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THE PSYCHOLOGICAL IMPACT OF EXCESSIVE SCREEN TIME AND DIGITAL ADDICTION

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ABSTRACT

The digital technologies have led to a significant increase in screen time, with many individuals spending hours each day interacting with digital devices. While digital technologies offer numerous benefits, excessive screen time and digital addiction can have severe consequences for mental and physical health, social relationships, and cognitive development.

This study explores the complex issues surrounding excessive screen time and digital addiction including the psychological and neurobiological mechanisms, the impact on mental health and well-being and the effects on social relationships and cognitive function.

Keywords: Digital addiction, excessive screen time, mental health, social relationships, cognitive development, digital habits.

CHAPTER 1

INTRODUCTION

The rapid advancement and widespread adoption of digital technologies have transformed the way we live, work, and interact with one another. Smartphones, tablets, computers, and televisions have become access to information, entertainment, and social connections.

However, this increased exposure to digital media has also led to a growing concern about the potential negative consequences of excessive screen time and digital addiction. The average person spends several hours a day staring at screens, often at the expense of physical activity, social interaction, and cognitive development.

Excessive Screen Time and Digital addiction, characterized by compulsive and excessive use of digital devices despite negative consequences, has become a pressing issue, affecting millions of people worldwide. Excessive screen time has been linked to a range of physical and mental health problems, including obesity, sleep disturbances, anxiety, depression, and Attention Deficit Hyperactivity Disorder (ADHD).

Furthermore, Excessive Screen Time and Digital addiction can have far-reaching consequences, impacting not only individuals but also families, communities, and society as a wh. As digital technologies continue to evolve and become increasingly integrated into our daily lives, it is essential to understand the risks associated with excessive screen time and digital addiction and to develop effective strategies for prevention and intervention.

1.1 Excessive screen exposure has been linked to various physical, psychological, and social issues including:

Physical health problems – Eye strain (digital eye syndrome), headaches, poor posture, neck and back pain, and increased risk of obesity due to sedentary behavior.

Mental health effects – Increased stress, anxiety, depression, and sleep disturbances, especially due to blue light exposure at night.

Cognitive and behavioral changes – Reduced attention span, impaired memory, and decreased productivity due to constant digital distractions.

Common types of Excessive Screen Time and Digital addiction include:

Social media addiction – Excessive scrolling, checking notifications, and a strong dependence on online validation.

Gaming addiction – Uncontrollable gaming behavior, often leading to neglect of daily responsibilities (recognized as "Gaming Disorder" by the WHO).

Online content consumption addiction – Binge-watching videos, streaming series, or endlessly browsing news and social media.

Smartphone addiction – The inability to stay offline, constantly checking the phone even in inappropriate situations.

Digital addiction can have serious consequences such as:

Psychological effects – Increased anxiety, depression, mood swings, and withdrawal symptoms when not using devices.

Social isolation – Decreased in-person interactions, difficulty maintaining real-world relationships, and a preference for virtual interactions.

Academic and occupational decline – Reduced focus, procrastination, and lower productivity due to excessive engagement with digital content.

1.2 Future consequences of digital use:

Physical Health Consequences

1. Increased risk of obesity and related health issues: Prolonged sitting and decreased physical activity due to digital use can lead to obesity and related health issues.

2. Sleep disturbances and fatigue: Exposure to screens and digital devices before bedtime can disrupt sleep patterns and lead to fatigue.

3. Eye strain and vision problems: Prolonged use of digital devices can cause eye strain and increase the risk of vision problems.

4. Decreased physical fitness and coordination: Excessive digital use can lead to decreased physical fitness and coordination.

Mental Health Consequences:

1. Increased risk of anxiety and depression: Excessive digital use can lead to increased symptoms of anxiety and depression.

2. Decreased attention span and cognitive development: Excessive digital use can lead to decreased attention span and cognitive development.

3. Increased risk of cyberbullying and online harassment: Digital use can increase the risk of cyberbullying and online harassment.

4. Decreased empathy and social skills: Excessive digital use can lead to decreased empathy and social skills.

Social Consequences:

1. Social isolation and decreased social connections: Excessive digital use can lead to social isolation and decreased social connections.

2. Decreased face-to-face communication skills: Digital use can lead to decreased face-to-face communication skills.

3. Increased risk of online addiction and digital dependency: Digital use can increase the risk of online addiction and digital dependency.

4. Decreased community engagement and participation: Excessive digital use can lead to decreased community engagement and participation.

Economic Consequences:

1. Decreased productivity and decreased economic growth: Excessive digital use can lead to decreased productivity and decreased economic growth.

2. Increased healthcare costs: Digital addiction and digital dependency can lead to increased healthcare costs.

3. Decreased job opportunities and decreased employability: Excessive digital use can lead to decreased job opportunities and decreased employability.

4. Increased risk of cybercrime and online fraud: Digital use can increase the risk of cybercrime and online fraud.

Educational Consequences:

1. Decreased academic achievement and decreased educational outcomes: Excessive digital use can lead to decreased academic achievement and decreased educational outcomes.

2. Decreased attention span and decreased cognitive development: Digital use can lead to decreased attention span and decreased cognitive development.

3. Increased risk of digital distraction and decreased focus: Digital use can increase the risk of digital distraction and decreased focus.

4. Decreased critical thinking and problem-solving skills: Excessive digital use can lead to decreased critical thinking and problem-solving skills.

1.3 Positive and negative uses of excessive screen time and digital use:

Positive Uses:

Educational and Informative:

1. Access to educational resources: Excessive screen time can provide access to educational resources, such as online courses, tutorials, and educational videos.

2. Improved knowledge and understanding: Digital use can provide access to a vast amount of information, improving knowledge and understanding on various topics.

3. Enhanced learning experiences: Interactive digital content can enhance learning experiences, making them more engaging and effective.

Social and Communicative:

1. Social connections and community building: Digital use can facilitate social connections and community building, especially for people with mobility or social anxiety issues.

2. Communication and collaboration: Excessive screen time can enable communication and collaboration with others, regardless of geographical location.

3. Access to social support networks: Digital use can provide access to social support networks, such as online forums and support groups.

Creative and Productive:

Creative expression and inspiration: Digital use can provide a platform for creative expression and inspiration, such as digital art, music, and writing.

2. Productivity and organization: Excessive screen time can enable productivity and organization, such as using digital tools for task management and time tracking.

3. Access to creative resources: Digital use can provide access to creative resources, such as tutorials, templates, and software.

Negative Uses:

Addictive and Distracting:

1. Digital addiction: Excessive screen time can lead to digital addiction, negatively impacting mental and physical health.

