International Journal of Research Publication and Reviews

A STUDY ON SCREEN TIME MANAGEMENT AMONG TECHNOLOGY STUDENTS

Avhad Ravindra Mukund [1],Rane Shubham Parmanand[2]

ASM Institute of Management & Computer Studies, Mumbai, India

ABSTRACT :

In the contemporary digital era, the prevalence of electronic devices has revolutionized the way students interact with technology, particularly those enrolled in technology-related fields. This study explores the patterns, impacts, and management strategies of screen time among technology students, emphasizing the necessity of maintaining a balanced approach to ensure both academic success and personal well-being. Utilizing a mixed-methods approach, data were collected from 300 undergraduate technology students at a major university through surveys and interviews.

The study's findings reveal that technology students spend an average of 8-10 hours per day on screens. A significant portion of this time is dedicated to non-academic activities such as social media, online gaming, and streaming services. Despite the essential role of technology in their academic pursuits, excessive non-academic screen use was prevalent, often at the expense of physical activity and face-to-face social interactions.

The adverse effects of prolonged screen time among these students were manifold. Physically, students reported experiencing symptoms of computer vision syndrome, including headaches, blurred vision, and dry eyes, which can significantly impair students' daily functioning. Sleep disturbances are notably exacerbated by late-night screen use, which interferes with the production of melatonin, the hormone responsible for regulating sleep cycles. Additionally, the blue light emitted by screens was found to disrupt sleep patterns, leading to insomnia and reduced sleep quality. Mentally, high screen time correlated with increased levels of stress, anxiety, and depression. The constant need to stay connected and the overwhelming influx of information contributed to digital burnout and reduced academic performance.

To address these issues, the study explored various screen time management strategies employed by students. Techniques such as the Pomodoro Technique, which involves working for 25 minutes followed by a 5-minute break, were popular for maintaining focus and reducing eye strain. The 20-20-20 rule, advising users to look at something 20 feet away for 20 seconds every 20 minutes, was also effective in alleviating eye discomfort. Additionally, digital well-being apps like "Forest" and "Stay Focused" helped students limit their time on distracting applications, promoting more productive screen use.

Educational institutions were found to play a pivotal role in supporting students' screen time management. Integrating digital well-being courses into the curriculum provided students with knowledge and tools to manage their screen use effectively. Workshops on digital detox and access to counselling services were beneficial in promoting a healthy tech-life balance. The study underscores the necessity for tailored interventions aimed at technology students to mitigate the negative effects of excessive screen time. Recommendations include developing institutional policies that encourage balanced screen use, offering resources and training on digital wellness, and fostering an environment that prioritizes students' physical and mental health. By promoting awareness and providing practical solutions, educational institutions can help students harness the benefits of technology without compromising their well-being.

Keywords: Screen time, technology students, digital devices, health impact, screen time management, digital literacy.

Introduction :

In today's digital age, electronic devices are central to both academic and personal activities, particularly for technology students. These students, enrolled in fields such as computer science, engineering, and information technology, depend heavily on screens for learning, research, and leisure. While technology integration offers significant educational benefits, it also presents notable challenges, particularly in managing screen time to avoid negative health and academic outcomes.

Tech students, comprising those studying computer science, information technology, and related fields, are particularly vulnerable to the negative impacts of excessive screen time. Hours spent engrossed in coding sessions or research projects take a toll on their eye health. Post-Covid-19, with an accelerated shift towards the digital realm, internet usage has surged by 50-70%, reflecting a heightened reliance on screens. Recent statistics indicate that the average person spends nearly 7 hours daily connected to the internet, a trend exacerbated among tech professionals who spend an average of 9 hours daily in front of screens.

Despite this escalating screen time, awareness among tech students regarding its potential consequences remains inadequate. Symptoms such as eye irritation, redness, strain, and blurred vision are often ignored or dismissed. The prevailing culture places a premium on productivity, overshadowing concerns for personal well-being.

Academically, while screens facilitate access to information and learning tools, their excessive use for non-academic purposes, such as social media and gaming, can detract from study time and reduce productivity. This paradox presents a critical need for effective screen time management strategies among technology students to ensure a healthy balance between screen use and other activities.

This research paper aims to investigate the screen use patterns of technology students, identify the impacts of prolonged screen time, and evaluate the strategies employed to manage screen time effectively. By exploring these dynamics, the study seeks to provide insights and recommendations for students and educational institutions to optimize screen time management. This will help in enhancing academic performance and promoting overall well-being, ensuring that students can fully leverage the benefits of technology without compromising their health.

