

## Assessing the Level of Digital Stress among Students

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### ABSTRACT

This study investigates digital stress, the stress arising from constant connectivity and social media use, among students in two different educational settings in Azamgarh, Uttar Pradesh. While digital stress is known to affect mental health, little is known about how it differs between students in high-pressure exam preparation and those in regular school. For the current study, 310 students were taken as sample. The sample was further divided into 159 male/151 female and 155 NEET/155 school students. All participants completed a validated Digital Stress Scale. The result was analysed using t-test analysis. Findings reveal that male students reported higher digital stress than female students ( $t=2.548$ ,  $p=.011$ ) and school students reported significantly higher digital stress than NEET aspirants ( $t = 2.765$ ,  $p = .006$ ). These findings suggest that a highly focused, goal-oriented academic environment may offer some protection against the broad stressors of the digital world, while more diffuse school schedules may leave students more vulnerable. The results also highlight important gender differences in how digital stress is experienced. This study underscores the need for educational strategies that address digital well-being, tailored to specific academic contexts and student groups.

**Keywords:** *Digital stress, Technostress, Stress, NEET students, school students*

In recent times, many people report experiencing fatigue, irritability, difficulty sleeping, poor concentration and persistent worry. These common symptoms, often dismissed as a part of everyday life, are in fact typical manifestations of stress. Stress is a psychological and physiological reaction that arises when environmental demands exceed an individual's coping resources (Lazarus & Folkman, 1984). Stress has long been studied as a central factor influencing both mental and physical health, with Hans Selye (1976) first conceptualising it as a general adaptation syndrome of the body to external demands.

In the contemporary world, marked by rapid technological advancement and constant digital connectivity, stress has acquired new forms and intensities, making it more pervasive and complex than ever. (American Psychological Association [APA], 2023).

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The pervasiveness of stress is acutely felt in India, particularly within its educational systems. Recent studies indicate that a significant majority of Indian students report experiencing high levels of academic stress, with figures often exceeding 75-80% in some samples (Deb et al., 2015). This pressure is compounded by a rapidly digitizing educational landscape. A research in the Indian context has validated technostress as a significant issue for students, linking it directly to reduced academic productivity (Upadhyaya & Vrinda, 2021). Thomas P. Hughes (1989), defined technology as “the effort to organize the world for problem solving so that goods and services can be invented, developed, produced and used.” He also characterized it as “a creative process involving human ingenuity.” But when the technology is used in excess, it can itself become a problem rather than a problem solver. Hence it is important to make people aware that the devices they use and the time they spend on it has a huge effect on their mental health. Development in technology brings changes in our day to day lives. Both constructive well as destructive.

Against this backdrop of technological change, constant use of digital devices has become normal which brings digital stress into picture (Gimpel et al., 2018). The conceptual understanding of stress induced by technology has evolved significantly since its inception. The foundation was laid in the early 1980s with Craig Brod, an American psychotherapist, coining of the term "technostress," which he defined as a modern disease of adaptation caused by an inability to cope with new computer technologies in a healthy manner. This early concept was primarily rooted in the workplace. The construct was later refined and operationalized for organizational contexts by researchers like Ragu-Nathan et al. (2008), who identified specific stressors like techno-overload and techno-invasion. The scope subsequently broadened beyond direct use to include the pervasive role of technology in society. Most recently, the conceptualization has shifted to address the unique psychosocial experiences of younger generations. Steele et al. (2020) developed an empirically based model for adolescents and young adults, defining digital stress through core components like Fear of Missing Out (FoMO), approval anxiety, and availability stress, thereby framing it as a socially driven phenomenon distinct from its occupational origins.

According to Steele et al. (2020),” Digital stress is the stress and anxiety that arises from the use of digital technologies, social media, and constant connectivity, particularly when individuals feel they lack the resources to manage these digital demands effectively.” Empirical evidence confirms that this form of digital stress is both highly prevalent and consequential for adolescent well-being. A pivotal study by Nick et al. (2022) found that nearly half of the adolescent participants reported experiencing digital stress at least 'sometimes'. Furthermore, their research established a longitudinal association between digital stress and increases in depressive symptoms, underscoring it as a symptom and a significant risk factor for mental health rather than a temporary inconvenience. This finding validates the importance of investigating digital stress as a serious variable in adolescent psychology.

The need to investigate this interplay within the Indian academic context is urgent. The competitive pressure surrounding entrance exams like NEET and JEE creates a uniquely high-stakes environment for students. In such a setting, digital tools are double-edged swords; they are essential for learning and information access, yet they also introduce relentless demands for connectivity and comparison. The relationship between problematic digital usage and academic well-being is of growing concern. Samudrala and Ramya (2024) conducted an Indian study with 156 college students and found that internet addiction, academic procrastination, and perceived stress levels were closely linked.

