

## THE RELATIONSHIP BETWEEN STRESS AND SUICIDAL IDEATION AMONG STUDENTS STUDYING PARAMEDICINE

Komal Sharma<sup>1</sup>, Dr. Vishal Sharma<sup>2</sup>

<sup>1</sup>Pacific College of Occupational Therapy, India.

<sup>2</sup>Pacific College of Occupational Therapy Pacific Medical University, Bhilo ka Bedla, Udaipur, India.

### ABSTRACT

Stress is a common experience among students, especially those pursuing rigorous fields such as paramedicine. Elevated stress levels can have profound psychological consequences, including an increased risk of suicidal ideation. This study explores the relationship between stress and suicidal ideation among paramedicine students, aiming to identify key factors contributing to mental health challenges in this cohort. Using a cross-sectional design, the research analyzes data collected through validated psychological scales assessing stress levels and suicidal ideation. Results indicate a significant positive correlation, suggesting that higher stress levels are strongly associated with an increased likelihood of suicidal thoughts. Contributing factors such as academic pressure, clinical exposure, and lack of coping mechanisms were examined. The findings highlight the need for targeted mental health interventions, including stress management programs and accessible support systems, to reduce the risk of suicidal ideation among paramedicine students. This research underscores the critical importance of fostering a supportive educational environment to promote mental well-being in healthcare education.

**Keywords:** Stress, Suicidal Ideation, Paramedicine, Mental Health, Academic Pressure, Psychological Well-Being

### 1. INTRODUCTION

Stress is a complex and multifaceted concept that varies in meaning depending on individual experiences and circumstances. Hans Selye, a pioneering figure in stress research, provided a foundational definition, describing stress as “the non-specific response of the body to any demand.” This broad definition acknowledges stress as a natural and adaptive response to external demands. In his influential work *Stress in Health and Disease* (1976), Selye explored the diverse ways in which stress is conceptualized across different fields of study. In the behavioral sciences, stress is understood as the “perception of threat,” often leading to anxiety, emotional tension, and difficulties in adaptation. This definition emphasizes the psychological impact of stress, acknowledging its capacity to provoke discomfort and hinder an individual’s ability to cope with external challenges. In the context of group dynamics, stress is described as a reaction to a lack of structure or stability within a group, which hinders its ability to meet situational demands. This creates a need for leadership and a sense of stability to navigate the stressors effectively. From a neuroendocrinological perspective, stress is defined as any stimulus that prompts the release of ACTH and adrenal glucocorticoids—hormones associated with the body’s stress response. Walter Cannon’s work on the sympathetic nervous system further underscored the physiological markers of stress, emphasizing the body’s autonomic reaction to perceived threats.

Richard Lazarus, a well-known figure in cognitive psychology, further contributed to the understanding of stress by highlighting its varied meanings across different disciplines. Lazarus acknowledged the challenges in providing a singular definition of stress, noting that sociologists often see it as social disequilibrium or disturbances within the social structure, while engineers view stress as an external force that causes strain in materials. Physiologists, on the other hand, focus on the physical stressors that disrupt biological systems, whether through physical injury or other noxious stimuli. Lazarus argued that there is often confusion about the precise meaning of stress, but that it is universally recognized as a significant issue in human life. This complex and evolving understanding of stress underscores the need for a comprehensive approach to its study, recognizing that both physical and psychological stressors can contribute to the overall stress experience.

In essence, stress is a physiological and psychological reaction to environmental demands, or “stressors,” which can arise from both positive and negative experiences. For instance, one may experience stress when facing a challenging life event such as failing to obtain a long-desired promotion or distinction, but equally, stress may arise from positive experiences such as receiving that promotion or preparing for an anticipated holiday. The body responds to these stressors by mobilizing energy and physiological resources to address the perceived demands, activating a state of heightened arousal. This process, which can be understood as a continuum, begins with a normal state of functioning, escalates to an intense response, and then gradually returns to equilibrium once the demands are met or resolved. However, the process becomes more complicated when stressors are internal, driven by imagined threats or fears. In these cases, the body’s energy mobilization may not be expended in a meaningful way, leading to heightened anxiety without the opportunity for physical resolution, which can perpetuate the stress cycle.

