

Research Paper

## Exploring Associations between Internet Addiction and Depression, Anxiety and Stress among Youths of Assam: A Quantitative Study

Dr. Nabanita Chakrabarty<sup>1\*</sup>

### ABSTRACT

**Background:** The internet is an integral part of everyone's life. Internet addiction refers to the compulsive need to spend a lot of time on the internet, to the point where relationships, work and health suffer. Adolescent internet addicts often suffer from severe psychological distress such as depression, anxiety, compulsivity, fear that life without internet would be boring, empty and joyless as well as feeling of loneliness and social isolation. Therefore, the study explores the relation of internet addiction with stress, anxiety and depression among youths of different districts of Assam. **Method:** A descriptive correlational research study design was applied. The snowball and randomized sampling technique was applied to select 232 sample (male:121 and female:111) from various district of Assam. Internet Addiction Test and DASS-21 were used to assess the level of internet addiction in relation to stress, anxiety and depression among the youths. To derive the results, Spearman's Rank correlation ( $\rho$ ) and Mann Whitney U-test and Chi-square was applied. **Results:** The results showed that there is a moderate positive correlation with internet addiction and stress, anxiety and depression. The results also revealed that there was disparity between psychological distress and internet addiction among male and female youths as well as rural and urban youths. **Conclusion:** It can be concluded that more the usage of internet more the probability of having stress, anxiety and depression.

**Keywords:** *Internet Addiction, Stress, Anxiety, Depression*

The present era is known as the era of internet. Nowadays, Internet usage is continuously increasing day by day, especially among youngsters and adults. The advent of computer and internet has led tremendous changes in our day-to-day life. Today internet has become an indispensable tool not only in as means of communication but also in education, business, banking, shopping, online search etc. According to Statista, there are 5 billion internet users which is 63% of population that globally uses internet of which 4.65 billion use it for social media (Statista, 2022a). In India there were 749 million internet users with majority accessing internet through smartphones across rural and urban population due to cheap access to internet (Statista, 2022b). In spite of the widely perceived merits of this tool, psychologists and educators have been aware of the negative impacts of its use, especially the over or misuse and the related physical and psychological problems

<sup>1</sup>Dept. of Applied Psychology, NERIM Group of Institutions

\*Corresponding Author

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(Greenfield,2000). One of the most common of these problems is Internet addiction (Murali & George, 2007; Shapira. Lessig, Goldsmith et al.,2003; Young,1998). Internet addiction is typically characterized by psychomotor agitation, anxiety, craving (Ferraro, Caci, D'Amico et al. 2007), depression, hostility, substance experience (Ko.Yen, Chen. et al.,2006; Yen, Ko, Yen et al., 2007), preoccupation, loss of control, withdrawal, impairment of function, reduced decision-making ability.

### ***Internet Addiction***

The internet, sometimes simply called the net, is a worldwide system of interconnected computer networks and electronic devices that communicate with each other using an established set of protocols. The internet was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969.

Addiction is defined as not having control over doing, taking or using something to the point where it could be harmful to people.

Internet addiction is an umbrella term that refers to the compulsive need to spend a great deal of time on the Internet, to the point where relationships, work and health are allowed to suffer. The ease of accessing educational materials and the constant connectivity have transformed student experiences, bringing to light concerns over the psychological effects of excessive internet use, such as heightened stress levels and mental disorders (Jones & Brown,2018; Anderson and Miller, 2019). Defined by compulsive engagement with digital platforms to the point of experiencing significant personal distress, internet addiction is increasingly recognized as a serious issue among young adults, especially those navigating the demands of higher education (Thompson et al., 2018; Greenfield,2017). This population appears at a higher risk due to this life stage's academic and social pressures, leading to an intensified reliance on digital coping methods (Cooper & Singh,2021; Allen & Roberts, 2020).

### **Internet Addiction in relation to Stress, Anxiety and Depression Among Youths**

Youth is the most energetic and productive section of a society. A country's ability and potential for growth is determined by the size and strength of its youth population. In India, as per National Youth Policy-2023, 'Youth' was defined as a person of age between 13-35 years but in the current Policy Document i.e. National Youth Policy 2024, the persons between the age group of 15 and 29 years are considered youth.

According to World Health Organization (WHO), psychological disorders are significant disturbances in a person's behaviour, emotions or thinking. They are also known as mental disorders or mental health conditions. Mental health problems include depression, anxiety and stress. Each one of them is considered a threat to young population especially to their mental health. Stress occurs whenever life's burdens exceed the person ability to withstand them resulting in mental and physiological changes that may alter their health and causes many diseases.

