



# The Extent of Perceived Stress among Undergraduate and Postgraduate Students of Selected State Agricultural Universities (SAUs) of Northern India

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## ABSTRACT

The present study was conducted during 2016 in three colleges selected purposely, namely College of Agriculture, College of Home Science and College of Agriculture Engineering of selected four State Agricultural Universities (SAUs) namely Govind Ballabh Pant University of Agriculture and Technology (G.B.P.U.A.T.), Pantnagar (Uttarakhand), Chaudhary Charan Singh Haryana Agricultural University Haryana Agricultural University (CCSHAU), Hisar, (Haryana), Maharana Pratap University of Agriculture and Technology (MPUAT), Udaipur (Rajasthan) and Punjab Agricultural University (PAU), Ludhiana (Punjab) in India. The objective of the study was to identify the extent of perceived stress among undergraduate and postgraduate students of selected State Agricultural Universities of Northern India. A sample of 540 students was selected through stratified random sampling technique. Thirty undergraduate and 15 postgraduate students were selected randomly from each college to make a total of 360 undergraduate and 180 postgraduate students respectively. A scale was developed to measure the extent of perceived stress. Data were collected through distributed questionnaire technique. The findings of the study revealed that both undergraduate and postgraduate students had perceived stress. Majority of the undergraduate students were falling under low and medium extent of stress while highest percentage of the postgraduate students was falling under low and high extent of stress. There was a significant difference with regard to the perception of stress between undergraduate and post graduate students. Approximately 25% of the undergraduate students were under higher extent of stress while 40% of the postgraduate students had high level of perceived stress thus Postgraduate students were more stressed than undergraduate students.

**KEYWORDS:** Agricultural universities, perceived stress, postgraduate students, undergraduate students

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**Data Availability Statement:** Legal restrictions are imposed on the public sharing of raw data. However, authors have full right to transfer or share the data in raw form upon request subject to either meeting the conditions of the original consents and the original research study. Further, access of data needs to meet whether the user complies with the ethical and legal obligations as data controllers to allow for secondary use of the data outside of the original study.

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## 1. INTRODUCTION

The life at college is one of the most amusing as well as unforgettable phase in a student's life where he/she enjoys the company of friends and the numerous academic and extra-curricular activities that enrich and nurture him/her and from this time forth prepares the student for adulthood. However, students also come across a number of challenges in their day to day life which can cause stress. Many studies highlighted mental health issues in young adult, especially during their studying years at university (Milojevic and Lukowski, 2016). High perceived stress is a substantial problem among university students (Alsaleem et al., 2021). College students are frequently challenged with high demands of keeping up with the university environment which requires them to work and function under pressure (Kizhakkeveettil et al., 2017). These high-pressured lifestyles can often lead to higher stress levels which could lead to serious mental health issues in students (Zhang et al., 2018). Students on average are highly vulnerable to stress and depression that leads them to poor performance, drop out of school and absenteeism, thereby affecting their future carrier (Shiferaw et al., 2015). The study conducted among health science students at Debrebran University reported a high prevalence (63.7%) of the perceived stress among students (Madebo and Yosef, 2016). Perceived stress is the feelings or thoughts that an individual has about how much stress they are under at a given point in time or over a given time period (Phillips, 2013). Influenced by society and family contemporary college students are faced with various pressures in many aspects, which are often overlooked and lead to a certain degree of negative emotional state (Zhao et al., 2017). There is an alarm in mental health morbidity among students that needs immediate attention as it may contribute to psychological, physical, and behavioral problems (Worku et al., 2020, Feld and Shusterman, 2015, Petrov et al., 2014, Nyer et al., 2013, Boulard et al., 2012). According to the statistics published by National Crime Records Bureau, there is one student every h that commits suicide (Saha, 2017). The prevalence rate of high perceived stress varies widely between different universities due to differences in the magnitude of university environment stressors, tools used in measurement, and target colleges (Rebello et al., 2018, Salam et al., 2013).