While some stress is necessary for motivation and wellness—helping individuals overcome challenges and maintain focus on their daily tasks—excessive or insufficient stress can be detrimental to both physical and mental health. Moderate levels of stress serve as a necessary catalyst for goal achievement and personal growth, helping individuals stay engaged with their work, studies, and personal lives. However, when stress becomes overwhelming, either due to excessive demands or the inability to cope with internal pressures, it can lead to burnout, anxiety, and other negative health outcomes. Conversely, a complete lack of stress or pressure may result in stagnation, lack of motivation, and an inability to engage with life's demands. Therefore, finding a balance—where stress remains at a manageable and motivating level—is crucial for maintaining optimal health and well-being.

## 2. RATIONALE OF THE STUDY

Stress is an unavoidable aspect of life, particularly in high-pressure fields like paramedicine. Paramedic students, who undergo rigorous training and education to prepare for their roles as first responders, often face unique stressors related to the intensity of their studies, practical requirements, and exposure to traumatic events. These stressors can negatively affect their mental health, leading to conditions such as anxiety, depression, and suicidal ideation.

This study aims to explore the relationship between stress and suicidal ideation among paramedicine students. By investigating these variables, the research will provide insights into the extent of mental health challenges faced by this population and inform strategies to mitigate their impact. In addition, it will contribute to the growing body of literature on the mental health of healthcare students and provide evidence for institutions to create better support systems for those pursuing careers in paramedicine.

## 3. AIM AND OBJECTIVES

### AIM

The aim of this study is to analyze stress and anxiety and their influence on suicidal thinking among medical students.

### Objective

The objective of this study is to measure stress and suicidal thinking among student and how students cope with this problem.

### 3.1 HYPOTHESIS

**Alternate Hypothesis ( $H_1$ ):** Stress is having effect on suicidal thinking of para-medical students.

**Null Hypothesis ( $H_0$ ):** Stress is not having any effect on suicidal thinking of para-medical students.

## 4. RESEARCH METHODOLOGY

This study employs a quantitative, cross-sectional design to investigate the relationship between stress and suicidal ideation among students studying paramedicine. The target population consists of paramedicine students enrolled in accredited institutions. A stratified random sampling technique is used to ensure representation across different academic years, genders, and institutions.

**4.1 Research design:** Observational study

**4.2 Sample size:** 50 subjects

**4.3 Sampling method:** Simple random sampling

**4.4 Place of study:** Pacific Hospital, Udaipur.

### 4.5 VARIABLE:

**Dependent variable:** Perceived Stress Scale (PSS) for measuring stress level.

**Independent variable:** Observational

### 4.6 Screening Criteria

#### Inclusion criteria:

- Paramedical students.
- Belong to any year
- Age group of students (18 to 24 year)

#### Exclusion criteria

- Students of medical course
- Students above 24 years of age

### 4.7 Material:

Computer, Paper, Pencil/pen etc.

#### 4.8 Procedure

The data was collected from the Pacific Hospital, Udaipur. The students of para-medical courses were selected for the study. The researcher distributed 50 questionnaires online as the study is conducted during the covid condition. The scale used for the study is Perceived Stress Scale (PSS). The sample employed in this study was restricted to medical sciences students from different years and most of the students were 22-24years old.

