

# Life Satisfaction and Psychological Distress (Depression, Anxiety, Stress) in Undergraduate Students: A Comparative Study

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**Abstract:** *The study describes the comparison among stream, gender and residence in depression, anxiety, stress and satisfaction with life. The study used a descriptive method to carried out the research. The population of this study includes all the undergraduate students studying in colleges of Purulia district and selected through a simple random sampling technique by the scales Depression Anxiety Stress Scale-21 (DASS-21) given by Lovibond and Lovibond (1995) and Satisfaction With Life Scale (SWLS) given by Diener et al. (1985). The study explored that no significant difference found in depression, anxiety, stress and satisfaction with life but only one case shows a different picture, only anxiety where the stream, like science and art student differ from the each other.*

**Keywords:** Depression, Anxiety, Stress, undergraduate students, Life Satisfaction

## I. INTRODUCTION

Mind is the only one part who control all over processes going through in a physical body. This part is most important to manage the health condition in a concern way. But day by day mental health faces different challenges like personal, academic and social specially college going students and this problem going too bad when they enter in a new environment like university, where academic workload increased and come with financial uncertainties with their future thought. This kind of mental issues specially brings with Anxiety, stress and depression. Anxiety, stress and depression are separate but frequently combined mental disorders. Anxiety is a chronic, excessive fear or worry, stress is a response to outside pressures, and depression is a mood condition marked by poor energy, loss of interest, and persistent sadness. The normal life of people was disrupted and they are living a life of turbidity with increased anxiety, depression and stress Gayen and Sen (2021). It is found that depression, anxiety and stress level of the learners are increased Sen et al. (2023). Several studies have shown depression to be the most common reason for clinic visits and is common among students of higher education (Mahato and Sen, 2021; Ansary et al. 2022).

## II. REVIEW OF THE RELATED LITERATURE

Taneja et al. (2018) The result showed that 60 (32.0%), 75 (40.1%), and 82 (43.8%) students were affected by symptoms suggestive of depression, anxiety, and stress, respectively. Sen and Saha (2026) Indicated that Smartphone addiction was gender and stream dependent, depression was residence dependent, and anxiety was stream dependent. However, the overall dynamical nature showed no significant difference, leading to the conclusion that the combined health condition of the undergraduate students was independent of gender, residence, and study stream. Das et al. (2023) The result showed that no significance differences in LOHAS, physical fitness, mental health, emotional health, spiritual health, environmentalism, and social consciousness between arts and science, rural and urban, & male and female undergraduate students of Purulia district of West Bengal, India. Mahato et al. (2023) The result of the study showed that independent variables like Anxiety, Depression, Stress, General Self-efficacy, Specific Self-efficacy were related to postgraduate students. Adhikari et al. (2023) Conducted a study on anxiety depression stress gender self-