Anxiety, on the other hand, is seen as both a psychological and a physiological state as it affects the brain, physical activity, emotions, and behaviour. Uneasiness, fear or worry all together are the consequences of stress. If these symptoms persist, the person is at risk of developing depression.

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Depression is the feeling of guilt, worthlessness and loss of interest in life pleasures. College students undergo a transitory period from being teenagers to become adults. Such transition can cause a lot of stress, depression and anxiety to some of them. A study conducted by Kavitha et al. and Amar et al. predicted the prevalence rates of depression and anxiety among students in Al-Mansura University, 28.3% and 21.2% respectively.

### *Objectives*

Following were the objectives of the study:

- To determine the prevalence of internet addiction among youths.
- To see the levels of stress, anxiety and depression among youths.
- To examine whether there exists any relationship between stress, anxiety and depression and internet addiction among youths.

### *Research Questions*

Following questions were formulated for the study

- Is there any relationship between internet addiction and stress, anxiety and depression?
- Is there any difference in the levels of addiction among youths by their gender, residence, occupation, education and by their age?

## **METHOD**

### *Research Design*

The present study employed a quantitative approach with a correlational research design to investigate the correlation between internet addiction and stress, anxiety and depression.

### *Sample*

The study was conducted on 232 randomly selected participants from different districts of Assam including both genders belonging to the age group of 18-26 years. The snowball and randomized sampling technique were applied where Google form was used to collect data from the participant. Out of 232 participants, 121 were males and 111 were females.

### *Description of the Tools*

The following tools were administered to the participants in the proposed study:

- **Internet Addiction Test (IAT):** IAT was developed by Kimberley Youngin, 1998. The 20-item IAT questionnaire measures characteristics and behaviours associated with compulsive use of the internet that include compulsivity, escapism and dependency. Questions also assess problems related to personal, occupational, and social functioning stemming from internet use. Examinees respond to each statement with a number between 1 and 5, representing a Likert-scale continuum, indicating the extent to which they endorse that particular behaviour
- **DASS 21:** DASS 21 is a 21-item self-report questionnaire designed to measure the severity of a range of symptoms common to both Depression and Anxiety. There are seven items allocated to each scale. The depression subscale assesses symptoms such as dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia and inertia. The anxiety subscale evaluates symptoms such as autonomic arousal, skeletal muscle effects, situational anxiety and subjective experience of anxious affect. The Stress subscale measures symptoms related to difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatience. In completing the DASS, the individual is

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required to indicate the presence of a symptoms over the previous week. Each item is scored from 0-3.

The essential function of the DASS is to assess the severity of the core symptoms of Depression, Anxiety and Stress. Accordingly, the DASS allows not only a way to measure the severity of a patient's symptoms but a means by which a patient's response to treatment can also be measured.

### *Inclusion and exclusion criteria*

#### **Inclusion criteria:**

- Youths who had given consent to participate.
- Both male and female youths were included.
- Undergraduate and post graduate students were taken for the study.
- Both Employed and unemployed youths were taken part in the study.
- Rural and urban areas were covered in the study.
- Students who were in the age range of 17-26.
- Few districts of Assam were included.

#### **Exclusion Criteria:**

- All districts of Assam were not included in this study.
- Youths belonging to other states were not included.
- Students who were under medication.

### *Procedure*

Data were analysed using a variety of statistical techniques in SPSS 20.0 in order to achieve the study's objectives. In this study randomized and snowball sampling was used to collect data. The samples were taken randomly from various districts of Assam. A google form was created to collect information from the youths who belong to the age range of 18-26 years.

### *Statistical Analysis*

Data were analysed using a variety of statistical techniques in SPSS 20.0 in order to achieve the study's objectives. In order to describe the characteristics of the sample, descriptive statistics like mean, percentage, Mann-whitney U-test and chi-square was applied to find out the difference among variables with Internet addiction. The Spearman Rank correlation was used to find out the relationship between internet addiction with stress, anxiety and depression among youths of Assam.

## **RESULTS**

The following results have been found from the collected raw data.

The total no. of sample was 232, among them 121 were males and 111 were females. Among them 82.33% (191) were found to have Internet Addiction and 17.67% (41) were found to have Normal internet usage.