The study highlights the need for targeted interventions, such as digital literacy programs and the promotion of healthier screen habits, to mitigate the negative impacts of excessive screen use. These findings provide valuable insights for educators, health professionals, and policymakers aiming to support technology students in achieving a healthier balance in their screen time.

Previous vs Current scenario

1. *Previously,*

the topic of screen time management among technology students has evolved significantly over the years alongside the rapid advancements in technology and its integration into education. Historically, the prevalence of screens in academic settings dates to the widespread adoption of personal computers in the late 20th century. As computer science and information technology programs expanded, students began spending increasing amounts of time in front of screens for coding, research, and coursework.

In the early stages, there was limited awareness of the potential health implications associated with prolonged screen use. Students and educators alike were focused on harnessing the educational benefits of technology without fully understanding its long-term effects on physical and mental well-being. Screen time management was not a priority, and students often spent hours on end immersed in their work, unaware of the strain it placed on their eyes and overall health.

2. *Now:*

In contrast, the current landscape reflects a heightened awareness of the importance of screen time management among technology students. The exponential growth of digital devices and online learning platforms, accelerated further by the COVID-19 pandemic, has underscored the need for proactive measures to mitigate the negative impacts of excessive screen time.

Today, technology students are more cognizant of the risks associated with prolonged screen use, thanks in part to increased research and public awareness campaigns. Educational institutions have responded by integrating digital wellness initiatives into their curricula, offering resources and support services to help students navigate the digital landscape healthily.

Moreover, advancements in technology have led to the development of tools and apps designed to assist individuals in managing their screen time effectively. From productivity apps that encourage breaks and time tracking to blue light filters that reduce eye strain, these innovations empower students to strike a balance between their academic responsibilities and personal well-being.

Despite these advancements, challenges remain, particularly as technology continues to evolve at a rapid pace. As screens become more ubiquitous in everyday life, technology students must remain vigilant in prioritizing their health and implementing sustainable screen time management practices. By staying informed, proactive, and adaptable, they can navigate the digital age with confidence and optimize their academic and personal success.

Research Gap

The existing literature offers diverse perspectives on the correlation between screen time and various aspects of individual well-being, particularly focusing on its potential impact on mental health and eye health. With the advent of the COVID-19 pandemic, the reliance on screens surged, especially among students engaged in online education. While some studies delve into the physical health implications of excessive screen time, others encompass broader categories of students and professionals, often overlooking the unique challenges faced by technology students.

However, despite the breadth of research, a notable gap exists in providing comprehensive solutions for managing screen time effectively, particularly tailored to the needs of technology students. Existing studies predominantly concentrate on examining the prevalence of eye defects and the association between screen time and health outcomes without offering targeted interventions or strategies for mitigating risks.

This research endeavours to address this gap by focusing specifically on-screen time management among technology students. Through empirical investigation and analysis, the research seeks to offer practical solutions that empower technology students to strike a balance between their academic pursuits and screen usage, thereby safeguarding their physical and mental well-being.

Need of study

In contemporary society, the issue of screen time has emerged as a prevalent concern among students, particularly those immersed in the technology field. Unfortunately, prioritizing eye health often takes a backseat as individuals, including both students and working professionals. In the tech industry, where

extended hours in front of screens are commonplace due to the demands of the profession, many individuals fail to recognize the significance of managing their screen time effectively.

The daily routine of technology students and professionals often includes several hours of uninterrupted screen time, which can have detrimental effects on their vision and overall eye health. Despite the evident risks, there is a pervasive lack of concern regarding this issue, with individuals disregarding the importance of safeguarding their eyesight.

To address this pressing issue, it is imperative to raise awareness about the importance of managing screen time and its impact on eye health. By educating students and professionals about the potential long-term consequences of excessive screen time, we can empower them to take proactive measures to protect their eyesight. Moreover, there is a critical need to develop feasible solutions that integrate seamlessly into their daily routines, thereby preventing screen time-related eye problems from becoming entrenched issues.

In conclusion, proactive efforts are essential to foster awareness and understanding among technology students and professionals regarding the significance of managing screen time for preserving eye health. By acknowledging the importance of this issue and implementing practical solutions, we can mitigate the risks associated with prolonged screen exposure and safeguard the well-being of individuals in the technology field.