efficacy and specific self - efficacy: comparison among science and social science students. the main purpose of the study was relationship among Anxiety, Depression. Stress, general self-efficacy, specific self-efficacy of postgraduate social science students. Another objective was the relationship among Anxiety, Depression. Stress, General Self-efficacy, Specific Self-efficacy of Postgraduate Science students. Sen et al. (2023) The result showed that there was no significant difference in dynamical nature of five dependent variables for different groups of independent variables. Sen et al. (2025) Provides valuable insights into the multifaceted dynamics of environmental attitudes and behaviours, underscoring the importance of considering various factors in addressing environmental issues. Sen et al. (2025) Significant differences are found for Openness to Experience and Depression when gender is taken as dichotomous variable and t-test is administered. There were no significant differences for all other cases. Sen et al. (2021) The study showed that there was no significant difference in the levels of depression, anxiety and stress among the postgraduate students in relation to gender, department and semester. The present condition of all the students is alike and disheartening in general perspectives. Mahato and Sen (2021a) Result showed that for most of the cases there were no statistically significant differences are found. It was found that girls are more anxious than boys and Arts students are more anxious than science students. Basu et al. (2016) Result showed that About 33.33% of the students suffered from moderate to extreme depression; 56.59% had moderate to extreme levels anxiety and 23.26% experienced moderate to extreme levels of stress. Chakraborty et al. (2024) The result found that females were detected as having higher levels of stress and anxiety compared to males, and this association was found to be statistically significant. Patra and Mahato (2025) The results of this study highlight that significant difference between male-female, arts-science the higher secondary school students and other side the result revealed that no significant difference between rural- urban the higher secondary school student regarding the Test anxiety. Bauri and Mahato (2025) The result showed that no significant difference between male and female; rural and urban; arts and science postgraduate students regarding Problematic Use of Mobile Phone. Ganguly et al. (2026) The study found a high prevalence of depression (58.3%), anxiety (64.2%), and stress (35.4%). Sutradhar et al. (2023) Result found that there was no significant difference in dynamical nature of the dichotomous groups when five dependent variables general self-efficacy, specific self-efficacy, depression, anxiety and stress composed as a branch. Several studies have been conducted on undergraduate students; these are as follows Ansary and Khatun (2025); Adhikari (2023); Ansary and Mandal (2024); Ansary and Rakshit (2024); Ansary et al. (2023); Ansary et al. (2021); Mahato (2026); Chatterjee et al. (2016); Das (2023); Das (2025); Das (2025a); Das (2025c); Das and Mahato (2024); Das and Mahato (2024b); Das et al. (2023a); Das et al. (2023b); Das et al. (2023c); Das et al. (2024); Khan et al. (2023); Khatun et al. (2022); Kundu et al. (2015); Mahanti et al. (2016); Mahato et al. (2023a); Mahato et al. (2023b); Saha (2021); Saha and Adhikari (2021). Several researchers have conducted studies using the t-test to compare group differences in educational and psychological contexts. For instance, Ansary (2023); Mondal and Saha (2013) examined science achievement among secondary-level students. Similarly, Karmakar et al. (2016) and Sen et al. (2013) focused on comparing group means. Mondal et al. (2018) applied t-tests to identify statistical differences among selected student samples. Dandapat et al. (2021) compared group performance. Roy et al. (2017), Mahato and Sen (2023) and Kar and Saha (2014) used t-tests to examine group-level differences among students. Kar and Saha (2021) studied variations in learning outcomes, Kar et al. (2014a), while Rajak and Gayan (2022) and Sen and Pal (2020) analyzed variation across respondent categories, Adhikari et al. (2023) and Saha (2012) further examined subgroup differences. Recent studies have also addressed behavioural and psychological issues. Mahato and Das (2024a, 2024b) explored problematic mobile phone usage among postgraduate students. Paul et al. (2017) identified creativity among secondary students in relation to gender and residence. In addition to comparative studies, several researchers have applied clustering and pattern recognition techniques. Mondal and Mahato (2025), Patra et al. (2026) and Roy and Mahato (2025) classified student data based on similarity patterns, while Sen et al. (2023) identified inherent data clusters. Gayen (2024) and Das and Mahato (2024a, 2024b) also detected latent patterns in student datasets. Adhikari and Sen (2023, 2023a); Mahato et al. (2024) effectively analyzed multidimensional data using clustering techniques, and Gorain et al. (2022) and Adhikari et al. (2023a) grouped data points into meaningful clusters. Saha et al. (2021) categorized samples based on shared psychological factors. Furthermore, several studies



have examined relationships among variables. Sen et al. (2023a) and Mohanta et al. (2023) investigated factors affecting self-esteem, while Das and Mahato (2024b) analysed relationships between psychological and demographic factors. Sutradhar and Sen (2022); Mondal and Saha (2017) and Sutradhar et al. (2023) also explored relationships among social science indicators influencing personality and confidence. Other researchers have focused on statistical validation and data analysis techniques. Das et al. (2024) tested normality and reliability of student response data, while Mahato et al. (2024) evaluated results beyond normal distribution assumptions. Mahato and Das (2024a) compared parametric and non-parametric methods, and Mahato and Das (2024b) standardized data for comparative purposes. Gayan et al. (2021), and Mahato and Sen (2021a) assessed data stability using z-tests. Additionally, Gorain et al. (2022) and Mahato and Das (2024c) analyzed inter-cluster distances. Finally, Sen et al. (2025); Ghosh et al. (2025) examined latent factors among higher secondary students and tested model fit using SEM. Patra and Mahato (2025a) also studied problematic mobile phone use among postgraduate students in the same region.

### III. OBJECTIVES OF THE STUDY

Following objectives are taken into consideration to carried out the research work

1. To compare Depression, anxiety, stress and SWLS of undergraduate students in regard to gender.
2. To compare Depression, anxiety, stress and SWLS of undergraduate students in regard to residence.
3. To compare Depression, anxiety, stress and SWLS of undergraduate students in regard to Stream.