Many international studies reveal clinical levels of psychopathology, including anxiety and depression in student populations globally (Bewick et al., 2010). According to the World Health Organization (WHO) 2016, untreated mental health problems account for 13% of the total global burden of disease. With increasing perceived stress, mortality rate tends to raise leading to greater number of deaths (Prior et al., 2016). Stress among university students

have numerous impacts on the community as well due to high risk of academic dropouts raising the unemployment rate that leads to extra burden on the families, society, and community as a whole (Aldiatet et al., 2014). An appropriate level of stress can effectively motivate an individual, however higher levels can pose a serious threat to the physical and psychological well-being (Cohen et al., 2019) and academic attainment (Eicher et al., 2014). Navya and Sharma (2022) in their study reported negative relation between spiritual intelligence and perceived stress revealing that with increase in spiritual intelligence, perceived stress reduced in males and females significantly. Keeping in mind the above scenario the present study was conducted to assess the extent of perceived stress among undergraduate and post graduate students of selected four State Agricultural Universities.

## 2. MATERIALS AND METHODS

The present study was conducted in 2016 in 3 colleges namely College of Agriculture, College of Home Science and College of Agriculture Engineering of selected four State Agricultural Universities (SAUs) namely Govind Ballabh Pant University of Agriculture and Technology (G.B.P.U.A.T.), Pantnagar (Uttarakhand), Chaudhary Charan Singh Haryana Agricultural University Haryana Agricultural University (CCSHAU), Hisar, (Haryana), Maharana Pratap University of Agriculture and Technology (MPUAT), Udaipur (Rajasthan) and Punjab Agricultural University (PAU), Ludhiana (Punjab). A sample of 540 students was selected through stratified random sampling technique. Three hundred and sixty undergraduate students (UG) from their 3<sup>rd</sup> year and 180 postgraduate students (PG) from their 3<sup>rd</sup> semester was selected randomly. Thirty UG students and 15 postgraduate students were selected randomly from each college to make a total of 360 and 180 respectively. Data were collected through distributed questionnaire technique.

**Extent of Perceived stress:** It was operationalized as the state of individual student that results from their interaction with the environment that is perceived as too demanding and a threat to their well-being. The extent of perceived stress was measured on a 5-point continuum scale. The scores obtained were categorized into 3 categories as low, medium and high.

## 3. RESULTS AND DISCUSSION

### 3.1. The extent of perceived stress among undergraduate students

The extent of perceived stress among undergraduate students was studied by calculating frequency and mean scores as shown in the Table 1.

The data in Table 1 indicated the mean values of all the statements on the stress perception scale for undergraduate students of all four selected universities. It is evident from

Table 1: Frequency distribution of undergraduate students according to the response to the statements on stress perception scale (n=360)

Statements	Always f (%)	Often f (%)	Sometimes f (%)	Rarely f (%)	Never f (%)	Mean value (1-5)
Things are going the way I want them to	36(10.00)	45(12.50)	125(34.72)	76(21.11)	78(21.67)	2.68
Take initiative in doing any task	11(3.06)	57(15.83)	136(37.78)	92(25.56)	64(17.78)	2.61
Find difficult to follow my time schedule	20(5.56)	52(14.44)	109(30.28)	95(26.39)	84(23.33)	2.53
Get easily irritated and annoyed	23(6.39)	57(15.83)	67(18.61)	124(34.44)	89(24.72)	2.45
Remain hopeful even when I fail	20(5.56)	54(15.00)	109(30.28)	63(17.50)	114(31.67)	2.45
Get easily upset trivial matters	19(5.28)	42(11.67)	90(25.00)	138(38.33)	71(19.72)	2.44
Consider myself useful for the society	17(4.72)	32(8.89)	128(35.56)	90(25.00)	93(25.83)	2.42
Feel difficulty in getting things done	15(4.17)	27(7.5)	104(28.89)	143(39.72)	71(19.72)	2.37
Find difficult to relax and quite my mind	18(5.00)	32(8.89)	115(31.94)	80(22.22)	115(31.94)	2.33
Confident about my capabilities to handle adverse situations	16(4.44)	25(6.94)	127(35.28)	82(22.78)	110(30.56)	2.32
The world seems to me a good place for living	11(3.06)	32(8.89)	137(38.06)	49(13.61)	131(36.39)	2.29
Enthusiastic to win and succeed	16(4.44)	30(8.33)	110(30.56)	80(22.22)	124(34.44)	2.26
Getting forgetful and disorganized	12(3.33)	36(10.00)	110(30.56)	76(21.11)	126(35.00)	2.26
Able to cope up with my insecurities	10(2.78)	12(3.33)	116(32.22)	133(36.94)	89(24.72)	2.23
Able to overcome my disappointments in daily life	14(3.89)	18(5.00)	106(29.44)	122(33.89)	100(27.78)	2.23
Aspire for success despite odds	15(4.17)	37(10.28)	104(28.89)	61(16.94)	143(39.72)	2.22
Hopeful about achieving my goals in life	28(7.78)	13(3.61)	93(25.83)	99(27.50)	137(35.28)	2.21
Get easily angry by slightest provocation	14(3.89)	12(3.33)	88(24.44)	164(45.56)	82(22.78)	2.20
Have pessimistic thoughts	11(3.06)	26(7.22)	92(25.56)	127(35.28)	104(28.89)	2.20
Get easily nervous and stressed	7(1.94)	44(12.22)	96(26.67)	77(21.89)	136(37.78)	2.19
Tend to overreact even in the normal situations	5(1.89)	43(11.94)	78(21.67)	115(31.94)	119(33.06)	2.17
Get temper outbursts that I am unable to control	10(2.78)	33(9.17)	70(19.44)	121(33.61)	126(35.00)	2.11