DATA ANALYSIS AND INTERPRETATION

COLLEGE AREAS

Thane City	Mumbai Suburban	Mumbai City	Total
85	110	105	300

Gender
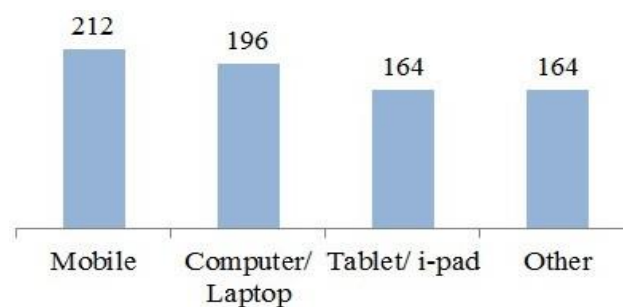
Male	Female	Total
160	140	300

Course Pursued

B.Sc. (IT)	B.Sc. (CS)	B.Sc. (DS)	Total
76	180	45	301

Most Used Electronic Screen Devices Among Students

Devices used	Rankings
Mobile	1st
Computer / Laptop	2nd
Tablet / I-pad	3rd
Other	4th

Interpretation

The chart indicates the ranking of the most frequently used screen devices among students. Mobile phones are the most popular, followed by computers/laptops, then tablets/iPads, and finally, other devices, which are the least used. In detail, 212 respondents chose mobile phones as their primary device. For the second most used device, 196 respondents picked computers/laptops. Tablets/iPads were selected by 164 students as their third choice, while an equal number of students indicated other devices as their fourth preference.

### *AVERAGE SCREEN TIME PER DAY*

Interpretation

The chart reveals various screen time durations among respondents. Only 3.7% (10 respondents) have less than 2 hours of screen time per day. A significant 17.3% (52 respondents) spend more than 8 hours on screens daily. Additionally, 39% (117 respondents) have screen time ranging from 2 to 5 hours per day, while the largest group, 40% (122 respondents), spends between 5 to 8 hours on screens each day.

MAJOR REASON FOR USING DEVICES FOR MANY HOURS

| Major Reason	Total
Work Related	171
Personal Use	130
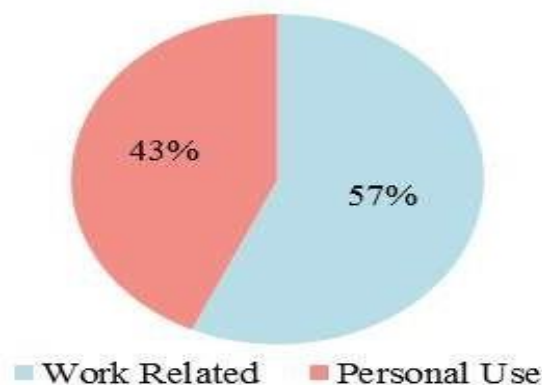
Interpretation

The pie chart illustrates that 57% (171 students) use screen devices for work-related purposes, such as college activities including coding, practical's, assignments, and other academic tasks. In contrast, 43% (130 students) use screen devices for personal activities like entertainment, social media, communication, and other non-academic uses.

SYMPTOMS EXPERIENCED
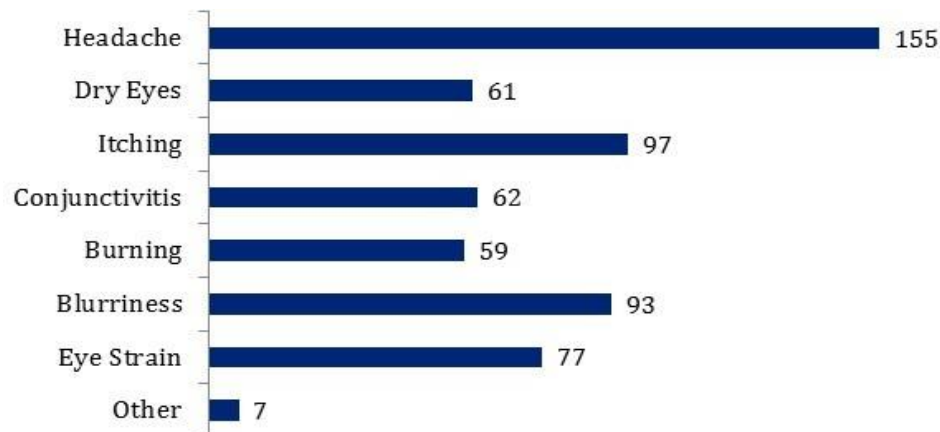
Interpretation

The bar graph depicts the symptoms experienced by respondents due to excessive device use, based on 301 responses. The most common symptom is headaches, affecting 51.5% (155 respondents). This is followed by itching, reported by 32.2% (97 respondents), and blurriness, affecting 30.9% (93 respondents). Other symptoms include eye strain (25.6%, 77

respondents), conjunctivitis (20.6%, 62 respondents), dry eyes (20.3%, 61 respondents),

burning sensations (19.6%, 59 respondents), and a few respondents (2.3%, 7 respondents) experiencing other symptoms.

