



# **A Psychometric Comparative Analysis of Depression, Anxiety and Stress Levels Between Male and Female Students of Higher Educational Institutions of Delhi**

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## **Abstract**

Now a days, the mental health issues related to college students are gaining more and more attention, which highlights the need for a complex knowledge of emotional well-being. In order to address this issue, the main aim of present research work is to examine and compare the depression, anxiety and stress levels of male and female students of higher educational institutions. Total numbers of fifty samples female and male students of 18-20 age groups from different disciplines of higher educational institutions of Delhi, have been randomly selected. "Depression, anxiety and stress scale (DASS-21) has been utilized to measure the three variables namely: Depression, Anxiety and Stress. For evaluation, the descriptive statistical techniques have been used such as: mean, standard deviation etc. Percentage have also been applied to compare the three variables of males and females' students. As a result, it has been concluded that in comparison to male students, female students of higher educational institutions of Delhi, had more depression, anxiety and stress.

**Keywords:** *Psychometric, Depression, Anxiety, Stress, Emotional Disparities, Males, Females and Higher Educational Institutions.*

## **Introduction**

Currently, the mental health of college students has been a major area of concern and research in higher educational institutions. In addition to, social dynamics and

educational expectations, the transitional period from youth to adulthood sometimes lays youth generation in the midst of emotional difficulties (Abdallah & Gabr, n.d.) (Szabó, 2010). The purpose of present research work is to investigate the complex subject matter of mental health in higher educational institutions environment, with a prime focus to identify any potential emotional differences and also to assess and compare Depression, Anxiety, and Stress levels between female students and male students of higher educational institutions of Delhi. The issue of mental health related to college students are attaining more and more attention, that call attention towards the need for a complex knowledge of emotional well-being (Sravani et al., 2018).

Depression, anxiety and stress are phenomena observed across the world, especially in developing countries. This research explores a relationship between depression, anxiety, and stress, and socio-demographic characteristics of university students (Oei et al., 2013). Subject and methods: For this purpose, depression, anxiety and stress scale (DASS–21) was used for data collection along with socio-demographic variables. The data were collected from 361 students of various academic disciplines and degree programs through self-reported questionnaire. Results: The findings reveal that male students had more depression, stress, and anxiety in comparison to female students. There were no significant differences in depression, anxiety and stress on the basis of family type. In addition, there was significant difference in the perception of depression, anxiety, and stress on the basis of their residential status and parents' education. Conclusions: This study concludes that male students were more depressed, stressed and anxious as compared to female students. Furthermore, symptoms of depression, anxiety and stress were the same among students with nuclear and joint family living systems. Parental education was associated with students' depression, anxiety and stress. Students with educated parents had fewer symptoms of stress, anxiety and depression (ul Haq et al., 2018).



### **Operational Definitions:**

1. What is Depression: Depression is a mood condition characterized by a wide variety of symptoms such as: persistent sorrow or loss of interest in life (Bruce & PhD, n.d.).
2. Anxiety: Feelings of worry, dread, and unease are called anxiety (*Anxiety*, n.d.)
3. Stress: Stress is characterized as a condition of anxiety or tension in the mind brought on by a challenging circumstance (*Stress*, n.d.)

### **Significance:**

By unveiling an emotional disparity and by comparing Depression, Anxiety and Stress levels between female students and male students of higher educational institutions of Delhi, an outline and valuable insights have been obtained about the areas which require amendments and therefore explicit intervention strategies have been formulated to correct the same.

### **Objectives:**

- To assess and compare Depression, Anxiety, and Stress levels between female students and male students of higher educational institutions of Delhi.
- To contribute the scientific text material on mental and emotional health by presenting empirical data on Gender-based disparities in Depression, Anxiety, and Stress levels between female students and male students.