### 5. DATA ANALYSIS

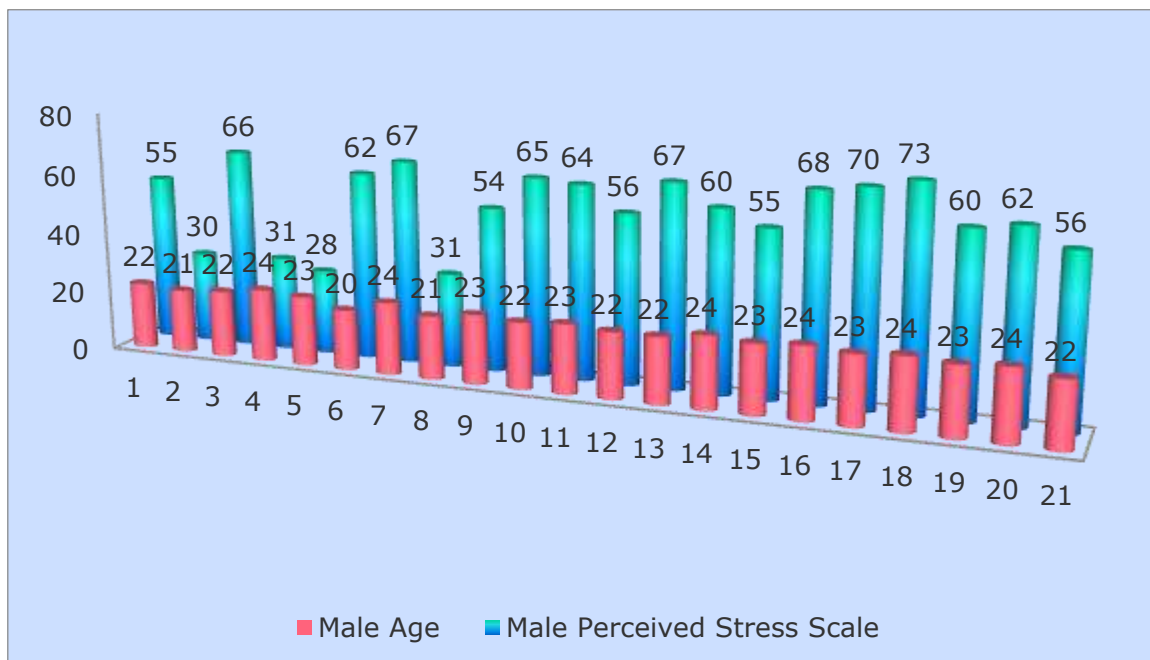
**Table 2.1:** Statistics Tests with Descriptive Statistics: Male

	Age	Perceived Stress Scale
Mean	22.66667	56.19048
Variance	1.333333	196.7619
Observations	21	21
Pearson Correlation	0.251072	
Hypothesized Mean Difference	0	
Df	20	
t Stat	11.14628	
P(T<=t) one-tail	0.76543	
t Critical one-tail	1.724718	
P(T<=t) two-tail	0.876567	
t Critical two-tail	2.085963	

**Table 2.2:** Mean, T-Stat, P-Value and Standard Deviation: Male

	Mean	t-Stat	p-value	Standard Deviation
Age	22.66667	2.085963	0.76543	1.154701
Perceived Stress Scale	56.19048	11.14628	0.876567	14.02718