2. Distraction and decreased productivity: Digital use can be distracting, decreasing productivity and negatively impacting work and academic performance.

3. Social comparison and decreased self-esteem: Digital use can facilitate social comparison, leading to decreased self-esteem and negative mental health outcomes.

Social and Relational:

1. Social isolation and decreased social skills: Excessive screen time can lead to social isolation and decreased social skills, negatively impacting relationships and mental health.

2. Cyberbullying and online harassment: Digital use can increase the risk of cyberbullying and online harassment, negatively impacting mental health and well-being.

3. Decreased face-to-face communication skills: Digital use can lead to decreased face-to-face communication skills, negatively impacting relationships and social interactions.

Physical and Mental Health:

1. Sleep disturbances and fatigue: Excessive screen time can disrupt sleep patterns, leading to sleep disturbances and fatigue.

2. Eye strain and vision problems: Digital use can cause eye strain and increase the risk of vision problems.

3. Decreased physical activity and increased risk of obesity: Excessive screen time can lead to decreased physical activity and increased risk of obesity, negatively impacting physical

Economic and Environmental:

1. Economic costs and decreased productivity: Digital addiction and excessive screen time can lead to economic costs and decreased productivity.

2. Environmental impact and e-waste: Digital use can contribute to environmental impact and e-waste, negatively impacting the environment and sustainability.

3. Decreased attention span and decreased cognitive development: Excessive screen time can lead to decreased attention span and decreased cognitive development, negatively impacting educational and career outcomes.

Effects on Sleep Patterns:

1. Delayed Sleep Onset: Excessive screen time and digital use can delay sleep onset, making it harder to fall asleep.

2. Reduced Sleep Quality: Exposure to screens and digital devices can reduce sleep quality, leading to lighter, less restorative sleep.

3. Increased Sleep Fragmentation: Excessive screen time and digital use can lead to increased sleep fragmentation, making it harder to stay asleep.

4. Daytime Fatigue: Disrupted sleep patterns can lead to daytime fatigue, decreased productivity, and reduced overall well-being.

Recommendations:

1. Establish a Bedtime Routine: Develop a calming pre-sleep routine, avoiding screens and digital devices for at least an hour before bedtime.

2. Use Blue Light Filtering Glasses or Apps: Utilize blue light filtering glasses, apps, or software to reduce exposure to stimulating light.

3. Create a Sleep-Conducive Environment: Make the bedroom a sleep sanctuary, free from screens and digital devices.

4. Set Boundaries: Establish screen-free zones and times, such as during meals or before bed.

5. Practice Relaxation Techniques: Engage in relaxing activities, like reading, meditation, or deep breathing, to help calm the mind and body before sleep.

CHAPTER 2

Review of Literature

Matthew H. E. M. Browning , et al. 2021. Psychological impacts from COVID-19 among university students: Risk factors across seven states in the United States

University students are increasingly recognized as a vulnerable population, suffering from higher levels of anxiety, depression, substance abuse, and disordered eating compared to the general population. Therefore, when the nature of their educational experience radically changes—such as sheltering in place during the COVID-19 pandemic—the burden on the mental health of this vulnerable population is amplified.

P Limone, GA Toto - Frontiers in psychology, 2022. Psychological and Emotional Effects of Digital Technology on Digitods (14–18 Years): A Systematic Review

The use of smartphones and other technologies has been increasing in digitods aged 14–18 years old. To further explain this relationship and explore the gap in research, this paper will appraise the available evidence regarding the relationship digital technology use and psychological/emotional outcomes and report on the strength of the associations observed between these variables.

M Ballard, M Gray, J Reilly, M Noggle - Eating behaviors, 2009 – Elsevier. Correlates of video game screen time among males: Body mass, physical activity, and other media use

Video game play is a ubiquitous activity in industrialized countries, particularly among males.Research on the correlates and experimental impact of video game play primarily has focused on aggression.This study examines video game play among males in relation to body mass index, body fat percent, physical activity, and sedentary behavior.

Muhammad Delvin Ario PuteraFaculty of Medicine, University of Brawijaya, Malang, Indonesia. Mental Health Impacts by elevated Digital Screen Time during covid-19 pandemic

The length of time invested in and the various activities carried out utilizing digital devices are referred to as screen time. The COVID-19 pandemic's restrictions on social interactions exacerbated the overuse of digital gadgets for everyday tasks like socializing, education, shopping, working, meeting, and entertainment. Increased screen usage has been thought to have harmful impacts on psychiatric health in studies.

Helena T. Wu, Jiandong Li, View ORCID Profile Amy Tsurumi. The Change of Screen Time and Screen Addiction, and their Association with Psychological Well-being During the COVID-19 Pandemic: An Analysis of US Country-Wide School-Age Children and Adolescents Between 2018 and 2020

Previous studies on screen use and children's mental health during the Coronavirus Disease 2019 pandemic either focused only on the timeframe during the pandemic, or only on children previously reporting COVID-related severe family economic hardship or worries. We assessed recreational screen use, instead of overall use including both instructional and recreational use, and developed psychological well-being issue scores to evaluate the associations among the pandemic, recreational screen use, and psychological well-being states. We found an increase in the prevalence of screen overuse/addiction and psychological well-being issues during the pandemic compared to the years prior, detected an association between the pandemic and psychological well-being issue scores.

JN Khouja, MR Munafò, K Tilling, NJ Wiles, C Joinson… et al- BMC public health, 2019. Is screen time associated with anxiety or depression in young people? Results from a UK birth cohort

There is limited and conflicting evidence for associations between use of screen-based technology and anxiety and depression in young people. We examined associations between screen time measured at 16 years and anxiety and depression at 18.

R Nishi, K Sagiyama, H Suzuki, M Amitani,Computers in Human, 2025 – Elsevier. Psychological well-being, gender, and age-specific difference on objectively recorded smartphone screen time in Japanese adults: A regression and clustering analysis

Smartphones have become an integral part of our daily lives. Although many scales can assess smartphone usage, they rely on respondents' subjective self-reports and suffer from considerable cognitive bias. Therefore, quantitative measurement of smartphone's recorded screen time is an effective way to assess smartphone usage.

A Ahmed - Annals of Human and Social Sciences, 2022. Screen Time Addiction and its Relationship with Borderline Personality Disorder and Psychological Distress

The present study was conducted to determine the relationship between screen time addiction (STA), borderline personality disorder (BPD) and psychological distress (PD) among adults. Participants (N = 150) were selected in the study. Their age range varies from 19 years onwards. Cross-sectional survey research design was used and data was collected through purposive sampling technique. Internet Addiction Test (IAT) (Young, 1998), Mclean Borderline Personality Disorder Instrument, and Kessler Psychological Distress Scale were used.

