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Research Paper

Effects of Digital Overload on Attention Span among Gen Z

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ABSTRACT

The current research discussed the effects of digital overload on the attention span of Gen Z people in the age group of 18-25 years. The sample was chosen based on 300 participants with the convenience and snowball sampling methods. Digital Stress Scale, Smartphone Addiction Scale, Adult ADHD Self-Report Scale, and Cognitive Failures Questionnaire as standardized tools were customized and carried out. Descriptive statistics and Pearson correlation were used to analyse data. The results indicated that there were strong positive relationships between digital stress, smartphone addiction, attention deficiency symptoms, and cognitive failures. The findings show that when digital overload is high, the attention span decreases and there is a rise in the incidence of cognitive lapses and there is a necessity to promote a healthy digital usage pattern.

Keywords: *Digital overload, attention span, Gen Z, smartphone addiction, cognitive failures*

Generally, the high rate of community population, the digital technology has fundamentally transformed communication, learning, working, and interaction of people with the surrounding environment (Rosenet al., 2013; Ward et al., 2017). In the last twenty years, computer programs (i.e., smartphones, tablets, laptops, and persistent internet connectivity) have been an unavoidable element of everyday life (Ophir et al., 2009). Although such developments have made information more accessible and convenient, they have also come with novel psychological issues. Another issue that has become one of the biggest concerns in the modern society is the digital overload, especially on the side of the younger generations that grew up in an even more digitized world (Uncapher et al., 2017).

The last few years have witnessed unprecedented transformation in India in the digital era. Efforts like allowing cheap phone purchases, cheap internet providers, online learning, digital banking, and the growth of social media have led to the high penetration of technology in urban and semi-urban areas (IAMAI, 2022). This digital boom has already contributed greatly to the lifestyle of the Indian youth and Generation Z in particular, as Generation Z, up till now, is the first generation of people growing up in a fully digital world

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(Prensky, 2001; Twenge, 2017). Digital interaction is not a tool but more of a part of everyday operations to this generation.

Digital devices have found a wide application in the academic life, socialization, entertainment, information seeking and professional growth of the Indian Gen Z population (Rosenet al., 2013). The online classes, competitive examination preparation applications, social networking, streaming, and instant messaging applications have smoked the borders between work, leisure and rest. Although moderate digital interaction can be adaptive, overuse and uncontrolled use in most cases result in a state of constant cognitive stimulation, an aspect of digital overload (Chen et al., 2020).

The concept of digital overload can be perceived to be a state of a person being overexposed to digital information, digital notifications, multitasking requirements, and activities that happen through the screen more than they can handle through their cognitive processing (Mark et al., 2018). Online engagement is further increased by the influence of academic pressure, competitive employment opportunities, fear of missing out (FOMO), and social validation by means of online platforms in the Indian context (Meena et al., 2025). Consequently, people can feel mentally exhausted, stressed, irritated, not as focused as previously, and not able to switch off the digital devices (Rosen et al., 2013; Hartanto and Yang, 2023).

Attention span is among the cognitive areas in which digital overload has the most ramifications. Attention span can be defined as the ability of a person to pay selective attention to the appropriate stimulus as well as maintaining concentration within a given duration of time (Posner and Petersen, 1990). Psychologically, attention is a primitive mental activity that allows many other functions to occur that include learning, memory, decision-making, problem-solving (Broadbent, 1982). Any interference with the attentional functioning may as such have far-reaching consequences on academic performance, career productivity, and general psychological health.

In the past few years, questions raised have been on a definite decline in sustained attention in the young adults. Alterations between applications, constant communication, brief digital information, and quick information consumption habits promote divided and fragmented attention (Ophir et al., 2009; Ward et al., 2017). The supremacy of social media reels, short videos, and instant messaging tools among Gen Z Indian residents encourages rapid attention changes as opposed to long-term involvement in one activity (Poles, 2025). With time, these patterns can lead to the impaired ability to be attentively sustained, and society becomes more distracted and cognitively incapacitated in their daily life (Uncapher et al., 2017).

The problem of attention among overloaded individuals who are digitally obsessed is usually similar to forgetfulness, mind-wandering, task-incompleting, and low academic performance (Boradbent et al., 1982; Hartanto and Yang, 2023). These problems do not always reflect against the clinical disorders though they can greatly affect the daily functioning. At the academic tier, Indian students have come to wade expenses of balancing between online instructing applications, electronic courses and constant usage of social networks, which might lead to more deterioration in their attentional funds (Rosen et al., 2013). That forms a very disturbing loop in which digital tools that are meant to improve productivity can actually lead to attentional depletion.