**Graph 3.1** Male Portions with Age and Perceived Stress Scale



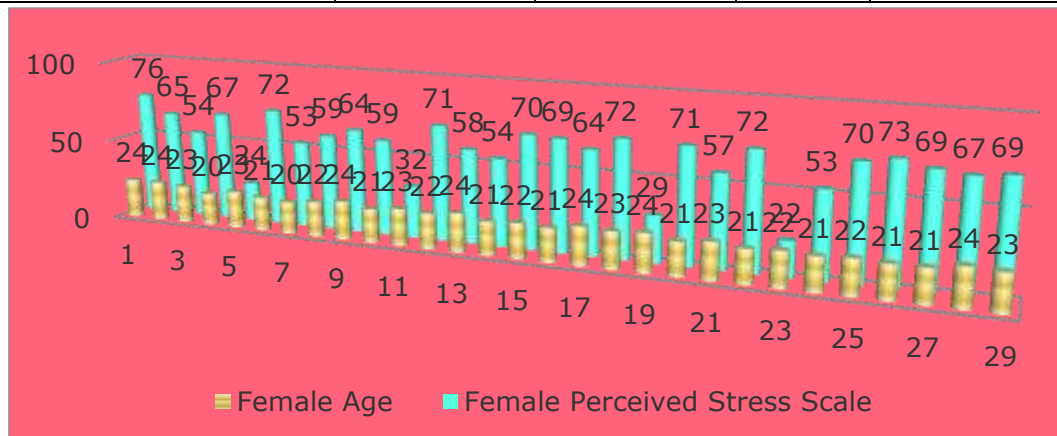
The above table 1.0, table 2.0 and Figure 1.0 shows that the mean value of male Perceived Stress Scale 56.19048 which is very high. Which means male are having high stress levels that can be due to any reasons. The t-stat and p-value shows that the results are insignificant to reject the null hypothesis which means the null hypothesis in this case will be accepted and alternative hypothesis will be rejected. Standard Deviation is also very for Perceived Stress Scale means there is higher tendency of stress among male.

**Table 2.3:** Statistics Tests with Descriptive Statistics: Female

	Age	Perceived Stress Scale
Mean	22.24138	59.82759
Variance	1.761084	227.3621
Observations	29	29
Pearson Correlation	-0.17276	
Hypothesized Mean Difference	0	
Df	28	
t Stat	-13.1746	
P(T<=t) one-tail	0.67854	
t Critical one-tail	1.701131	
P(T<=t) two-tail	0.57689	
t Critical two-tail	2.048407	

**Table 2.4:** Statistics Tests with Descriptive Statistics: Female

	Mean	t-stat	p-value	Standard Deviation
Age	22.24138	2.048407	0.67854	1.327058
Perceived Stress Scale	59.82759	13.1746	0.57689	15.07853



**Figure 3.2** Female Portions with Age and Perceived Stress Scale

The above table 2.0, table 3.0 and Figure 2.0 is showing that the mean value of Perceived Stress Scale is also very high i.e. 59.82. It means that the stress level among female is more than the male. Female are facing stress problems than male. The t-stat and p-value are showing that the evidence to reject the null hypothesis is insignificant therefore we accept the null hypothesis and reject the alternate hypothesis.

## 6. RESULTS

The results present descriptive statistics and statistical tests for males, focusing on age and the Perceived Stress Scale. The mean age of the male participants is 22.67, with a mean Perceived Stress Scale score of 56.19, indicating high stress levels among males. The variance in age is relatively low at 1.33, while the variance in the Perceived Stress Scale is considerably higher at 196.76. Pearson's correlation coefficient is 0.25, suggesting a weak positive relationship between age and stress levels. The t-statistic for the test is 11.15, with a p-value of 0.765 (one-tail) and 0.877 (two-tail), indicating that the results are statistically insignificant. Consequently, the null hypothesis is accepted, and the alternative hypothesis is rejected. Table 2.2 further elaborates with a t-statistic of 2.09 for age and 11.15 for the Perceived Stress Scale, showing high standard deviations (1.15 for age and 14.03 for stress scale). This reflects a greater variability in stress levels among males, visualizes the distribution of age and Perceived Stress Scale scores for males. The data confirms that males exhibit high stress levels, which may be attributed to various factors. The insignificant p-values support the acceptance of the null hypothesis, while the high standard deviation in stress scores underscores the varying stress tendencies among male participants. provides descriptive statistics and statistical test results for females. The mean age of female