S Li, S Jin, P Fang, C Pan, S Huang - Pediatric Obesity, 2025 - Wiley Online Library. Association between excessive screen time and steatotic liver disease in adolescents: Findings from the 2017–2018 National Health and Nutrition Examination Survey

Screen-based behaviours have brought great changes to our lifestyles over the last 50 years. There is limited data evaluating the effects of such alterations on the prevalence of metabolic dysfunction-associated steatotic liver disease (MASLD) in adolescents. This study sets out to assess possible associations of excessive screen exposure with liver steatosis in a representative sample of US adolescents.

P Moitra, J Madan - PloS one, 2022. Impact of screen time during COVID-19 on eating habits, physical activity, sleep, and depression symptoms: A cross-sectional study in Indian adolescents Panchali Moitra , Jagmeet Madan

This study attempted to address the limited knowledge regarding the impact of screen time (ST) on lifestyle behaviors in Indian adolescents during the ongoing COVID-19 pandemic. The objectives were to 1) evaluate frequency and duration of using screens, and screen addiction behaviors in 10–15 years old adolescents in Mumbai during the COVID-19 pandemic and 2) examine the association of ST with lifestyle behaviors- eating habits, snacking patterns, physical activity (PA) levels, sleep quality and depression symptoms.

K Brodersen, N Hammami, TR Katapally - Youth, 2022, Smartphone Use and Mental Health among Youth: It Is Time to Develop Smartphone-Specific Screen Time Guidelines

This study aims to investigate the relationship between high smartphone use and mental health among youth and in two urban centres in Canada. This study is part of the Smart Platform, a digital epidemiological and citizen science initiative. Citizen scientists provided all data via their own smartphones using a custom-built smartphone application. The baseline questionnaire included measures of smartphone screen time behaviours (internet use, gaming, and texting), demographic characteristics, and health outcomes including anxiety, suicide ideation, feelings of depression, and self-rated health. Binary regression models determined the relationship between smartphone use and mental health measures.

A Sigman - Archives of disease in childhood, 2012. Time for a view on screen time.

In Britain today, children by the age of 10 years have regular access to an average of five different screens at home. In addition to the main family television, for example, many very young children have their own bedroom TV along with portable handheld computer game consoles, smartphone with games, internet and video, a family computer and a laptop and/or a tablet computer). Children routinely engage in two or more forms of screen viewing at the same time, such as TV and laptop.1 Viewing is starting earlier in life. Nearly one in three American infants has a TV in their bedroom, and almost half of all infants watch TV or DVDs for nearly 2 h/day.2

Shereen A. Eldeeb, Bethel University, 2020. Screen Time: Impacts on Physical Health, Sleep, and Psychological Health and Well-being.

With the rise of technology there has been an increase in screen technologies that are prevalent in everyday life. Technology and screens are used in employment, education, and leisure settings. The average person in the United States spends many hours every day dedicated to screen time. Screen time can be defined as the aggregate duration of time spent in front of all screen technologies including: televisions, computers, laptops, video games, cellphones, and tablets. Increased screen time has been linked to various negative health outcomes

RMS Santos, CG Mendes, GY Sen Bressani, et al. BMC psychology, 2023. The associations between screen time and mental health in adolescents: a systematic review

Adolescents have extensive use of screens and, they have common complains related to mental health. Here a systematic review was done to understand the association between screen time and adolescent's mental health.

JK Hartshorne, YT Huang, PML Paredes, et al. 2021. Screen time as an index of family distress

The increase in children's screen time over the last few decades has concerned parents, educators, and policymakers alike, due to its association with negative developmental outcomes. Interventions have focused on cautioning parents against screen time and coaching them on how to limit it. Such interventions are unlikely to be effective if screen time is driven less by parental preference than by parental necessity, supplementing insufficient adult caretaker availability

Sanders, W., Parent, J., Forehand, R., & Breslend, N. L. (2016). The roles of general and technology-related parenting in managing youth screen time

This study examines the associations of 2 types of parenting practices—general adaptive parenting and technology-related strategies—with youth screen time. We hypothesized that technology-related parenting focused on behavioral control would relate directly to screen time and serve to link general parenting to screen time.

S Bilderback - Journal of Systems and Information Technology, 2025. Screen time addiction and mental health: navigating work-life balance in global careers

This research aims to explore the intricate relationship between screen time addiction, employee mental health and work-life balance within global careers. The study examines how digital engagement in professional environments affects mental well-being and organizational practices, considering cultural, economic and generational differences.

Jiayao Xu, Jessie Baldwin, Amanda Hughes, Annie Herbert, Marcus, R Munafo, Laura D Howe, 2024. Exploring genetic confounding of the associations between excessive screen time and depressive symptoms in adolescence and early adulthood

Digital devices have become a major aspect of children's life. Associations between screen time and mental health have been observed, but the causality remains unclear. This study aimed to investigate the associations between excessive screen time and later depressive symptoms, and to test the robustness of these associations when accounting for genetic confounding.

D Maras, MF Flament, M Murray, A Buchholz, Preventive, 2015. Screen time is associated with depression and anxiety in Canadian youth

This study examined the relationships between screen time and symptoms of depression and anxiety in a large community sample of Canadian youth.

VS Nakshine, P Thute, MN Khatib, B Sarkar - Cureus, 2022. Increased Screen Time as a Cause of Declining Physical, Psychological Health, and Sleep Patterns: A Literary Review

Dependency on digital devices resulting in an ever-increasing daily screen time has subsequently also been the cause of several adverse effects on physical and mental or psychological health. Constant exposure to devices like smartphones, personal computers, and television can severely affect mental health- increase stress and anxiety. The psychological health effects comprise suicidal tendencies and symptoms of depression which are associated with digital device dependency, screen-time-induced poor sleep quality, and content-influenced negativity

CHAPTER 3

AIM OF STUDY

To estimate the proportion of individuals who engage in excessive screen time and digital addiction.

To examine the role of psychological, social, and environmental factors, such as stress, anxiety, depression, social media use, and parental influences, in contributing to excessive screen time and digital addiction.

To examine the impact of excessive screen time and digital addiction on mental and physical health, social relationships, academic performance, and cognitive development.

To identify effective strategies for preventing and intervening in excessive screen time and digital addiction, including parental guidance, educational programs, and digital tools.

CHAPTER 4

OBJECTIVES

To examine the impact of excessive screen time and digital addiction on mental health

To determine the average daily screen time of specific population.

To identify the most common digital platforms and activities associated with excessive screen time and digital addiction.