### **Methodology**

**Sample:** Total numbers of fifty samples female and male students of 18-20 age groups from different disciplines of Higher educational Institutions of Delhi, have been randomly selected for data collection and statistical analysis. For this study a random sampling technique has been used. *Criterion measure:* The three variables namely 1) Depression, 2) Anxiety and 3) Stress have been measured by the application of questionnaire/scale namely "Depression, Anxiety and Stress Scale (DASS-21)" by

Lovibond and Lovibond (1995) (Crawford & Henry, 2003) (“Depression Anxiety Stress Scales – Short Form (DASS-21),” 2021) (Henry & Crawford, 2005). *Description of the Questionnaires:* This test is said to be reliable as it has been used in many studies. *Administration of the Questionnaire/Scale:* The subjects have been contacted and the purpose of the study was explained to them to determine willingness to respond questionnaire. They voluntarily agreed to extend full cooperation. The questionnaires had been distributed through Google form to all volunteer. Following this process, the researcher was able to collect the valid and reliable data. *Statistical technique for analysis of data:* different statistical techniques have been employed such as: in descriptive statistics: mean, standard deviation, then percentage have been applied to illustrate and to compare the three variables of males and females.

*Scoring of DASS-21 Scale:* The scale consists of three subscales like: Depression, Anxiety and Stress. Each of the three DASS-21 Subscales contain 7 items/questions such as: Depression includes items:3,5,10,13,16,17,21; Anxiety includes items: 2,4,7,9,15,19,20; Stress includes items: 1,6,8,11,12,14,18.

Firstly, the total responses (female and male students) of each questionnaire have been converted into scores as: 0, 1, 2, 3. Then, calculated the three subscale scores (female and male students) by summing the scores of above-mentioned items/questions number within each subscale. Calculated mean and standard deviation of total of three subscale scores of female and male students separately. For the calculation of final score, NB scores on the DASS-21 have been multiplied by 2. Thereafter, the final scores for each subscale have been categorized into five severity ranges:

<b>Severity Ranges</b>	<b>Depression</b>	<b>Anxiety</b>	<b>Stress</b>
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25

Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

On the basis of above categorization, percentage of severity ranges in Depression, Anxiety and Stress, for males and females, have been evaluated (*DASS-21.Pdf*, n.d.)

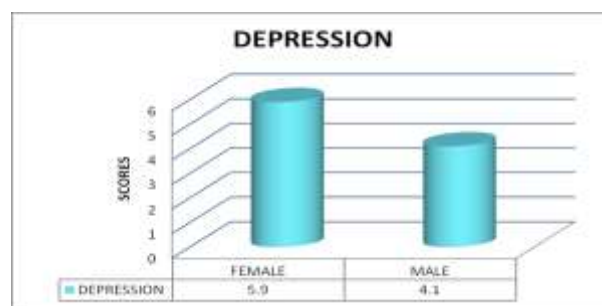
### Results and Discussions:

**Table-1**

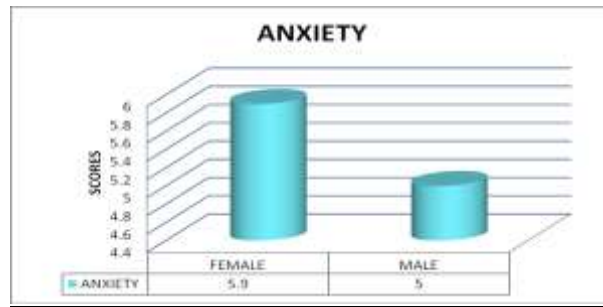
**Descriptive Statistics of the variable-wise Responses of the Female and Male Students of Higher Educational Institutions of Delhi**

S.No	Variables	Mean (Females)	S.D. (Females)	Mean (Males)	S.D. (Males)
1.	DEPRESSION	5.9	5.1	4.1	3.4
2.	ANXIETY	5.9	3.9	5	3.1
3.	STRESS	5.9	3.2	4.3	3

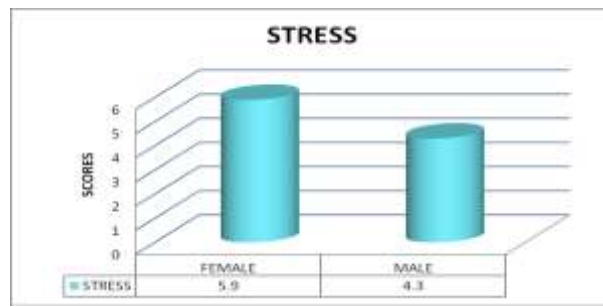
*S.D. = Standard Deviation*



**Figure:1 Graphical representation of Descriptive Statistics of "Depression" variable of the Female and Male Students of Higher Educational Institutions of Delhi**



**Figure:2 Graphical representation of Descriptive Statistics of "Anxiety" variable of the Female and Male Students of Higher Educational Institutions of Delhi**