PRECAUTIONS TAKEN / PREFERRED TO PROTECT EYE
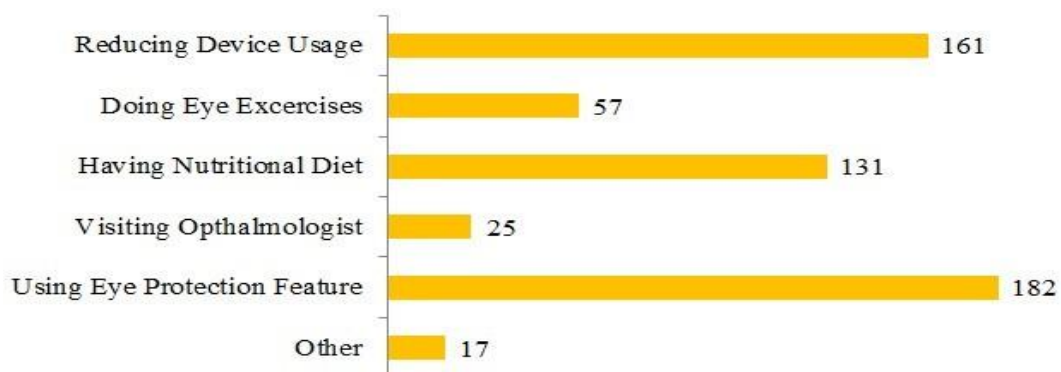
Interpretation

The bar graph illustrates the precautions taken or preferred by students to protect their eyes, based on 301 responses. The most common precaution is using eye protection features on devices, chosen by 60.4% (182 respondents). This is followed by reducing device usage, selected by 53.5% (161 respondents). Next, 43.5% (131 respondents) prefer maintaining a diet beneficial for eye health. Additionally, 19% (57 respondents) practice eye exercises, while 8.3% (25 respondents) visit an ophthalmologist. Lastly, 5.6% (17 respondents) reported using other precautions to protect their eye health.

WILLING TO USE SOFTWARE

Willing to use software	Total
Yes	248
No	52
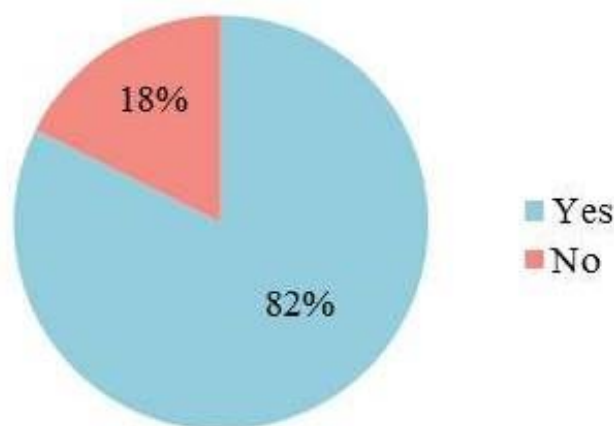
Interpretation

The pie chart indicates that 82% (248 respondents) are inclined to use the software developed by researchers to maintain their eye health. In contrast, 18% (52 respondents) are not willing to use such software for unspecified reasons.

Findings of the Study

The rise of digital learning, especially during the COVID-19 pandemic, has significantly increased screen time among students, particularly those in fields requiring extensive computer use, such as Computer Science (CS) and Information Technology (IT). This trend has led to various physical and mental health concerns.

Key Findings:

1. *Increased Screen Exposure:*

CS and IT students report higher screen time compared to peers in other disciplines due to coursework, coding, and project-related activities. The daily average for these students can exceed 8 hours, significantly higher than the recommended limits (National Education Association | NEA) (BioMed Central).

2. *Health Implications:*

Prolonged screen time has been linked to various health issues, including headaches, eye strain, and sleep disturbances. For instance, a study highlighted that Saudi health sciences students reported frequent headaches associated with extensive screen exposure during online learning (BioMed Central).

3. *Mental Health Concerns:*

Excessive screen time can also contribute to mental health issues such as anxiety and depression. The constant engagement with screens, particularly for social media and entertainment, exacerbates stress and can lead to a cycle of dependency and poor sleep hygiene (National Education Association | NEA) (Modern Classrooms Project).

4. *Academic Performance:*

While screens facilitate learning and project completion, they can also distract students and reduce productivity if not managed properly. Engaging in non- academic screen activities during study hours negatively impacts academic focus and performance (Modern Classrooms Project).