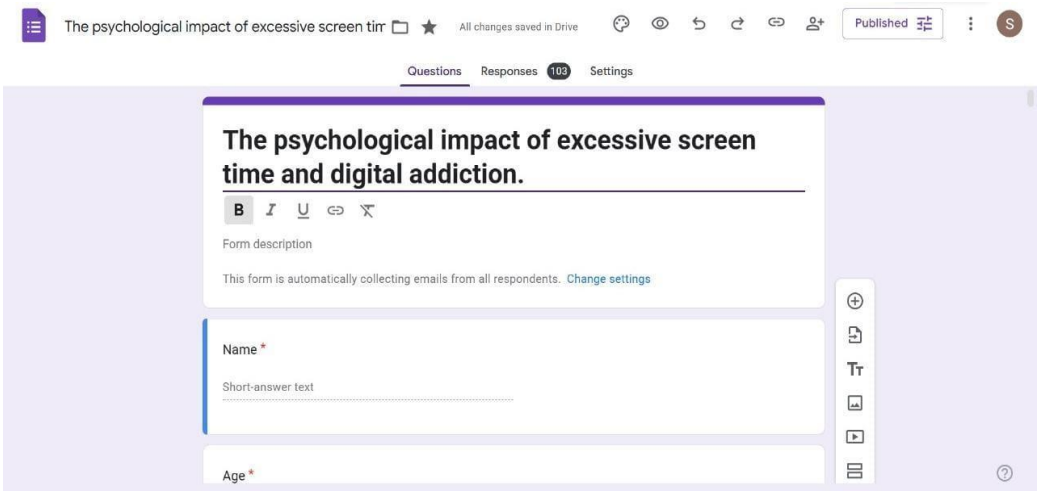
To investigate the relationship between excessive screen time and digital addiction and sleep disturbances.

CHAPTER 5

METHODOLOGY

After conducting a preliminary study on the above-mentioned research topic, descriptive research was adopted to collect data. A questionnaire was sent to individuals to gauge their views on the very topic. The source of data collection was primary as it was collected for the first time. The answers were accepted through the online service “Google Forms”. The survey targeted individuals from adult age group to understand their opinion and was sent electronically.

The research followed simple random sampling as every respondent had an equal chance of delivering his/her response. The sample consists of 103 respondents of which the majority of the respondents belonged to the age group 18-24 (77.7%). On analyzing the survey results, certain inferences were reached, and conclusions were drawn.



CHAPTER 6

DATA ANALYSIS AND INTERPRETATION

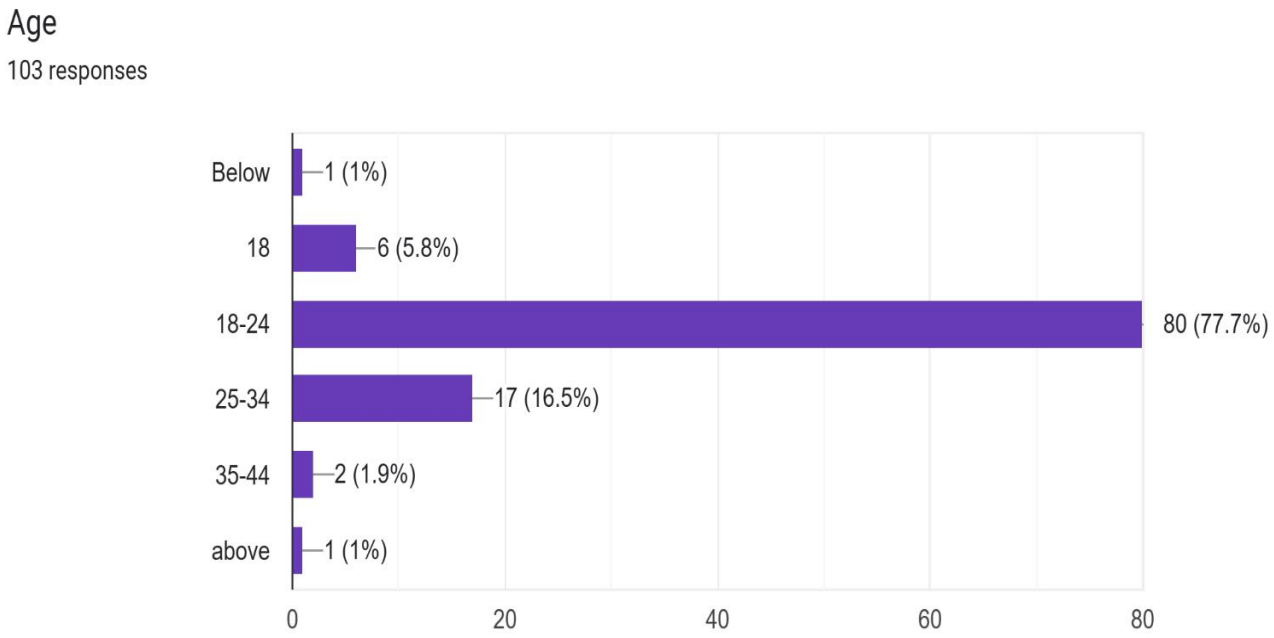


Fig.1:Question1. Age of the Respondent

The respondents were asked to indicate their age group all age ranges were represented in the results as shown. The breakdown of age groups consisted of 6.8% between 1 and 18, 77.7% between 18 and 24, 16.5% between 25 and 34, 1.9% between 35-44, and 1% were 45 and above. This study is mostly concentrated on age between 18-24 and this research is mainly to reveal the excessive screen time and digital addiction among the young adults who often spend more time on smartphones and other devices for purposes such as social media, entertainment, and academic. Under the age 12 years Excessive screen time and digital addiction can negatively impact child interaction, sleep disorder, stress, depression, difficulty in interpreting emotions, aggressive behavior, risk of addiction and poor academic performance.