**Table 1: Percentage of addicted and non-addicted youths**

	n =232	Percentage
<b>Addicted</b>	191	82.33%
<b>Nonaddicted</b>	41	17.67%

The first objective of the study was to see the levels of internet addiction among youths

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**Table 2: Levels of Internet addiction among youths**

Internet Addiction	Male	Female	Total
Normal	17	24	41
Mild	52	52	104
Moderate	45	33	78
Severe	7	2	9
<b>Total</b>	<b>121</b>	<b>111</b>	<b>232</b>

The table no.2 shows that among the 232 sample, 41 participants (17.7%) had normal internet usage. Out of 232 participants (44.8%) had mild internet addiction, 78 participants (33.6%) had moderate and 09participants (3.9%) had severe internet addiction.

It was observed that among the males 14% had normal level of internet usage however 43% had mild level of internet addiction and 37.2% had moderate level of internet addiction and 5.8% participants had severe internet addiction. The test also showed that among the female participants 21.6% were found normal in internet usage. The study showed that 46.8% of females had mild Internet addiction however, 29.7% of females had moderate internet addiction. It had been observed that 2 female participants (1.8%) were severely addicted to internet.

The total no. of male addicted to internet were 44.83% whereas the total no. of female addicted to internet were 37.5%. The study reveals that males were more addicted to internet than the females.

The second objectives of the study was to see the level of stress, anxiety and depression among youths.

**Table 3: Level of stress among Youths**

Level	Male	Female	Total
Normal	109	100	209
Mild	12	05	17
Moderate	0	06	06
Severe	0	03	0
Extremely severe	0	0	0
<b>Total</b>	<b>121</b>	<b>111</b>	<b>232</b>

Out of 232 participants, Stress was found Normal in 209 participants 90.1% in which 109 participants (90.1%) were males and 100 (90.01%) were females. 17 participants (7.3%) had mild level of Stress. Among them 12 participant (9.9%) were males and 05 (4.5%) participants were females. Out of 232 participants 06 females were (5.4%) found having Moderate level of stress. No participants have found severe and extremely severe stress.

**Table 4: Level of Anxiety Among Youths**

Level	Male	Female	Total
Normal	79	67	146
Mild	07	16	23
Moderate	28	15	43
Severe	07	11	18
Extremely severe	0	2	2
<b>Total</b>	<b>121</b>	<b>111</b>	<b>232</b>

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Out of 232 participants 62.9% were found Normal in anxiety. Among them 65.3% were male and 60.4% were females. Among the participants 9.9% had mild and 18.5% had moderate level of stress. The table showed that 18 participants had severe and 02 participant had extremely severe level of anxiety. It was observed that the level of anxiety among females were more than males.

**Table 5: Level of Depression among youths**

Level	Male	Female	Total
Normal	88	80	168
Mild	18	17	35
Moderate	15	09	24
Severe	0	05	05
Extremely severe	0	0	0
<b>Total</b>	<b>121</b>	<b>111</b>	<b>232</b>

Depression was found Normal in 72.41% in which 37.93% were male and 34.48% were female. Mild level of depression was found among 15.08% of youths, among them 7.75% were male and 7.32% were female. On the otherhand, 6.46% of youths had Moderate level of Depression. In which 6.46% were Male and 3.88% were females.

The third objectives of the study was to see correlation of internet addiction with stress, anxiety and depression.

**Table 6: Correlation of Internet Addiction with Stress, Anxiety and Depression**

Correlations			Total Internet Addiction	Depression	Anxiety	Stress	Overall DAS score
<b>Spearman's rho</b>	Total Internet Addiction	Correlation Coefficient	1.000	.506**	.542**	.506**	.537**
		Sig. (2-tailed)	.	.000	.000	.000	.000
		N	232	232	232	232	232
	Depression	Correlation Coefficient	.506**	1.000	.827**	1.000**	.982**
		Sig. (2-tailed)	.000	.	.000	.	.000
		N	232	232	232	232	232
	Anxiety	Correlation Coefficient	.542**	.827**	1.000	.827**	.916**
		Sig. (2-tailed)	.000	.000	.	.000	.000
		N	232	232	232	232	232
	Stress	Correlation Coefficient	.506**	1.000**	.827**	1.000	.982**
		Sig. (2-tailed)	.000	.	.000	.	.000
		N	232	232	232	232	232
Overall DAS score	Correlation Coefficient	.537**	.982**	.916**	.982**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.	
	N	232	232	232	232	232	

**\*\*.** Correlation is significant at the 0.01 level (2-tailed).

The Spearman's (rho) correlation was applied to see the relationship between Internet addiction and depression, anxiety and stress. The correlation between internet addiction and

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depression was .506 which indicates a moderate correlation and the correlation is significant at the 0.01 level (2-tailed). The Spearman's correlation between internet addiction and anxiety and stress was .542 and .506 respectively indicating a moderate correlation and correlation is significant at 0.01 level. It reveals that more the level of addiction more the probability of having psychological distress.