5. *Adaptive Strategies:*

Some students have adopted strategies to mitigate the negative effects of screen time. These include using eye protection features, taking regular breaks, and physical activities into their routines. However, awareness of such strategies varies widely among students (Modern Classrooms Project).
Some different situations will be.

1. *Device Preferences*

Mobile phones and laptops/computers are the top devices used by respondents, with mobile phones being the most preferred, followed by laptops/computers. Those not choosing mobile phones as their primary device selected laptops/PCs instead, indicating that laptops/PCs are primarily used for work-related tasks.

2.   Night-Time Device Usage

Many respondents habitually use electronic devices late at night (after 10 pm). This late-night usage has adversely affected their eye health.

3.   Academic and Work-Related Device Use

College work, projects/assignments, and coding are the main reasons for using devices like mobile phones and laptops/computers for extended hours. Respondents spend significant time on screen devices for academic purposes. Those who prioritize personal use still spend considerable time on these devices for academic tasks as a secondary priority.

4.   Awareness of Eye Health Issues

While most respondents are generally aware of the harmful effects of prolonged device use on their eyes, they lack specific knowledge about Computer Vision Syndrome (CVS). This lack of awareness is concerning because CVS encompasses a range of symptoms and risk factors associated with extended computer use.

5.   Neglect of Ophthalmological Care

Despite experiencing symptoms related to prolonged screen use, most respondents do not consult ophthalmologists. This indicates a lack of concern for their eye health, with few visiting doctors or taking prescribed medications.

6.   Efforts to Reduce Screen Time

Approximately one-third of respondents make no efforts to reduce their screen time, while the majority are attempting to manage it. This reflects a partial concern for eye health among students.

7.   Inconsistent Precautionary Measures

Although respondents prefer certain precautions to protect their eyes, they struggle to maintain consistency in these efforts due to their academic demands. This inconsistency suggests that managing screen time will continue to be a challenge in their future professional lives.

Conclusion :

Exploring the impact of screen time management on academic performance is crucial for understanding its implications on students' learning outcomes. Understanding the potential long-term health implications of excessive screen time among technology students is essential for promoting their well-being. This exploration could encompass risks such as digital eye strain, posture-related issues, and potential effects on mental health.

Comparing the effectiveness of the software-based intervention with other strategies aimed at managing screen time could provide valuable insights into the most suitable approaches for technology students. This comparison may include self-regulation techniques, physical reminders, or other technological solutions.

Examining how cultural backgrounds and socioeconomic status influence screen time habits among technology students can shed light on the diverse needs within student populations.

Investigating the impact of excessive screen time on social interactions and relationships among technology students is crucial for understanding its broader societal implications. This exploration may encompass friendships, family dynamics, and romantic relationships affected by students' screen time habits.

Exploring technological solutions beyond break reminders could lead to the development of more sophisticated tools for managing screen time among technology students. These solutions may include apps for digital well-being, adaptive screen brightness, or automated activity trackers.

Discussing the ethical implications of implementing screen time management interventions is crucial for ensuring responsible and equitable use of technology among students.

Considerations such as autonomy, privacy, and potential unintended consequences must be carefully examined in the implementation of such interventions.

These topics offer avenues for further exploration and could provide additional depth and insight into research on screen time management among technology students.

REFERENCES :

1.   Children and Media Tips from the American Academy of Pediatrics. HealthyChildren.org, American Academy of Pediatrics, 2016. AAP Media Tips.

2.   Guidelines on Physical Activity, Sedentary Behaviour and Sleep for Children Under 5 Years of Age. World Health Organization, 2019. https://www.who.int/publications/i/item/9789241550536

3.   The Evolution of Screen Time in Education by P. D. Stoyanov, M. E. Hides, and D. J. Kavanagh. This article discusses the historical progression of screen time in educational settings and its impact on students' well-being. Available at - https://www.frontiersin.org/articles/10.3389/fpsyg.2020.01778/full

4.   National Education Association. "All That Scrolling: How Screen Time Impacts Students." https://www.nea.org/

5.   BMC Medical Education. "The online learning experience and reported headaches associated with screen exposure time among Saudi health sciences students during the COVID-19 pandemic." https://bmcmededuc.biomedcentral.com/

6.   Screen-time, obesity, ageing and disability: findings from 91 266 participants in the 45 and Up Study Published online by Cambridge University Press: 22 April 2010 Emily Banks, Louisa Jorm, Kris Rogers, Mark Clements and Adrian Bauman.

7.   "Personal tracking of screen time on digital devices" John Rooksby, Parvin Asadzadeh, Mattias Rost, Alistair Morrison, Matthew Chalmers Proceedings of the 2016 CHI conference on human factors in computing systems, 284-296, 2016.