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Therefore, examining digital stress not as a standalone phenomenon, but as a force that interacts with and amplifies pre-existing academic pressure, is a critical research gap in the Indian context. The pervasive nature of digital stress is confirmed by recent global research. A comprehensive meta-analysis by Khetawat & Steele (2023) quantified that all five core components of digital stress-availability stress, approval anxiety, FOMO, connection overload, and online vigilance-have significant, medium-sized correlations with psychosocial distress ( $r = .26$  to  $.34$ ), underscoring its broad impact on mental well-being. This phenomenon is not confined to Western contexts; a study among Filipino college students found heavy digital device engagement immediately upon waking and before sleep, with social media platforms like Facebook being significant stressors (Giray et al., 2024). The negative consequences are tangible, as technostress has been shown to impair the quality of online learning. However, evidence suggests this impact can be mitigated; research from Pakistan indicates that support from both instructors and the university can buffer these negative effects (Saleem et al.). Therefore, investigating digital stress within the specific context of student life is critical, not only to understand the problem but also to identify supportive factors that can promote resilience.

### *Rationale of the study*

Despite the established understanding of digital stress and its components, a critical gap exists in understanding how it is uniquely shaped by different academic ecosystems. While research confirms that digital stress is prevalent and linked to poor mental health (Nick et al., 2022; Khetawat & Steele, 2023), and that academic pressure is a dominant stressor for Indian students (Deb et al., 2015), these two forces are rarely studied in direct conjunction.

This study addresses this gap by investigating digital stress not as a standalone phenomenon, but as an experience moderated by academic context. By comparing students in traditional schools with those in intensive NEET coaching centres, this research will provide crucial insights into how specific, high-pressure academic environments influence the frequency and intensity of digital stress. The findings are expected to inform targeted interventions for students, parents, and educational institutions to mitigate digital stress without compromising the academic goals.

### *Hypotheses*

- **H01:** There will be no difference in the digital stress level of males and females.
- **H02:** There will be no difference in the digital stress level of NEET aspirants and school students.

## **METHODOLOGY**

### *Sample*

A total of 310 participants were selected for this study using a convenience sampling method. The sample was divided into two distinct groups:

- **Group 1 (Coaching):** 155 students enrolled in full-time, intensive NEET coaching (a program for medical entrance).
- **Group 2 (School):** 155 students enrolled in Grades 11 or 12, science stream (regular school system).

Participants' ages ranged from 15 to 22 years ( $M = 17.71$ )

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### *Sampling Criteria*

The inclusion criteria for participation were:

- a) Current enrolment in either Grade 11, Grade 12 (science stream), or a dedicated NEET coaching (a program for medical entrance).
- b) Age between 15 and 22 years.
- c) Regular access to a digital device (smartphone/laptop/tablet/computer).

Participants were excluded if they

- a) Did not provide informed consent
- b) Were from academic streams outside the science discipline relevant to the NEET examination.
- c) Had little or no access to digital devices or internet service.

### *Test Description*

Digital Stress Scale, a five-point Likert scale with 33 items was used, as developed by Parveen, D. (2025). The scale encompasses the following response options: always (5), often (4), sometimes (3), hardly ever (2), and never (1).

For this scale, the reliability score based on Cronbach's alpha was found to be 0.90 and split half method gave a reliability score of 0.830. This instrument is specially designed to assess digital stress in young adults aged between 15-22. This scale measures five dimensions of the construct:

1. Information Overload
2. Constant connectivity
3. Social media pressure
4. Technology dependency and addiction
5. Fear of missing out

### *Statistical Analysis*

The collected data were analysed using SPSS (Version 22.0). Descriptive statistics, including means (M) and standard deviations (SD), were calculated for all the study variables to summarize the sample characteristics and digital stress scores. Independent sample t-tests were conducted to compare the mean digital stress scores between male and female participants, and compare the mean digital stress scores between school students and NEET coaching students.

## **RESULTS**

*Table 1. Showing the demographic statistics for NEET and school group*

<i>Group</i>	<i>Frequency</i>	<i>In percent</i>
<b>NEET</b>	155	50
<b>School</b>	155	50
<b>Total</b>	310	100

The table shows the distribution of a total of 310 items between two groups: NEET and School. Both groups have an equal frequency of 155, which accounts for 50% of the total each. The total frequency is 310, making up 100%.

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**Table 2. Showing the demographic statistics for gender**

Gender	Frequency	In percent
Male	159	51.3
Female	151	48.7
<b>Total</b>	<b>310</b>	<b>100.0</b>

The table shows the distribution of gender among 310 individuals. Males make up 51.3% of the total with a frequency of 159, while females constitute 48.7% with a frequency of 151. The total frequency of 310 represents 100% of the sample.

**Table 3. Showing the demographic statistic for age**

Age	Frequency	In percent
15	7	2.3
16	68	21.9
17	91	29.4
18	75	24.2
19	18	5.8
20	28	9.0
21	11	3.5
22	12	3.9
<b>Total</b>	<b>310</b>	<b>100.0</b>

The table shows age distribution (15-22 yrs) of 310 participants. Highest frequency is 17 yrs (91, 29.4%), followed by 18 yrs (75, 24.2%), then 16 yrs (68, 21.9%). Other ages have lower frequencies. Total percentage adds up to 100%.