**Figure:3 Graphical representation of Descriptive Statistics of "Stress" variable of the Female and Male Students of Higher Educational Institutions of Delhi**

**Table-2**

**Total scores of severity ranges of Female Students of Higher Educational Institutions of Delhi**

S.No.	Variables	Normal	Mild	Moderate	Severe	Extremel y Severe
1.	DEPRESSION	17	2	8	2	3
2.	ANXIETY	9	3	9	5	6

3.	STRESS	21	8	3	0	0
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**Table-3**

**Total scores of severity ranges of Male Students of Higher Educational Institutions of Delhi**

S.No.	Variables	Normal	Mild	Moderate	Severe	Extremely Severe
1.	DEPRESSION	14	1	2	0	1
2.	ANXIETY	7	2	5	3	1
3.	STRESS	15	3	0	0	0

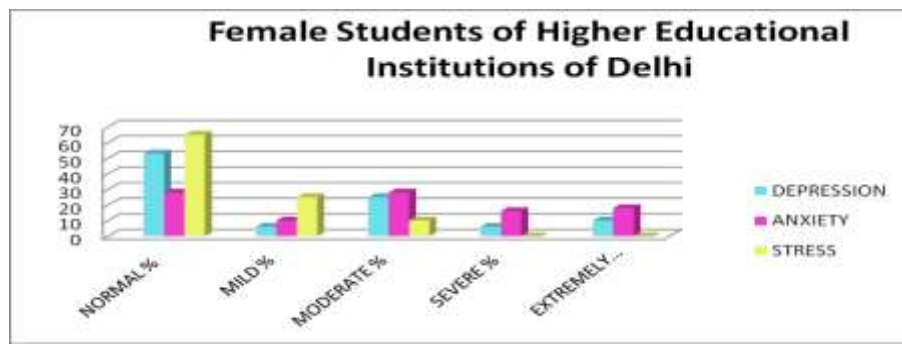
**Table-4**

**Percentage (%) comparison of severity ranges of Female and Male Students of Higher Educational Institutions of Delhi**

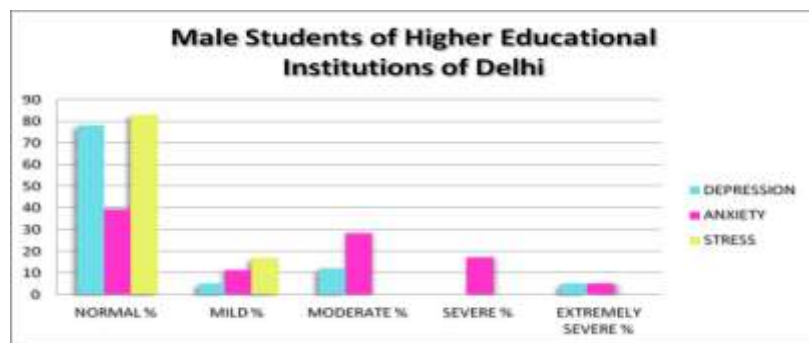
Variables	Female Normal %	Male Normal %	Female Mild %	Male Mild %	Female Moderate %	Male Moderate %	Female Severe %	Male Severe %	Female Extremely Severe %	Male Extremely Severe %
DEPRESSION	53	78	6	5	25	12	6	0	10	5
ANXIETY	28	39	10	11	28	28	16	17	18	5



STRESS	65	83	25	17	10	0	0	0	0	0
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*Figure:4 Graphical representation of variable-wise Percentage Distribution of severity ranges of Female Students of Higher Educational Institutions of Delhi*



*Figure:5 Graphical representation of variable-wise Percentage Distribution of severity ranges of Male Students of Higher Educational Institutions of Delhi*