**Table: 7.1 Level of Addiction by Gender**

<b>Ranks</b>				
	<b>Gender</b>	<b>N</b>	<b>Mean Rank</b>	<b>Sum of Ranks</b>
<b>Total Internet Addiction</b>	Male	121	123.90	14992.00
	Female	111	108.43	12036.00
	Total	232		
<b>Depression</b>	Male	121	119.19	14422.50
	Female	111	113.56	12605.50
	Total	232		
<b>Anxiety</b>	Male	121	115.66	13995.00
	Female	111	117.41	13033.00
	Total	232		
<b>Stress</b>	Male	121	119.19	14422.50
	Female	111	113.56	12605.50
	Total	232		
<b>Overall DAS score</b>	Male	121	118.06	14285.50
	Female	111	114.80	12742.50
	Total	232		

**Table: 7.2:**

<b>Test Statistics<sup>a</sup></b>					
	<b>Total Internet Addiction</b>	<b>Depression</b>	<b>Anxiety</b>	<b>Stress</b>	<b>Overall DAS score</b>
<b>Mann-Whitney U</b>	5820.000	6389.500	6614.000	6389.500	6526.500
<b>Wilcoxon W</b>	12036.000	12605.500	13995.000	12605.500	12742.500
<b>Z</b>	-1.754	-.640	-.199	-.640	-.370
<b>Asymp. Sig. (2-tailed)</b>	.079	.522	.842	.522	.711
<b>a. Grouping Variable: Gender</b>					

In the table 7.2 Mann-Whitney U-test was used to compare males and females on various psychological domains, including total internet addiction, depression, anxiety, stress. In the domain of total internet addiction, the mean rank for males were slightly higher than that of females, indicating a marginal trend toward gender difference (Mann-Whitney U=5820.00, z= -1.754, p= 0.079); however, this difference was not statistically significant. In the domain of depression, the mean ranks between males and females were nearly identical (Mann-Whitney U=6389.50, z= -0.199, P=0.522), showing no significant group difference. Similarly, in the domains of anxiety (Mann-Whitney U=6614.00,z=-0.199, p=0.842) and stress (Mann-Whitney U= 6389.50, z= -0.640, p= 0.522), the results revealed no statistically significant differences between the two gender groups. Hence it can be said that gender does not significantly influence levels of depression, anxiety, stress or overall psychological distress.

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**Table:8.1 level of Addiction by Area**

<b>Ranks</b>				
	<b>Area</b>	<b>N</b>	<b>Mean Rank</b>	<b>Sum of Ranks</b>
<b>Total Internet addiction</b>	Rural	74	123.72	9155.50
	Urban	158	113.12	17872.50
	Total	232		
<b>Depression</b>	Rural	74	118.32	8755.50
	Urban	158	115.65	18272.50
	Total	232		
<b>Anxiety</b>	Rural	74	119.61	8851.50
	Urban	158	115.04	18176.50
	Total	232		
<b>Stress</b>	Rural	74	118.32	8755.50
	Urban	158	115.65	18272.50
	Total	232		
<b>Overall DAS score</b>	Rural	74	118.30	8754.00
	Urban	158	115.66	18274.00
	Total	232		

**Table: 8.2:**

<b>Test Statistics<sup>a</sup></b>					
	<b>Total Internet Addiction</b>	<b>Depression</b>	<b>Anxiety</b>	<b>Stress</b>	<b>Overall DAS score</b>
<b>Mann-Whitney U</b>	5311.500	5711.500	5615.500	5711.500	5713.000
<b>Wilcoxon W</b>	17872.500	18272.500	18176.500	18272.500	18274.000
<b>Z</b>	-1.122	-.283	-.485	-.283	-.279
<b>Asymp. Sig. (2-tailed)</b>	.262	.777	.628	.777	.780