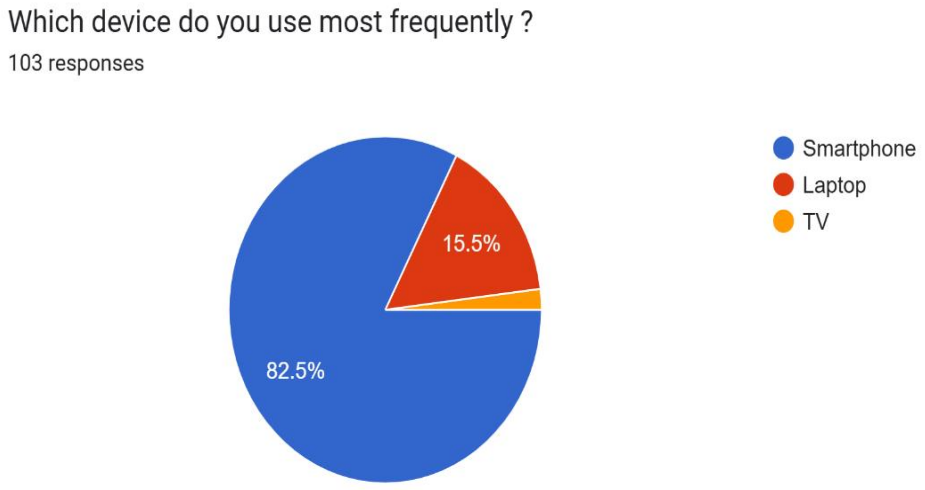


Fig.2: Question 2. Which device do you use most frequently ?

From the data, Smartphone is the most used device with 82.5% of the respondents using it for their screen time. Laptop/TV is not far behind with 15.5% of the respondents. Smartphones are most widely used device in this generation and easily accessible. Excessive smartphones use can negatively impact adults in varies ways including physical health issues, mental health problems, and social consequences. Psychological effects on smartphones use can activate the brain's reward system releasing dopamine. It triggers the body's stress response, releasing cortisol. It impact on self-esteem particularly through social comparison.

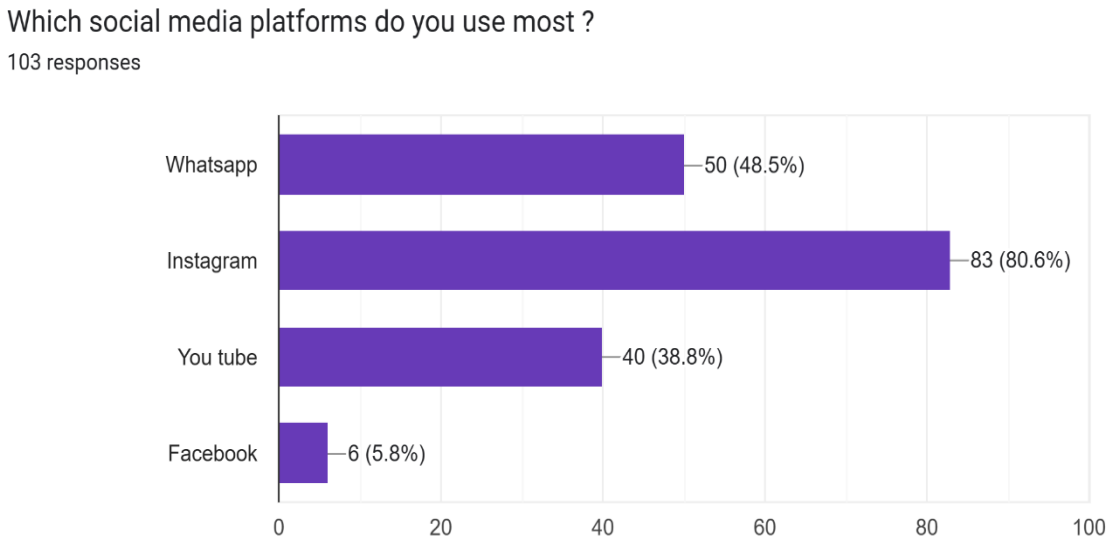


Fig.3: Question 3. Which Social media platforms do you use most ?

83 out of 103 respondents (80.6%) remarked that their majority of screen time is spent on Instagram. This clearly shows that the majority of respondents spending time on Instagram. 50 out of 103 respondents (48.5%) remarked that their majority of screen time is spent on Whatsapp, 38.8% of the respondents spend majority of screen time on Youtube whereas 5.8% of the respondents spend their screen time on Facebook. Now a days Instagram has become most commonly used social media by all the age group. Instagram's features with design like likes and comments are very addictive and leading to excessive use Instagram. Teenagers particularly vulnerable to the negative impacts of social media as they are still developing their sense of identity and self-esteem. Young adults particularly vulnerable to the negative impacts of social media as they are experiencing stress, anxiety and other mental health issues.

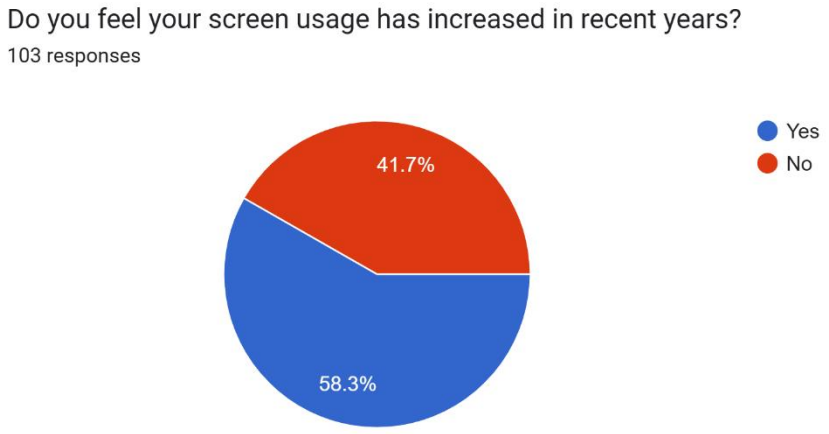


Fig.4: Question 4.Do you feel your screen usage has increased in recent years ?

103 respondents 58.3% remarked that their majority of screen time in recent years after the covid pandemic. Most of the respondents are the age between 18-24. Increased screen usage in recent years is primarily due to the rise of smartphones and the internet. The pandemic forced the shift towards remote work and learning. The screen time doubled from 3.8 hours to 7.7 hours a day after the pandemic. Smartphones, laptops and digital devices has made it easier for people to access screens and stay connected. This makes people to rely on screen for education, communication and entertainment. Mostly the brain can triggered by notification, updates and engaging content leading to compulsive use of smartphones.

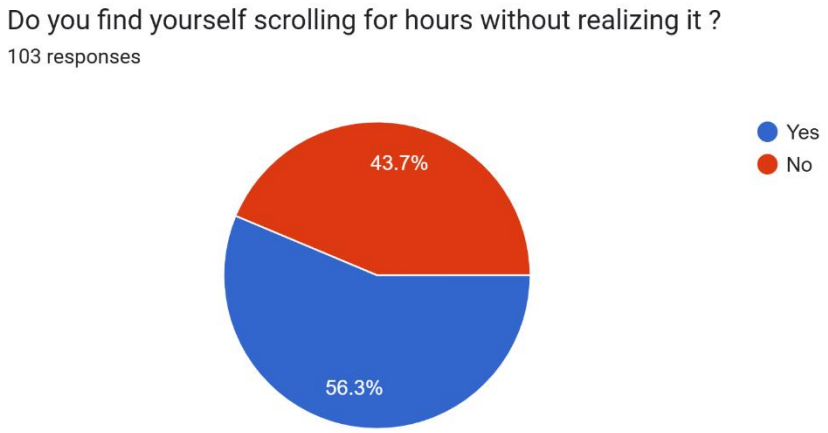


Fig.5: Question 5. Do you find yourself scrolling for hours without releasing it?