the Table that the statement “things are going the way I want them to” obtained the highest mean value of 2.68 which means for most of the students things were going their way which was followed by the statements “take initiative in doing any task” and “find difficult to follow my time schedule” with a mean values of 2.61 and 2.53 respectively which indicated that most of the students were willing to take new responsibilities while most of them were having hard time following time schedule. Difficulty in time management by the students was also reported by a study conducted by Alateeq et al. (2020).

The table further revealed that 34.44% of the students do not feel enthusiastic to win and succeed, 33.89% students were rarely able to overcome disappointments in their daily life and 39.72% said that they never aspire for success despite odds. 35% students said that they never feel hopeful about achieving their goals in life. Further-more, 28.89% of the

students never had pessimistic thoughts. The results are in congruence with the findings of the study conducted by Mirghni and Elnour (2017) where the students scored worse in the item (Felt confident about your ability to handle your personal problems), followed by (Been able to control irritations in your life) with a maximum overall score of  $22.81 \pm 6.94$ . This may be because when individuals perceive their current life situations as highly stressful those perceptions can negatively influence their own ability to cope with stressful situations.

### 3.2. Extent of the perceived stress among postgraduate students

The extent of perceived stress was studied by calculating frequency and mean scores as shown in the Table 2.

The data in Table 2 indicates the mean values of all the statements of the stress perception scale for postgraduate students of all four selected universities. The highest mean value of 3.37 was observed for the statement “find difficult

Table 2: Frequency distribution of the postgraduate students according to the response to the statements on stress perception scale (n=180)

Statements	Always f (%)	Often f (%)	Sometimes f (%)	Rarely f (%)	Never f (%)	Mean value (1-5)
Find difficult to follow my time schedule	41(22.78)	37(20.56)	62(34.44)	27(15.00)	13(7.22)	3.37
Get easily nervous and stressed	7(3.89)	48(26.67)	70(38.89)	30(16.67)	25(13.89)	2.90
Get easily upset on trivial matters	20(11.11)	29(16.11)	55(30.56)	65(36.11)	11(6.11)	2.90
Things are going the way I want them to	19(10.56)	30(16.67)	63(35.00)	41(22.78)	27(15.00)	2.85
Get easily irritated and annoyed	16(8.89)	32(17.78)	44(24.44)	72(40.00)	16(8.89)	2.78
Getting forgetful and disorganized	13(7.22)	30(16.67)	71(39.44)	33(18.33)	33(18.33)	2.76
Feel difficulty in getting things done	11(6.11)	19(10.56)	57(31.67)	71(39.44)	21(11.67)	2.61
Take initiative in doing any task	5(2.78)	23(12.78)	67(37.22)	42(23.33)	43(23.89)	2.47
Get easily angry by slightest provocation	11(6.11)	19(10.56)	46(25.56)	71(39.44)	33(18.33)	2.47
Get temper outbursts that I am unable to control	15(8.33)	18(10.00)	42(23.33)	57(31.67)	48(26.67)	2.42
Find difficult to relax and quite my mind	5(2.78)	21(11.67)	62(34.44)	38(21.11)	54(30.00)	2.36
Have pessimistic thoughts	4(2.22)	11(6.11)	57(31.67)	79(43.89)	29(16.11)	2.34
Consider myself useful for the society	10(5.56)	17(9.44)	49(27.22)	45(25.00)	59(32.78)	2.30
Able to cope up with my insecurities	2(1.11)	8(4.44)	65(36.11)	57(31.67)	48(26.67)	2.22
Tend to overreact even in the normal situations	4(2.22)	19(10.56)	38(21.11)	52(28.89)	67(37.22)	2.12
Remain hopeful even when I fail	7(3.89)	14(7.78)	52(28.89)	20(11.11)	87(48.33)	2.08
Confident about my capabilities to handle adverse situations	4(2.22)	11(6.11)	47(26.11)	48(26.67)	70(38.89)	2.06
Able to overcome my disappointments in daily life	3(1.67)	3(1.67)	52(28.89)	63(35.00)	59(32.78)	2.04
The world seems to me a good place for living	6(3.33)	9(5.00)	52(28.89)	18(10.00)	95(52.78)	1.96
Hopeful about achieving my goals in life	11(6.11)	3(1.67)	36(20.00)	36(20.00)	94(52.22)	1.89
Enthusiastic to win and succeed	1(0.56)	10(5.56)	41(22.78)	38(21.11)	90(50.00)	1.86
Aspire for success despite odds	3(1.67)	9(5.00)	28(15.56)	38(21.11)	102(56.67)	1.74