<sup>a</sup> Grouping Variable: Area

In table no. 8.2 the Mann-Whitney U-test was used to rural and urban youths on various psychological domains, including total internet addiction, depression, anxiety and stress. In the domain of total internet addiction, the mean rank for rural youths was slightly higher than that of urban youths which indicate a difference between rural and urban youths (Mann-Whitney U= 5311.500, z= -1.122, p=.262); however, this difference is not statistically significant. In the domain of depression, the mean ranks between rural and urban were nearly identical (Mann-Whitney U= 5711.500, z= -.283, p=.777), showing no significant group difference. Similarly in the domain of anxiety, the mean rank between rural and urban youths were nearly similar (Mann-Whitney 5615.500, z= -.485, p= .628) and in Stress (Mann-Whitney 5711.500, z= -.283 p= .777) , the results revealed no significant difference between rural and urban youths. Hence it can be said that residential area does not significantly influence levels of depression, anxiety and stress or overall psychological distress.

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**Table: 9.1: Level of addiction by Occupation**

<b>Ranks</b>				
	<b>Employed/unemployed</b>	<b>N</b>	<b>Mean Rank</b>	<b>Sum of Ranks</b>
<b>Total Internet Addiction</b>	Employed	97	124.42	12069.00
	Unemployed	135	110.81	14959.00
	Total	232		
<b>Depression</b>	Employed	97	121.88	11822.00
	Unemployed	135	112.64	15206.00
	Total	232		
<b>Anxiety</b>	Employed	97	131.31	12737.00
	Unemployed	135	105.86	14291.00
	Total	232		
<b>Stress</b>	Employed	97	121.88	11822.00
	Unemployed	135	112.64	15206.00
	Total	232		
<b>Overall DAS score</b>	Employed	97	125.22	12146.00
	Unemployed	135	110.24	14882.00
	Total	232		

**Table: 9.2:**

<b>Test Statistics<sup>a</sup></b>				
	<b>Mann-Whitney U</b>	<b>Wilcoxon W</b>	<b>Z</b>	<b>Asymp. Sig. (2-tailed)</b>
<b>Total Internet Addiction</b>	5779.000	14959.000	-1.525	.127
<b>Depression</b>	6026.000	15206.000	-1.037	.300
<b>Anxiety</b>	5111.000	14291.000	-2.856	.004
<b>Stress</b>	6026.000	15206.000	-1.037	.300
<b>Overall DAS score</b>	5702.000	14882.000	-1.678	.093

**a. Grouping Variable: Employed/unemployed**

Mann-Whitney U-test of table no.9.2 was used to compare employed and unemployed youths on various psychological domains, including total internet addiction, depression, anxiety and stress. In the domain of total internet addiction, the mean rank for employed was slightly higher than that of unemployed youths, indicating a marginal trend toward occupational and non-occupational (Mann-whitney  $U=5779.00, z= -1.525, p= .127$ ); however, this difference was not statistically significant. In the domain of depression, the mean ranks between employed and unemployed were nearly identical (Mann-Whitney  $U= 6026.00, z= -1.037, p = .300$ ), showing no significant group difference. In the domain of anxiety (Mann-Whitney  $U= 5111.000, z= -2.856, p= .004$ ) showing significant difference between employed and unemployed youths. In the domain of stress (Mann-Whitney  $U= 6026.00, z= -1.037, p= .300$ ). The results revealed there was no significant difference between employed and unemployed youths in the domain of depression and stress in relation to internet addiction. However a significant difference was found between employed and unemployed youths in the domain of anxiety.

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**Table: 10.1 Level of addiction by Education**

<b>Ranks</b>					
	<b>UG</b>	<b>PG</b>	<b>N</b>	<b>Mean Rank</b>	<b>Sum of Ranks</b>
<b>Total Internet Addiction</b>	UG		188	116.18	21841.50
	PG		44	117.88	5186.50
	Total		232		
<b>Depression</b>	UG		188	118.14	22211.00
	PG		44	109.48	4817.00
	Total		232		
<b>Anxiety</b>	UG		188	113.95	21422.50
	PG		44	127.40	5605.50
	Total		232		
<b>Stress</b>	UG		188	118.14	22211.00
	PG		44	109.48	4817.00
	Total		232		
<b>Overall DAS score</b>	UG		188	116.89	21975.50
	PG		44	114.83	5052.50
	Total		232		