Though the world has started the investigation of the correlation between use of digital technology and attention, there is a high necessity to orient the achievements of the study to the Indian socio-cultural context (Chenet al., 2020). India poses particular issues, such as the intense academic competition, a growing screen-time at a very young age, and the lack of knowledge about the healthy digital behaviour (Meena et al., 2025). Besides, the norms regarding cultural technological use tend to make the extended screen-time a rather normal occurrence, and it is hard to realize that the digital overload can be deemed as a possible psychological issue. In case of Gen Z people between the age of 18-25 years, who are striving to excel in higher education, career choices and identity, there has been long-term impacts on personal and career performance due to poor attention (Twenge, 2017).

The current research attempts to analyze the impact of digital overload on attention span in GenZ population within the age group of 18-25 years. The study will add empirical data to an emerging field of investigation in Indian psychology by concentrating on some variables including the stress experienced by people via digital means, smartphone addiction, cognitive failures, and difficulties in concentration. Knowing this connection is crucial to the creation of the awareness, preventive measures, and psychological intervention specific to young adults in the digitally overwhelmed world.

Need for the Study

The tendency of applying digital technology by Indian Gen Z is getting more and more common, which is why it is becoming a matter of concern with respect to its psychological effect, especially the influence of cognitive processes. No empirical research has been conducted on the issues of digital overload specifically on the span of attention in the Indian context, despite the widespread presence of digital interaction. The majority of the existing studies are rather general in their views on screen-time and do not assume a multidimensional approach, including digital stress and cognitive failures. Due to the academic, employment, and psychological health concerns related to having poor attention, it is urgently necessary to investigate this connection systematically among the youth of Indians. The results of the present research can assist educators, mental health specialists, and policymakers to appreciate digital overload as a serious psychological issue and promote more healthy digital habits.

Scope of the Study

The proposed research is restricted to the general population of Gen Z young people between 18-25 years. The research aims at investigating the correlation between the digital overload and the attention span through the standardised psychological test. It is not focused on diagnosing clinical attention disorders, but aims at comprehending attention related issues under non-clinical conceptualization. This study can be used in future research, sensitization initiatives, and interventions on digital well-being of young adults in India.

REVIEW OF LITERATURE

Meena, Badgujar, and Meena (2025) carried out research on the relationship between the screen-time and attention capacity in students. The purpose of the research was to investigate the connection between the amount of time spent on the screen and the capacity to pay attention. A sample of 200 students was used in carrying out the study. The measurement instruments were a questionnaire of screen-time and attention assessment scale. The findings have shown that there is a moderate negative relationship between the screen-time and attention span meaning that the higher the digital involvement, the lower the attentional ability.

The study by Zhang, Wu, and Chen (2024) focuses on the digital media overload and sustained attention in the university students. The purpose of the research was to investigate the parameters between over-indulgence in digital media and attentional ability. The research was applied to a group of students in the university (N = 312). These instruments were a digital media use questionnaire and sustained attention performance functions. The findings were that greater magnitude of digital media overload was largely related with less sustained attention and more distractibility.

The study by Patil and Sharma (2024) has explored the problem of addiction to smartphones and attention span in young adults in India. The objective of the research was to determine the impact smartphone problematic use has on attention. A sample of 280 students of Indian colleges was utilized. These tools were the Smartphone Addiction Scale – short version (SAS – SV) and an attention span questionnaire. The results showed that there was a negative relationship between the addiction of smartphones and attention span, which showed that as people use smartphones excessively, they were also impaired in their ability to pay attention.

The study by Lee, Kim, and Park (2023) concerned digital multitasking and cognitive overload. The purpose of the experiment was to investigate the impact of multitasking by using digital devices on cognition and attention. 198 young adults were the sample used in the study. Digital multitasking frequency scales and attention performance tests were the instruments that were employed. The outcomes presented revealed that the frequency of multitasking was positively correlated with worse attentional control and higher cognitive load.

Wang and Li (2022) examined the exposure to the screen, cognitive fatigue, and attention span. The purpose of the research was to investigate the effect of a long-term screen-time on attention. A group (260) of undergraduate students was used in the study. The monitors were the screen-time self-report questionnaires and cognitive fatigue and attention assessment scales. The results have shown that an extended screen-time corresponded to an increased cognitive fatigue and decreased attention span.

The article by Kaur and Singh (2022) is an Indian study of digital stress and attentional problems in college students. The purpose of the research was to study how digital stress is connected with attention. It was carried out among 300 Indian college students. They had the Digital Stress Scale as well as attention difficulty questionnaires. The outcome showed that upper digital stress was substantial in predicting attentional issues and problems of concentration.

