters such as BMI, systolic and diastolic blood pressure, and heart rate were measured pre- and post-training using standardized tools. Statistical analyses, including descriptive statistics and Spearman's correlation, were performed using SPSS software.

Results: The findings revealed that 80.2% (n=85) of cadets reported moderate stress levels based on PSS, while 45.3% (n=48) exhibited moderate to extremely severe psychological distress according to DASS. Most cadets had normal BMI 72.6% (n=77), and significant reductions in systolic and diastolic blood pressure were observed post-training ($p < 0.001$), alongside significant increases in heart rate ($p < 0.001$). A strong positive correlation was identified between DASS and PSS scores ($r = 0.617$, $p < 0.001$), confirming the consistency of both scales in assessing stress. Additionally, a moderate positive correlation was observed between DASS and pre-training heart rate ($r = 0.272$, $p = 0.005$), suggesting that psychological distress is associated with elevated cardiovascular responses. No significant correlations were found between DASS and BMI or blood pressure.

Conclusion: In conclusion, this study underscores the psychological and physiological challenges experienced by military reserve cadets. There is no strong relationship between stress levels and physiological responses, but highlighting the importance of implementing stress management interventions to enhance cadets' resilience and overall well-being, will ensure optimal performance in high-pressure environments.

Keywords: Stress, DASS, PSS, Physiological Parameters, Military Reserve Cadets

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