**Table: 10.2:**

<b>Test Statistics<sup>a</sup></b>				
	<b>Mann-Whitney U</b>	<b>Wilcoxon W</b>	<b>Z</b>	<b>Asymp. Sig. (2-tailed)</b>
<b>Total Internet Addiction</b>	4075.500	21841.500	-.151	.880
<b>Depression</b>	3827.000	4817.000	-.773	.439
<b>Anxiety</b>	3656.500	21422.500	-1.199	.230
<b>Stress</b>	3827.000	4817.000	-.773	.439
<b>Overall DAS score</b>	4062.500	5052.500	-.183	.854

**a. Grouping Variable: UG\_PG**

The table no. 10.2 Mann-Whitney U-test was used to compare UG and PG students on various psychological domains, including total internet addiction, depression, anxiety and stress. In the domain of total internet addiction, the mean rank for UG and PG students were almost identical, indicating (Mann-Whitney U=4075.500, z= -.151, p=.880), it reveals that there was no significant group difference. In the domain of depression, the mean rank for UG was slightly higher than that of PG students (Mann-Whitney U= 3827.00, z= -.773, p=.439); however, this difference was not statistically significant. Similarly in the domain of anxiety (Mann-Whitney U=3656.500, z= -1.199, p=.230) and stress (Mann-Whitney U=3827, z= -.773, p= .439). Hence it can be said that educational status does not significantly influence levels of depression, anxiety and stress or overall psychological distress.

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**Table: 11.1 Level of Addiction by Age**

<b>Ranks</b>			
	<b>Age groups</b>	<b>N</b>	<b>Mean Rank</b>
<b>Total Internet Addiction</b>	17 - 20	95	108.77
	21 - 25	125	124.38
	26 - 30	12	95.58
	<b>Total</b>	<b>232</b>	
<b>Depression</b>	17 - 20	95	118.89
	21 - 25	125	113.96
	26 - 30	12	124.00
	<b>Total</b>	<b>232</b>	
<b>Anxiety</b>	17 - 20	95	115.76
	21 - 25	125	115.96
	26 - 30	12	127.92
	<b>Total</b>	<b>232</b>	
<b>Stress</b>	17 - 20	95	118.89
	21 - 25	125	113.96
	26 - 30	12	124.00
	<b>Total</b>	<b>232</b>	
<b>Overall DAS score</b>	17 - 20	95	118.18
	21 - 25	125	114.50
	26 - 30	12	124.04
	<b>Total</b>	<b>232</b>	

**Table :11.2 Level of Addiction by Age**

<b>Test Statistics<sup>a,b</sup></b>			
	<b>Chi-Square</b>	<b>df</b>	<b>Asymp. Sig.</b>
<b>Total Internet Addiction</b>	4.150	2	.126
<b>Depression</b>	.451	2	.798
<b>Anxiety</b>	.368	2	.832
<b>Stress</b>	.451	2	.798
<b>Overall DAS score</b>	.323	2	.851

**a. Kruskal Wallis Test**

**b. Grouping Variable: Age groups**

*Level of significance is considered to be at 5%*

*Not significant when p-value > 0.05*

In the table no. 11.2, the chi-square test was used to find out the association between internet addiction and psychological distress variables like depression, anxiety and stress among various age group of youths. In the domain of total internet addiction, the mean rank for age group 21-25 was higher than the age group 17-20 and 26-30 respectively. The p value in internet addiction was .126 which indicates there was no significant association between age and internet addiction. In the domain of depression the mean rank of the age group 26-30 was slightly higher than the other two groups (i.e. 17-20 and 21-30). However, the p value was found not significant. Similarly, in the domain of anxiety and stress the mean rank was found higher in the age group of 26-30. However, the p value was found higher which indicates that there was no significant association between internet addiction and age variables.

## DISCUSSION

The first objective of the study was to determine the prevalence of internet addiction among youths. The study shows that majority of youths have the problem of internet addiction (i.e.82.33%) where mild to moderate addiction prevalent among 78.44% of youths, which was supported by the study conducted by Gupta and Prabhu (2020) (where 65.5% of the study population are mild to moderately affected, 6% are severely affected. Overuse of internet for all aspects be it academic, social and psychological factors have affected the results).

The study shows that majority of youths have normal level of stress. However, in the domain of anxiety 28.45% had mild to moderate level of anxiety. Majority of participants had mild to moderate level of depression. Numerous studies have found that there is a significant association between Internet addiction and such psychological morbidities as depression, stress, suicide intention, aggression, and antisocial behaviors supported by a study conducted in Assam by Saikia et al. (2019).