55 out of 103 respondents (56.3%) said that they found themselves on screen time scrolling for hours without realizing it. 48 out of 103 respondents (43.7%) said that screen time has no impact on their scrolling for hours. The impact on scrolling for hours leads to negative feelings such as depression and anxiety and social isolation. Prolonged screen time can cause eye strain, dryness and irritation. Excessive screen time can contribute to a sedentary lifestyle increasing the risk of obesity, diabetes and cardiovascular disease. Cognitive impacts like information overload, scrolling through vast amount of information can lead to information overload making it difficult to process and retain information. Decreased critical thinking , Excessive can reduce critical thinking skills individuals may rely on surface-level information rather than engaging in deeper analysis.

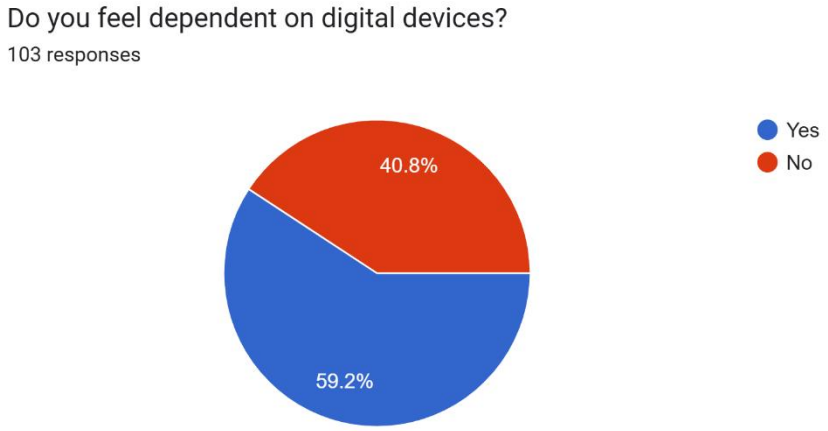


Fig.6: Question 6. Do you feel dependent on Digital Devices?

58 out of 103 respondents (59.2%) said that they are dependent on digital devices. 45 respondents (40.8%) said that they are dependent on digital devices. This dependence can make it hard to focus on work, school, or other task without the presence of mind. Key symptoms like anxiety or irritability can cause when a device is not available or restricted. This can negatively impact academic performance and job performance due to reduced focus and increased distraction. Losing interest in activities that were once enjoyed due to digital device use. Dependence on digital devices provide instant access to information, entertainment and social connection. Social media on digital devices can provide social validation which can lead to dependence on the feedback and approval of others.

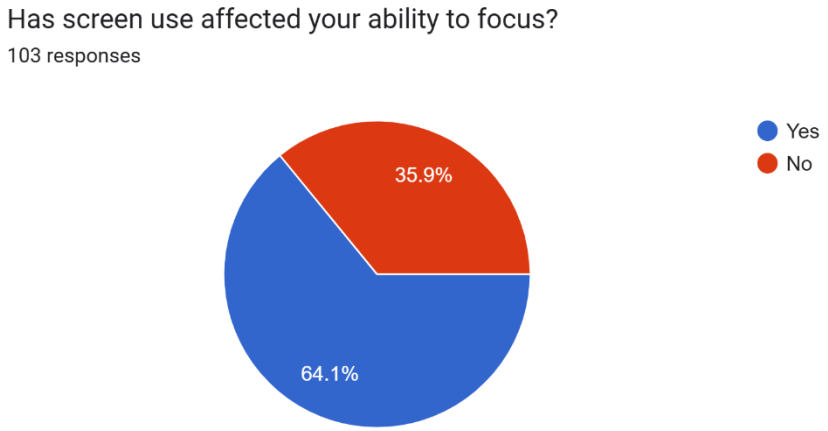


Fig.7: Question 7. Has Screen use affected your ability to focus?

65 out of 103 respondents (64.1%) said that excessive screen time affected their ability to focus on day to day works, responsibilities. The increase in screen time has negatively affected their efficiency at work/academics. 38 respondents (35.9%) said that their efficiency at day-to-day work, responsibilities has not been affected by an increase in screen time. Excessive screen use can negatively impact on adults to focus and concentrate due to sensory overload, attention and mental health. This making it difficult to process and retain information especially when it comes to sustained focus and attention and impact on cognitive function like memory, attention and impulse control and also leads to concentration problems.

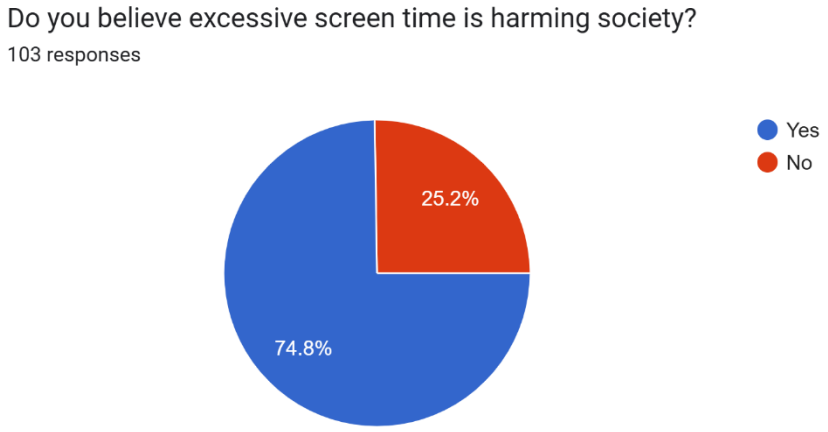


Fig.8: Question 8. Do you believe Excessive Screen Time is harming society?

76 out of 103 respondents (74.8%) said that excessive screen time is harming society like avoiding responsibilities, not engaged with physical activities and not socially attached with peoples. 27 out of 103 respondents (25.2%) said that excessive screen time is not harming society. Excessive screen time can negatively impact individuals and society by affecting physical and mental health as well as social skills and academic performance. Reduction of physical activity contributing to obesity and other health problems, Eye strain and Headaches and Sleep disturbances. Symptoms like Anxiety and Depression particularly in young people. And leading

to difficulties in communication and building relationship. Behavioral problems such as aggression, poor impulse control and difficulty in focusing.