**Table 4. Showing descriptive statistics and t-value for gender**

Variable	Gender	N	Mean	Standard Deviation	t. Score	Significance value
Digital Stress	Male	159	87.80	19.033	2.548*	.011
	Female	151	81.49	24.359		

The table presents a comparison of digital stress levels between males and females. For males (N = 159), the mean digital stress level is 87.80 with a standard deviation of 19.033. For females (N = 151), the mean digital stress level is 81.49 with a standard deviation of 24.359. A t-test was conducted to compare these means, resulting in a t-score of 2.548, which is significant at the .01 level of significance and value of significance ( $p = .011$ ). This indicates a statistically significant difference in digital stress levels between males and females. Thereby, the result rejects the H01 which states that there will be no significant difference in the digital stress levels of males and females.

**Table 5. Showing the descriptive statistics and t-value for groups**

Variable	Group of the students	N	Mean	Standard deviation	t-score	Significance value
Digital stress	NEET	155	81.31	22.347	2.765*	.006
	School	155	88.14	21.137		

The table presents the mean and standard deviation values for the groups of students studied in this research. The results indicate that students preparing for the competitive medical

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entrance exam (NEET) have a mean digital stress score of  $M = 81.31$ , whereas students studying in classes 11 and 12 in schools have a mean digital stress score of  $M = 88.14$ . This shows that school students have a higher digital stress score ( $M = 88.14$ ) compared to NEET students ( $M = 81.31$ ). A t-test was conducted to compare the means, resulting in a t-score of 2.765 which is significant at the .01 level of significance and value of significance ( $p = .006$ ). This indicates a statistically significant difference in digital stress levels between NEET and school groups. Thereby, the result rejects the  $H_0$  which states that there will be no significant difference in the digital stress level of NEET aspirants and school students.

### DISCUSSION

The findings of the present study revealed a significant gender difference, with male students reporting higher levels of digital stress ( $M = 87.80$ ) than their female counterparts ( $M = 81.49$ ). This result contrasts with some previous research, such as the study by Nick et al. (2022), which found higher digital stress among female adolescents. However, the present finding aligns with other literature focusing on specific digital behaviours. For instance, Mari et al. (2023) reported that males scored higher on measures related to problematic internet use, linking it to traits like perseverance and sensation-seeking. This shows that males might show a strong desire for novel, varied, and intense experiences and may engage in more intensive, exploratory and often competitive online activities.

This discrepancy in gender patterns may be attributed to several interlinked factors. First, differing coping mechanisms and emotional expression could play a role. While females may be more likely to seek social support or discuss stressors, males might internalize pressure or turn to digital environments for emotional regulation and bonding, inadvertently increasing their exposure to digital stressors. Second, cultural and societal expectations may shape these experiences. In certain contexts, males might face heightened pressure to demonstrate competence and resilience, potentially driving increased engagement in competitive or performance-oriented online activities (e.g., gaming, social comparison) that are significant sources of digital stress. Finally, the nature of digital engagement itself may differ; male adolescents' digital stress could be more heavily influenced by specific activities like online gaming or investment in curated online personas, whereas female adolescents' stress might seem more from relational pressures on social media platforms. This suggests that digital stress is not a monolithic experience but is mediated by gender-specific patterns of use, appraisal, and coping.

An unexpected key finding was that students in traditional school settings reported higher digital stress ( $M = 88.14$ ) than those in intensive NEET coaching programs ( $M = 81.31$ ). This result appears to contradict the intuitive assumption that the high-pressure NEET environment would be the primary catalyst for digital stress. A plausible explanation for this finding can be derived from the role of structured academic focus and digital resilience. Research by Zayed (2024) found that senior university students (fourth-year) exhibited higher digital resilience and lower digital stress compared to first-year students across multiple disciplines, suggesting that academic progression, experience, and focused purpose can mitigate the negative impacts of digital engagement.

This framework helps interpret the present results. NEET aspirants operate within a highly structured, time-bound, and singularly goal-oriented environment. Their digital use is often channelled and restricted to exam-focused resources (e.g., online lectures, test series, study groups), which may limit exposure to the broader, more socially complex digital ecosystems that contribute to stress. This targeted use could function as a protective factor, fostering a

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form of digital resilience aligned with a clear objective. Conversely, school students in Grades 11 and 12, while under academic pressure, typically have a more diffuse schedule with greater unstructured time. Their digital engagement is likely more varied, encompassing not only academic work but also extensive social media use, online gaming, and entertainment. This broader and potentially less purposeful immersion in the digital world may expose them to a wider array of digital stressors, including social comparison, fear of missing out (FOMO), and information overload, without the mitigating focus of a singular, overriding goal.

### *Future research suggestions*

A longitudinal study can be conducted to examine the impact of digital stress on students' mental health and academic performance over time. Digital stress levels can be compared among students preparing for different types of competitive exams (e.g., medical, engineering, civil services). The effectiveness of digital mindfulness interventions or stress management programs can be evaluated for students experiencing digital stress. Factors such as socio-economic status, urban versus rural background, personality traits, and parental mediation styles can be studied for in depth knowledge of the digital stressors and its impact.

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### **Conflict of Interest**

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