The study reveals that there was a moderate correlation among internet addiction and psychological distress like anxiety, stress and depression. It was supported by a study that moderate and severe internet addiction were strongly associated with a broad group of adverse mental health outcomes, including somatic symptoms that are the core features of many medical illness, although clinically significant depression showed the strongest association. (wanjun Guo et al. 2020) The finding supports the illness validity of moderate and severe internet addiction in contrast to mild internet addiction.

The present study showed that the youth who had addiction also suffer from anxiety, stress and depression. A study carried out in Saudi Arabia predicted the depression, anxiety and stress prevalence rates among its university students 48.1%, 58.9% and 40.4% respectively. Those individuals who have depression tend to show behavioural characteristics like hopelessness and inertia. Those who suffer from anxiety and stress often have a great deal of trouble communicating and interacting with others in a healthy and meaningful way. Egger and Rauterberg (1996) in their study found that Internet Addiction may contribute to anxiety and stress. Yu (2001) further validated the impact of internet addiction on stress and anxiety. Younes et.al.(2016) conducted a study in Lebanon revealed a significant correlation between internet addiction and DASS scores, where IAS was 16.8% among college students.

The present study revealed that male youths are more addicted than female youths. Internet addiction differs by sex (Liang et al.,2016). Men are more prone to Internet addiction than women (Chi et al.,2020) researchers have identified that men showed higher levels of internet addiction, this is related to men being more dependent, more impulsive and more interdependent. Weiser (2000) reported significant gender difference in internet usage. He reported that males tend to be more familiar with the computers and internet as compared to females. However, in this study, the t-value reveals that there is no significant difference between male and female in terms of internet addiction amongst youth in Assam.

The study revealed that the prevalence of internet use by the rural youths was more than the urban youths however there was no significant difference found among rural and urban youths in terms of internet use. It was also supported by a study conducted by Hamza et al. (2019) the results indicate no significant difference in terms of internet use pattern and gender in relation to urban and rural areas. However, a significant difference exists with

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respect to internet use and its relation to depression, anxiety and stress. The youth both in rural and urban areas are not too different these days. This is due to availability of smart phones, internet in the phones, connectivity and other various factors.

The study reveals that there was no such difference between UG and PG students in relation to internet addiction. The level of stress and depression was found more in UG students however the level of anxiety was found more in PG students. It was supported by a study (Acharya, S. et al. 2023) where the loneliness of the participants was found to be significantly associated with Internet addiction ( $p < 0.001$ ) similar with various studies. (Balhara Y.S., Mahapatra A., Khatcherian E. Zullino D. 2022)

The present study showed that the level of internet addiction was more among 21-25 years of youths. A study (Menon, S., et al. 2018) indicated that there is high degree of correlation between age and internet addiction with older students being more addicted to the internet than younger students. This may be because they have been exposed to the internet in its various forms including chatting, e-mailing and messaging and the use of social media. Also with regard to internet usage, there were significant differences with regard to gender with men being more addicted than women.

### *Limitations of the study*

The present study was conducted only few districts of lower Assam. Adolescence were not included. Sample size was small, moreover, a larger sample size is required for further research in order to generalize the results and draw conclusive evidence.

### *Further study*

- There is the scope to conduct a comparative study between college students and university student.
- Comparative study between adolescence and youths.
- Comparative study between different district of Assam.

## **CONCLUSIONS**

This study was conducted to assess the relationship between internet addiction and stress, anxiety and depression among the youths of Assam. The study found a moderate positive correlation between internet addiction and stress, anxiety and depression. Higher the internet usage higher were the levels of stress, anxiety and depression. The percentage of male addicted to internet was more than female addicted to internet. The severe level of stress and anxiety has been found among the male internet addicted youths. However equal number of male and females were found to have extremely severe depression. Study reveals that there was no significant association between age and internet addiction. The study shows that educational status does not significantly influence levels of depression, anxiety and stress or overall psychological distress. However a significant difference was found between employed and unemployed youths in the domain of anxiety. There was no significant difference between rural and urban youths in relation to internet usages. It can be concluded that residential area does not significantly influence levels of depression, anxiety and stress or overall psychological distress. There was no significant difference between UG and PG students in relation to internet usage. It can be concluded that educational status does not influence in internet usage and stress, anxiety and depression.

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### ***Conflict of Interest***

The author(s) declared no conflict of interest.

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