### Discussion:

On the basis of statistical analysis, the descriptive statistics of the variable-wise responses of the female and male students of higher educational institutions of Delhi are as follow: The mean value of subscale "Depression" for female and male students are 5.9 and 4.1; SD is 5.1 and 3.4. The mean value of subscale "Anxiety" for female and



male students are 5.9 and 5; SD is 3.9 and 3.1. The mean value of subscale "Stress" for female and male students are 5.9 and 4.3; SD is 3.2 and 3. Further, percentage (%) comparison of severity ranges of female and male students of higher educational institutions of Delhi are found as follow: In the subscale of "Depression", 53% female and 78% male students found 'Normal', 6% female and 5% male are 'Mild', 25% female and 12% male are 'Moderate', 6% female and 0% male found 'Severe', whereas 10% female and 5% male are 'Extremely Severe'. In the subscale of "Anxiety", 28% female and 39% male students found 'Normal', 10% female and 11% male are 'Mild', 28% female and 28% male found 'Moderate', 16% female and 17% male are 'Severe' whereas 18% female and 5% male are 'Extremely Severe'. In the subscale "Stress", 65% female and 83% male students are 'Normal', 25% female and 17% male found 'Mild', 10% female and 0% male are 'Moderate', 0% female and 0% male found 'Severe' as well as 'Extremely Severe'.

## **Conclusion**

On the basis of data analysis, it has been evaluated and compared that in the subscale of 'Depression'- Majority of 53% female whereas 78% of male students are found 'Normal'. In subscale 'Anxiety'- Majority of 28% female whereas 39% male students are found Normal. 18% of female whereas 5% of male students are Extremely severe. In Subscale 'Stress'- Majority of 65% of female whereas 83% of male students are found Normal.

Finally, it has been concluded that in comparison to male students, female students of higher educational institutions of Delhi, had more depression, anxiety and stress. The present research analysis of DASS-21 scale reveals notable gender differences in experiencing depression, anxiety and stress between female students and male students. It is highly suggested and recommended that higher educational institutions should work towards creating more supportive environment for female students and should deal with specific mental health needs, should organize various mental health workshops, educational campaigns on mental health and also parental educational program and regular mental health check-up etc.

## References

1. Abdallah, A. R., & Gabr, H. M. (n.d.). *Depression, anxiety and stress among first year medical students in an Egyptian public university*.
2. *Anxiety*. (n.d.). [Text]. National Library of Medicine. Retrieved January 14, 2024, from <https://medlineplus.gov/anxiety.html>
3. Bruce, D. F. & PhD. (n.d.). *What Is Depression?* WebMD. Retrieved December 12, 2023, from <https://www.webmd.com/depression/detecting-depression>
4. Crawford, J. R., & Henry, J. D. (2003). The Depression Anxiety Stress Scales (DASS): Normative data and latent structure in a large non-clinical sample. *British Journal of Clinical Psychology*, 42(2), 111–131. <https://doi.org/10.1348/014466503321903544>
5. *DASS-21.pdf*. (n.d.). Retrieved January 14, 2024, from <https://maic.qld.gov.au/wp-content/uploads/2016/07/DASS-21.pdf>
6. Depression Anxiety Stress Scales – Short Form (DASS-21). (2021, March 15). *NovoPsych*. <https://novopsych.com.au/assessments/depression/depression-anxiety-stress-scales-short-form-dass-21/>
7. Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 44(2), 227–239. <https://doi.org/10.1348/014466505X29657>
8. Oei, T. P. S., Sawang, S., Goh, Y. W., & Mukhtar, F. (2013). Using the Depression Anxiety Stress Scale 21 (DASS-21) across cultures. *International Journal of Psychology*, 48(6), 1018–1029. <https://doi.org/10.1080/00207594.2012.755535>
9. Sravani, A., Doshi, D., Kulkarni, S., Reddy, P., & Reddy, S. (2018). Depression, Anxiety, and Stress Among Undergraduate Dental Students in Hyderabad City,



- Telangana, India: A Cross-sectional Study. *Journal of Indian Association of Public Health Dentistry*, 16(1), 26. [https://doi.org/10.4103/jiaphd.jiaphd\\_10\\_17](https://doi.org/10.4103/jiaphd.jiaphd_10_17)
10. *Stress*. (n.d.). Retrieved December 12, 2023, from <https://www.who.int/news-room/questions-and-answers/item/stress>
11. Szabó, M. (2010). The short version of the Depression Anxiety Stress Scales (DASS-21): Factor structure in a young adolescent sample. *Journal of Adolescence*, 33(1), 1–8. <https://doi.org/10.1016/j.adolescence.2009.05.014>
12. ul Haq, M. A., Dar, I. S., Aslam, M., & Mahmood, Q. K. (2018). Psychometric study of depression, anxiety and stress among university students. *Journal of Public Health*, 26(2), 211–217. <https://doi.org/10.1007/s10389-017-0856-6>