participants is 22.24, with a higher mean Perceived Stress Scale score of 59.83, indicating that females experience more stress compared to males. The variance in age is 1.76, and the variance in stress scale scores is 227.36, further illustrating greater variability in stress levels among females. The Pearson correlation coefficient is -0.17, indicating a weak negative relationship between age and stress levels. The t-statistic for females is -13.17, with p-values of 0.679 (one-tail) and 0.577 (two-tail), also demonstrating statistical insignificance. Consequently, the null hypothesis is accepted, and the alternate hypothesis is rejected, shows additional details, including t-statistics of 2.05 for age and 13.17 for the Perceived Stress Scale. Standard deviations are 1.33 for age and 15.08 for stress scale scores, suggesting significant variability in stress levels among females. Figure 3.2 illustrates the age and stress score distribution for females, highlighting the higher stress levels among females compared to males. The insignificant p-values confirm the acceptance of the null hypothesis, emphasizing the presence of stress among females without a statistically significant difference in the variables tested.

## 7. DISCUSSION

Stress is a common problem among medical students around the globe. Medical students from different parts of the world have been found at risk of psychological stress, mental disorders, and decreased life satisfaction by Bond, L.; Toumbourou (2005).

Chronic stress in this period of life leads them to negative emotional states, depressive symptoms, feeling of anxiety and suicidal thinking. Caution should however be exercised in generalizing of these findings to all students, although we have no reason to believe that students at this medical university are different from students at other universities in India by Wallace, B.E.; Masik, J.; Pabis, M.R.(2015)

Our study confirms that students perceive that stress negatively influences their lives and can lead to serious problems such as depression and suicidal thinking. Many studies indicate that depressive symptoms beginning at an early age can have serious developmental and functional consequences, such as academic failure in future. Also, negative emotional states: depressive symptoms, chronic stress, especially in young people, were connected with susceptibility to alcohol addiction, drug abuse, crime, and a range of other adverse phenomena by Cash, S.J.; Bridge, J.A. and Makara-Studzinska (2011).

In contrast, female participants exhibit slightly higher mean stress levels (59.83) and greater variability, with a variance in stress scores of 227.36 compared to males. The weak negative correlation (Pearson's  $r = -0.17$ ) implies a slight tendency for stress levels to decrease with age, although this relationship is also statistically insignificant (p-values: 0.679 one-tailed; 0.577 two-tailed). The null hypothesis is similarly accepted for females. The greater standard deviation in stress scores (15.08) highlights even more pronounced individual variability in stress among females compared to males. These results underscore a pattern of elevated stress levels in females, aligning with prior research that frequently attributes this trend to societal, biological, and psychological factors.

Interestingly, both genders display a lack of statistically significant relationships between age and stress levels, as evidenced by their respective p-values and t-statistics. This finding suggests that age, within the narrow range examined, may not be a critical factor influencing stress levels. The high variability in stress scores for both genders, however, points to potential influences beyond age, such as environmental, social, or individual factors, that merit further investigation.

While males and females both demonstrate significant stress levels, the observed trends, correlations, and variability differences offer important considerations. For instance, the higher stress levels and variability among females suggest they may experience stress differently or be affected by a broader range of stressors than males. This could inform tailored stress management interventions. Ultimately, while the statistical tests do not establish significant relationships or differences, the descriptive statistics highlight important patterns, emphasizing the prevalence of high stress in both genders. Further research should incorporate larger and more diverse samples, as well as additional variables such as socioeconomic status, mental health history, and coping mechanisms, to better understand the underlying dynamics of stress.

## 8. CONCLUSION

In conclusion, this study highlights the challenges medical students face in maintaining life satisfaction throughout their training. The observed decline in life satisfaction, particularly in the later years of medical school, underscores the importance of addressing factors such as social life interference and reliance on passive coping strategies. Medical schools play a pivotal role in fostering a supportive environment that prioritizes both academic excellence and student well-being. By encouraging a healthy balance between coursework and personal life, and by equipping students with effective stress management tools, institutions can help mitigate the negative impact of medical training on life satisfaction, ultimately contributing to the development of healthier, more resilient future healthcare professionals.



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