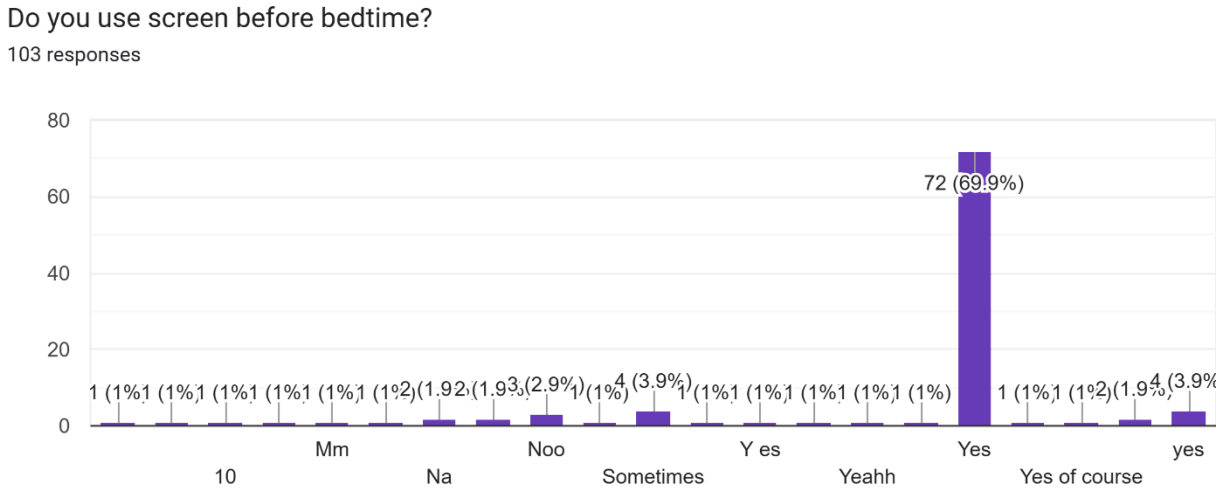


Fig.9: Question 9. Do you use Screen Before Bedtime?

72 out of 103 respondents (69.9%) using screens before bedtime. This negatively impacts sleep by increasing the time it takes to fall asleep, disrupting sleep and reducing sleep duration. Screen time before bed can lead to headaches due to eye strain or blue light exposure. The psychological effects like impact on relaxation, screen time before bed can interfere with relaxation and unwinding making it harder to fall asleep. This increase alertness and make it harder to wind down, leading to difficulty falling asleep. Poor sleep quality and duration can negatively impact mood, leading to increased irritability, anxiety, and depression. Impact on cognitive function including attention,

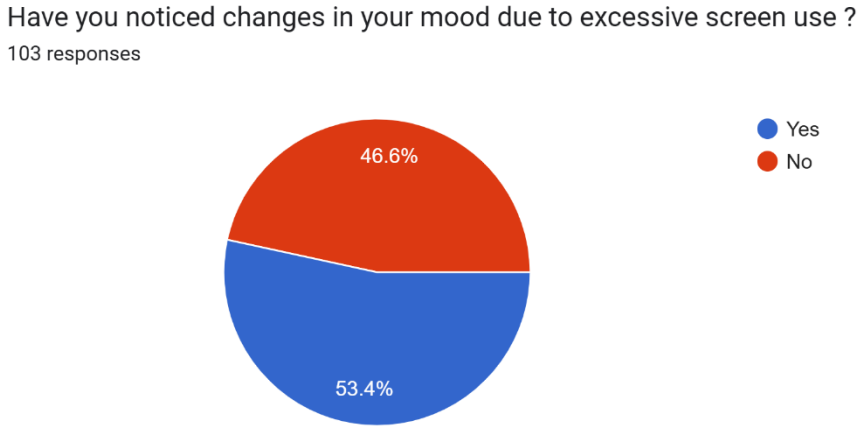


Fig.10: Question 10. Have you noticed changes in your mood due to Excessive Screen Use?

56 out of 103 respondents(53.4%) noticed that their mood changes due to Excessive Screen use. This negatively impact mood changes like increased irritability, frustration, anxiety and stress, depression and mood swings. Mood swings can be a normal response to stress or hormonal shifts, but they can also signify a mental health disorder like Borderline Personality Disorder or Bipolar Disorder.

CHAPTER 7

RESULT AND DISCUSSION

- 86.4% of the respondents have easy access to digital devices. Easy access to digital devices provides convenience and accessibility to information, services, and connections. Easy access to digital devices can lead to addiction, negatively impacting mental and physical health. Constant notifications and alerts can be distracting, decreasing focus and productivity
- 62.1% of the respondents spends screen time for 2-6 hours per day. Physical Health Impacts like Eye strain and fatigue for prolonged screen time can cause eye strain, dryness and irritation. Posture-related issues like poor posture while using screens can lead to back, neck and shoulder pain.
- 82.5% of respondents use smartphones. Smartphones can help people stay connected with friends and family, potentially reducing feelings of loneliness. Smartphones are isolating the individuals from social activities and dumping the presence of mind.
- 44.7% of respondents are not tracking the screen time usage. 32% of respondents tracking the screen time for sometime. Increased risk of addiction for not tracking screen time can lead to excessive use and addiction. Sleep disturbances for not Unmonitored screen time can disrupt sleep patterns. Decreased productivity for Excessive screen time can decrease productivity and focus. Time management issues for not tracking screen time can lead to poor time management.
- 80.6% respondents use Instagram. Excessive Instagram use can contribute to social isolation. Over reliance on Instagram can lead to decreased face-to-face interaction. Instagram can be a platform for cyberbullying. Users may experience online harassment.
- 58.3% of the respondents feel that their screen time has increased in recent years. With work from home culture and education being imparted through screens, serious differences can be seen with respect to screen usage has increased in recent years. With the significant increase in screen time from the covid pandemic, there is an increase in a sedentary lifestyle.
- 56.3% of respondents found themselves scrolling for hours without releasing it. This negatively impacts on social isolation as individuals spend more time interacting with screens than with hours. Reduced face-to-face interaction can lead to decreased empathy and understanding of others.
- 53.4% 0f respondents noticed changes in their mood due to excessive screen use. Negative mood changes like increased irritability, frustration, anxiety and stress, depression and mood swings.
- 59.2% of respondent felt themselves dependent on digital devices. The negative consequences are mental health impact on feeling anxious or uneasy when unable to use digital devices. Neglecting responsibilities such as work, school, or relationships, due to digital device use. Losing interest in activities that were once enjoyed due to digital device use. Mitigation strategies like setting boundaries for limiting the digital use, practicing mindfulness to increase awareness of digital device use, engaging in offline activities such exercise, reading or spending time with family and friends.
- 64.1% of respondent said that screen use affected their ability to focus. Frequent notifications can distract and decrease focus. Multitasking switching between apps and screen can decrease productivity. Lack of boundaries not setting limits on screen use can lead to excessive use.
- 74.8% of respondents believe that excessive screen time is harming society. Excessive screen use can lead to Decreased community engagement on participation in community activities. It also leads to negatively impact relationships.
- 55.3% of respondents felt addicted to their digital devices. Feeling sign of addiction like Excessive use spending increasing amounts of time on digital devices. Withdrawal symptoms experiencing anxiety or irritability when unable to use devices. Neglecting responsibilities due to device use. Losing interest in activities due to device use. FOMO (Fear of Missing Out) The fear of missing out on important information, events, or social interactions can drive dependence on digital devices.