to follow my time schedule” which was followed by the statements “get easily nervous and stressed” and “get easily upset by trivial matters” with similar mean value of 2.90 which indicated that most of the students used to get easily nervous and stressed out due to which they would get upset even with petty things or situations. From the data in the Table 2 it was evident that postgraduate students were mostly stressed due one or the other reasons as most of the negative statements were found to have higher mean values. The study on Predictors of Stress in College Students conducted by Saleh et al. in 2017 also found a high level of perceived stress among college students.

A close perusal of the data further revealed that 32.78% of the students never considered themselves useful for the society. 48% said that they never remain hopeful when they had failed while 39% students reported that they were never confident about their capabilities to handle adverse

situations. Majority of the students, i.e. 52.78% never felt that the world is a good place for living. Majority of the students, i.e. 52.22% had no hope of achieving their goals in life. Majority of the student's, i.e. 50% and 56.67% were never enthusiastic to win and succeed as well as never aspire for success despite odds respectively. It was also evident from the data that most, 37.22% of the students never overreacted in the normal situations.

Table 3 shows the difference between undergraduate and post graduate students according to their perception of stress. It is indicated from the table that there is significant difference in the perception of stress between undergraduate and post graduate students as majority of the statements were having t-values significant at 1% level of significance. This indicates that undergraduate and postgraduate students differ significantly on most of the statements. The data from the previous tables 1 and 2 also indicated



Table 3: Comparison between undergraduate and post graduate students according to their perception of stress

Statements	(UG) Mean scores (1-5)	(PG) Mean scores (1-5)	(UG) Standard deviation	(PG) Standard deviation	t-value
Get easily angry at slightest provocation	2.20	2.47	0.96	1.10	2.91**
Get easily nervous and stressed	2.19	2.90	1.13	1.07	6.70**
Consider myself useful for the society	2.42	2.30	1.11	1.18	1.13
Get temper outbursts that I am unable to control	2.11	2.42	1.07	1.22	2.98**
Confident about my capabilities to handle adverse situations	2.32	2.06	1.11	1.05	2.59*
Feel difficulty in getting things done	2.37	2.61	1.01	1.04	2.61**
Aspire for success despite odds	2.22	1.74	1.19	1.00	4.67**
Find difficult to follow my time schedule	2.53	3.37	1.16	1.20	7.87**
Getting forgetful and disorganized	2.26	2.76	1.14	1.15	4.85**
Tend to overreact even in the normal situations	2.17	2.12	1.06	1.09	0.51
Find difficult to relax and quite my mind	2.33	2.36	1.16	1.11	0.32
Things are going the way I want them to	2.68	2.85	1.23	1.18	1.53
Hopeful about achieving my goals in life	2.21	1.89	1.19	1.16	2.94**
Get easily upset by trivial matters	2.44	2.90	1.09	1.10	4.56**
Get easily irritated and annoyed	2.45	2.78	1.20	1.12	3.08**
Enthusiastic to win and succeed	2.26	1.86	1.15	0.99	4.04**
Able to cope up with my insecurities	2.23	2.22	0.95	0.93	0.097
Able to overcome my disappointments in daily life	2.23	2.04	1.03	0.91	2.07*
The world seems to me a good place for living	2.29	1.96	1.14	1.15	3.12**
Remain hopeful even when I fail	2.45	2.08	1.23	1.20	3.36**
Have pessimistic thoughts	2.20	2.34	1.03	0.90	1.57
Take initiative in doing any task	2.61	2.47	1.05	1.08	1.41

that postgraduate students were having more stress than undergraduate students due to higher preference for the negative statements among postgraduate students as they were getting easily angry, upset, stressed in trivial matters. Most of them were getting forgetful and disorganized and were unable to manage their time productively. This could be due higher work load as apart from regular class's research work also starts at post graduation level.