### IV. HYPOTHESES OF THE STUDY

To address the objectives following hypotheses can be considered

- **H<sub>01a</sub>**: “There is no significant difference in depression between male and female undergraduate students”.
- **H<sub>01b</sub>**: “There is no significant difference in anxiety between male and female undergraduate students”.
- **H<sub>01c</sub>**: “There is no significant difference in stress between male and female undergraduate students”.
- **H<sub>01d</sub>**: “There is no significant difference in SWLS between male and female undergraduate students”.
- **H<sub>02a</sub>**: “There is no significant difference in depression between rural and urban undergraduate students”.
- **H<sub>02b</sub>**: “There is no significant difference in anxiety between rural and urban undergraduate students”.
- **H<sub>02c</sub>**: “There is no significant difference in stress between rural and urban undergraduate students”.
- **H<sub>02d</sub>**: “There is no significant difference in SWLS between rural and urban undergraduate students”.
- **H<sub>03a</sub>**: “There is no significant difference in depression between arts and science undergraduate students”.
- **H<sub>03b</sub>**: “There is no significant difference in anxiety between arts and science undergraduate students”.
- **H<sub>03c</sub>**: “There is no significant difference in stress between arts and science undergraduate students”.
- **H<sub>03d</sub>**: “There is no significant difference in SWLS between arts and science undergraduate students”.

### V. METHODOLOGY OF THE STUDY

**Method:** This study used a descriptive survey method to carried out the research. A quantitative study conducted in the Purulia district of West Bengal.

**Population:** The population of this study includes all the undergraduate students studying in colleges in Purulia district of West Bengal.

**Sample and Sampling:** A sample size of 370 undergraduate students were selected through a simple random sampling technique.

**Tools used:** Students’ DASS-21 given by Lovibond and Lovibond (1995) and SWLS given by Diener et al. (1985) scales were used in this study. Those scales were used to collect the data from samples of undergraduate students.



**VI. RESULTS & DISCUSSIONS**

**Hypothesis Testing 1**

**Table 1:** Descriptive Statistics along with t-value of DASS-21 and SWLS and its components between male and female undergraduate students of Purulia District of West Bengal.

	Stream	Number	Mean	SD	MD	df	Calculated t-value	Sig (2 Tailed)	Remark
DEPRESSION	Male	41	7.46	4.056	-.050	368	-.082	.934	Not Significant
	Female	329	7.51	3.642					
ANXIETY	Male	41	8.41	3.564	-.616	368	-1.019	.309	Not Significant
	Female	329	9.03	3.658					
STRESS	Male	41	8.51	3.355	-.810	368	-1.413	.158	Not Significant
	Female	329	9.32	3.474					
SWLS	Male	41	20.07	7.275	-.574	368	-.590	.556	Not Significant
	Female	329	20.65	5.686					

Table-1 shows the mean scores, standard deviation, and mean difference of DASS-21 and SWLS of male and female undergraduate students of Purulia district of West Bengal.

(a) The calculated t-value (-.082) of depression between male and female undergraduate students is less than the critical value (Sig. .934 > .05) for the degree of freedom 368. So, the null hypothesis ( $H_{01a}$ ) "There is no significant difference in depression between male and female undergraduate students" is accepted.

(b) The calculated t-value (-1.019) of anxiety between male and female undergraduate students is less than the critical value (Sig. .309 > .05) for the degree of freedom 368. So, the null hypothesis ( $H_{01b}$ ) "There is no significant difference in anxiety between male and female undergraduate students" is accepted.

(c) The calculated t-value (-1.413) of Stress between male and female undergraduate students is less than the critical value (Sig. .158 > .05) for the degree of freedom 368. So, the null hypothesis ( $H_{01c}$ ) "There is no significant difference in stress between male and female undergraduate students" is accepted.

(d) The calculated t-value (-.590) of SWLS between male and female undergraduate students is less than the critical value (Sig. .556 > .05) for the degree of freedom 368. So, the null hypothesis ( $H_{01d}$ ) "There is no significant difference in SWLS between male and female undergraduate students" is accepted.

**Hypothesis Testing 2:**

**Table 2:** Descriptive Statistics along with 't' value of DASS-21 and SWLS and its components between rural and urban undergraduate students of Purulia District of West Bengal.