Psychological Impacts

Cognitive and Neurological Effects

- **Cortical Thinning**: High screen usage, particularly among young adults, has been associated with thinning of the cerebral cortex—the brain region responsible for memory, decision-making, and problem-solving. This structural change may impair learning and cognitive flexibility.

- **Reduced Attention Span**: The phenomenon known as "popcorn brain" describes the fragmented attention and diminished focus resulting from constant digital stimulation and multitasking. This state can hinder deep thinking and sustained concentration.

- **Neuroplastic Atrophy**: Engaging in prolonged passive consumption of trivial online content, often termed "doomscrolling," can lead to neuroplastic atrophy. This condition reduces cognitive abilities, attention spans, and memory.

Mental Health Impacts

- **Increased Depression and Anxiety**: Studies have shown that adults spending over six hours daily on screens are more likely to experience symptoms of depression and anxiety.

- **Stress and Behavioral Dysregulation**: Continuous exposure to screens can elevate stress levels, cause behavioral dysregulation, and decrease social abilities.

- **Technostress**: This term refers to the stress induced by an inability to cope with new computer technologies in a healthy manner. It encompasses feelings of anxiety, mental fatigue, and a compulsive need to stay connected.

Sleep Disruption

- **Melatonin Suppression**: Exposure to blue light from screens, especially before bedtime, can suppress melatonin production, leading to difficulties in falling asleep and reduced sleep quality.

- **Reduced REM Sleep**: Disrupted melatonin cycles can interfere with REM sleep, essential for memory consolidation and emotional regulation.

Social and Emotional Impacts

- Emotional Disconnection: Excessive screen time can lead to emotional disconnection and miscommunication within relationships, particularly among significant others.

- Social Isolation: Overreliance on digital interactions may reduce face-to-face engagements, contributing to feelings of loneliness and social isolation.

The Psychological theory of Excessive Screen Time and Digital Addiction

1. Cognitive-Behavioral Model (CBM)

This model posits that maladaptive thoughts and behaviors contribute to problematic internet use. Individuals may use screens to escape negative emotions or stress, reinforcing avoidance behaviors and leading to a cycle of dependency. CBM is foundational in understanding Internet Addiction Disorder (IAD), where cognitive distortions and poor coping strategies play significant roles.

2. Interaction of Person-Affect-Cognition-Execution (I-PACE) Model

The I-PACE model suggests that addictive behaviors, such as excessive screen use, result from interactions between personal traits (e.g., impulsivity), emotional states (e.g., anxiety), cognitive responses (e.g., attention biases), and executive functions (e.g., inhibitory control). This comprehensive framework helps explain how individual differences and emotional factors contribute to digital addiction.

3. Operant Conditioning and Reward Systems

Digital platforms often employ variable reward schedules, similar to those in gambling, to reinforce user engagement. Features like notifications and likes provide intermittent reinforcement, releasing dopamine and strengthening habitual screen use. This mechanism can lead to compulsive behaviors akin to substance addiction.

4. Self-Determination Theory (SDT)

SDT emphasizes the human need for autonomy, competence, and relatedness. Excessive screen time may fulfill these needs superficially, such as through online social interactions or achievements in games. However, overreliance on digital means can undermine genuine satisfaction and well-being, leading to decreased motivation and mental health issues.

5. Social Comparison Theory

This theory explains how individuals assess themselves by comparing to others. Social media platforms often showcase curated, idealized content, prompting users to make upward comparisons. Such comparisons can lead to feelings of inadequacy, low self-esteem, and increased anxiety or depression.

6. Displacement Hypothesis

The displacement hypothesis suggests that time spent on screens displaces other beneficial activities, such as physical exercise, face-to-face interactions, and sleep. This displacement can negatively impact mental health by reducing opportunities for stress relief and social support.

7. Popcorn Brain Concept

Coined by researcher David Levy, "popcorn brain" describes the cognitive state resulting from constant digital stimulation. Individuals may experience difficulty focusing on slower-paced activities or real-life interactions, leading to reduced attention spans and increased restlessness.

8. Negativity Bias and Doomscrolling

Negativity bias refers to the human tendency to focus more on negative information. This bias can lead to "doomscrolling," where individuals compulsively consume negative news online, exacerbating feelings of anxiety and depression.

CHAPTER 8

CONCLUSION

The aim of this research was to understand the health effects arising out of screen time and Digital Addiction. The analysis of the data collected yielded quite a few points of discussion. We see that older age groups have less screen time compared to the younger age groups, older age groups also prefer to watch content on television instead of a mobile phone or a laptop. The age between 18-24 who often spend extensive hours on smartphones and other devices for purposes such as social media, entertainment, and academic or professional tasks. When it comes to screen time, the pandemic has definitely made a significant impact. The study highlights that frequent use of digital devices can lead to adverse effects on mental health, physical health, sleep quality, and overall productivity. With the increase in screen time, physical health effects are seen among the respondents. Headaches, Eye strain, back/neck pain, sleep deprivation, and lowered physical fitness were the major physical health effects respondents. however,

respondents did believe that they would be happier and their efficiency at work/academics would increase with lesser screen time. It was also seen that the respondents prefer spending time with friends and family rather than watching their favourite television program. The findings of my research showed that majority of respondents felt that it was important to set a goal in order to reduce screen time. The ways in which lesser screen time could be achieved included exercising more, spending more time with family, and finding new hobbies. By finding a balance with technology, we can reduce its negative effects and improve our lives. Ongoing research and proactive strategies will help ensure technology benefits us.

CHAPTER 9

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