### 3.3. *Extent of perceived stress among undergraduate and postgraduate students in different universities*

The extent of perceived stress in undergraduate and postgraduate students in different universities was studied under Table 4.

The data in the Table 4 indicated that majority of the undergraduate students were falling under low and medium extent of stress while majority of the postgraduate students were falling under low and high extent of stress. Further the data revealed that most (44.44%) of the undergraduate

students in GBPUAT were under medium extent of stress while 37.78% of post graduate students in GBPUAT were in the lower extent of perceived stress. Similarly, 44% of the undergraduate students in HAU were under low extent of stress while 40.00% of post graduate students in HAU were under lower extent of perceived stress. Most (35.56%) of the undergraduate students in MPUAT were under low and high extent of stress while 44.44% of post graduate students in MPUAT fall under lower extent of perceived stress. Most (37.78%) of the undergraduate students in PAU were under low extent of stress while 44.44% of post graduate students in PAU was under high extent of perceived stress. Thus it is clear that the level of perceived stress was different for different universities. The result is in line with finding of the study conducted by Rebello et. al (2018) which reported that the prevalence rate of high perceived stress varies widely between different universities due to differences in the magnitude of university environment stressors, tools used in measurement and target colleges.

Table 4: Distribution of students according to their extent of perceived stress in different universities

Extent of stress	GBPUAT n=135		HAU n=135		MPUAT n=135		PAU n=135		Total n=540	
	UG n1=90 f (%)	PG n2=45 f (%)	UG n1=90 f (%)	PG n2=45 f (%)	UG n1=90 f (%)	PG n2=45 f (%)	UG n1=90 f (%)	PG n2=45 f (%)	UG n=360 f (%)	PG n=180 f (%)
Low (23–48)	27 (30.00)	17 (37.78)	40 (44.44)	17 (37.78)	32 (35.56)	17 (37.78)	34 (37.78)	18 (40.00)	133 (36.94)	69 (38.33)
Medium (49–56)	40 (44.44)	14 (31.11)	23 (25.56)	10 (22.22)	26 (28.88)	8 (17.78)	41 (45.56)	7 (15.56)	130 (36.11)	39 (21.67)
High (57–86)	23 (25.56)	14 (31.11)	27 (30.00)	18 (40.00)	32 (35.56)	20 (44.44)	15 (16.67)	20 (44.44)	97 (26.94)	72 (40.00)

The data in the Table 5 revealed that there was significant difference between undergraduate and postgraduate students in terms of extent of perceived stress. Almost equal percentages of undergraduate students were having low and medium level of perceived stress. 38% of postgraduate students were under low level of perceived stress while 40% were under high extent of perceived stress. It was also found that highest level of perceived stress was in postgraduate

students as compared to undergraduate students. The prevalence of stress among PG students was also found to be high in the studies conducted by Zegeye et al. (2018) and Abraham et. al (2019). Significant difference was also seen in low and medium extent of perceived stress between undergraduate and postgraduate students. The values were significant at 5% level of significance.

Table 5: Comparison between undergraduate and postgraduate students according to their extent of perceived stress

Extent of stress	UG n1=360 f (%)	PG n2=180 f (%)	Total N=540 f (%)	P <sub>1</sub>	P <sub>2</sub>	t-value
Low (23–48)	133 (36.94)	69 (38.33)	202 (37.41)	65.84	34.16	3.92*
Medium (49–56)	130 (36.11)	39 (21.67)	169 (31.30)	76.92	23.08	2.43*
High (57–86)	97 (26.94)	72 (40.00)	169 (31.29)	57.40	42.60	0.42 <sup>NS</sup>

#### 4. CONCLUSION

Majority of the undergraduate students had low and medium extent of stress while majority of the postgraduate students had low and high level of stress. 37% of the undergraduate students were under lower extent of stress, 36.11% under medium extent and the rest 26.94% had higher level of stress. Majority of the postgraduate students (40%) had high level of perceived stress whereas 38% had lower level of perceived stress. Thus postgraduate students were more stressed than undergraduate students.

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