	Stream	Number	Mean	SD	MD	df	Calculated t-value	Sig (2 Tailed)	Remark
DEPRESSION	Rural	333	7.44	3.691	-.697	368	-1.092	.276	Not Significant
	Urban	37	8.14	3.614					
ANXIETY	Rural	333	8.95	3.665	-.162	368	-.256	.798	Not Significant
	Urban	37	9.11	3.542					
STRESS	Rural	333	9.28	3.496	.438	368	.730	.466	Not Significant
	Urban	37	8.84	3.193					
SWLS	Rural	333	20.59	5.966	.018	368	.018	.986	Not Significant
	Urban	37	20.57	5.042					



Table 2 shows the mean scores, standard deviation and mean difference of Depression, anxiety, stress and SWLS of rural and urban undergraduate students of Purulia district of West Bengal.

(a) The calculated t-value (-1.092) of depression between rural and urban undergraduate students is less than the critical value (Sig. .276 > .05). So, the null hypothesis (H02a) “There is no significant difference in depression between rural and urban undergraduate students” is accepted.

(b) The calculated t-value (-.256) of anxiety between rural and urban undergraduate students is less than the critical value (Sig. .798 > .05). So, the null hypothesis (H02b) “There is no significant difference in anxiety between rural and urban undergraduate students” is accepted.

(c) The calculated t-value (.730) of stress between rural and urban undergraduate students is less than the critical value (Sig. .466 > .05). So, the null hypothesis (H02c) “There is no significant difference in stress between rural and urban undergraduate students” is accepted.

(d) The calculated t-value (.018) of SWLS between rural and urban undergraduate students is less than the critical value (Sig. .986 > .05). So, the null hypothesis (H02d) “There is no significant difference in SWLS between rural and urban undergraduate students” is accepted.

### Hypothesis Testing 3

**Table 3:** Descriptive Statistics along with ‘t’ value of DASS-21 and SWLS and its components between Arts and Science undergraduate students of Purulia District of West Bengal.

	Stream	Number	Mean	SD	MD	df	Calculated t-value	Sig (2 tailed)	Remark
DEPRESSION	Arts	361	7.54	3.648	1.318	368	1.060	.290	Not Significant
	Science	9	6.22	5.044					
ANXIETY	Arts	361	9.03	3.614	2.922	368	2.389	.017	Significant
	Science	9	6.11	4.106					
STRESS	Arts	361	9.25	3.429	.808	368	.690	.491	Not Significant
	science	9	8.44	4.927					
SWLS	Arts	361	20.53	5.920	-2.249	368	-1.135	.257	Not Significant
	Science	9	22.78	2.991					

Table 3 shows the mean scores, standard deviation, and mean difference of Depression, anxiety, stress and SWLS of arts and science undergraduate students of Purulia district of West Bengal.

(a) The calculated t-value (1.060) of depression between arts and science undergraduate students is less than the critical value (Sig. .290 > .05) for the degree of freedom 368. So, the null hypothesis (H03a) “There is no significant difference in depression between arts and science undergraduate students” is accepted.

(b) The calculated t-value (2.389) of anxiety between arts and science undergraduate students is greater than the critical value (Sig. .017 < .05) for the degree of freedom 368. So, the null hypothesis (H03b) “There is no significant difference in anxiety between arts and science undergraduate students” is rejected.

(c) The calculated t-value (.690) of stress between arts and science undergraduate students is less than the critical value (Sig. .491 > .05) for the degree of freedom 368. So, the null hypothesis (H03c) “There is no significant difference in stress between arts and science undergraduate students” is accepted.

(d) The calculated t-value (-1.135) of SWLS between arts and science undergraduate students is less than the critical value (Sig. .257 > .05) for the degree of freedom 368. So, the null hypothesis (H03d) “There is no significant difference in SWLS between arts and science undergraduate students” is accepted.



### Major Findings of The Study:

The findings of the study revealed that in terms of Depression, anxiety, stress and SWLS, no statistically significant differences have been observed between arts and science, rural and urban, and male and female undergraduate students of Purulia district of West Bengal, India. It means both arts and science, rural and urban, and male and female undergraduate students have possessed same kind of Depression, anxiety, stress and SWLS. But The study showed differences in the level of anxiety between the students from Arts and science backgrounds, indicating that geographical setting is a determining variable in this context.

### VI. CONCLUSION

Based on the analysis, discussion and finding, it can be concluded that there is no significant different in the levels of stress, anxiety, depression and SWLS between demographic factors of undergraduate students in Purulia district. But only one case shows a different picture, only anxiety where the stream, like arts and science student differ from the each other. Overall, the findings of this study can contribute to raising awareness about the prevalence of stress, anxiety and depression among undergraduate students and the need for adequate support and manage it.

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