Bhandari and Mehta (2021) have studied cognitive failures and overuse of technology among young adults. The purpose of the research was to evaluate the correlation between the high usage of technology and daily cognitive failures. A sample of 245 young adults was used in the study.
The instrumentation applied was the Cognitive Failure Questionnaire (CFQ) and technology-uses scales. The results revealed that the more technology is overused, the more cognitive failures and attentional lapses take place.

In their study, Dhir et al. (2020) examined social media online fatigue and a cognitive outcome. The objective of the research endeavour was to study the effect of social media over-indulgence as a cause of intellectual fatigue and attentional issues. This sampling

carried out on 405 students in an university. The measurement scales revealed that the more the social media fatigue, the worse the attention and mental exhaustion was.

Rosen et al. (2019) have carried out a study on the technology interference and attentional functioning. The purpose of the research was to investigate the impact of an interruption of digital nature on attention levels. This involved 301 young adults as sample. The scales included technology interference scale and attention-performance scales. The results showed that a high frequency of digital interruption greatly diminished continuous attention and performance of different tasks.

Tams, Hill, Ortiz de Guinea, Thatcher and Grover (2018) carried out the study with the title "NeuroIS – Alternative or Complement to Existing Methods?" and concentrated on the technological stress and mental fatigue. The objective of the research was to test the impact of stress induced by technology on mental performance. The research was done in a population of 110 people. The instruments were technostress scales, cognitive workload tests, and performance-based attention tests. Results showed that high technostress grossly deteriorated the attentional performance and augmented cognitive fatigue, which established cognitive expenses of enduring demands of digital needs.

The article by Kushlev, Proulx, and Dunn (2017) goes by the name: "Silencing Your Phones: Smartphone Notifications Increase Inattention and Hyperactivity Symptoms". The research objective was to explore whether the frequent smartphone notifications are a source of attentional challenges. A sample population (221 adults) was used in the study. The methods employed were self-reported measures of inattention and hyperactivity, smartphone notification manipulation task and behavioural attention. The findings showed that participants who received numerous notifications were much more inattentive and distractible, which implies that digital distractions have a harmful effect on long-term attention.

The research article of Ward et al., (2017) was called "Brain Drain: The Mere Presence of One Smartphone Reduces the Available Cognitive Capacity". The intention was to determine the impact of the presence of smartphones on attention and working memory. A total of 520 participants were used in the study in the different experiments. The assessment instruments were working memory exercise and attention-oriented cognitive assessment. The findings proved that the attentional capacity was lower than otherwise, due to the simple presence of a smartphone, even when it was not in use.

The study by Uncapher et al., (2017) involved a study of multitasking on the media and attention. The objective of the research was to explore the effects of the rapidly evolving digital media on long-term concentration. The sample used was comprised of 262 students in the university. The instruments were Media Multitasking Index and the cognitive attention tasks. The results indicated that heavy media multitaskers had poor sustained attention and less cognitive control.

The study by Kushlev et al. (2016) was dedicated to digital communication in case of overload and attentional functioning. The objective of the research was to study the impact of the constant digital communication on stress and attention. A sample of 136 working adults was used in carrying out the study. The measures employed were communication frequency logs, perceived stress scale, and attention-based self-report measures. It was revealed that the high levels of digital communication were found to elevate stress levels as

well as decrease perceived attentional control pointing at attentional strain caused by digital overload.

The article by Hadlington (2015) was called "Cognitive Failures in Daily Life: The Connection between Internet Addiction and Multitasking". The objective of the research was to analyze how problematic use of the internet and multitasking are related to cognitive failures. A sample of 210 adults was used in the study. The measures used were the Internet Addiction Test (IAT), Cognitive Failure Questionnaire (CFQ), and multitasking behaviour scales. The results showed that an increase in problematic internet-use greatly interacted with cognitive breakdowns, such as attention and memory failures.

Montag, B blaszkiewicz, Sariyska, Lachmann, Andone, and Markowetz (2015) researched on "Smartphone Usage in the 21st Century: Who is Active on Whatsapp?". The objective of the research was to discuss smartphone use patterns and cognitive correlates. There was a sample of 418 smartphone users in the study. The measures were objective smartphone usage monitoring applications and self-report attention and impulsivity questionnaires. The findings showed that the excessive use of smartphones was linked to an increase in distractibility and lack of attentional control.

The article by Stothart, Mitchum, and Yehnert (2015) investigates the reasons for the disparity between boys and girls among 11-15-year-old boys in the U.S. The paper by Stothart et al. (2015) is called "The Attentional Cost of Receiving a Cell Phone Notification". The objective was to investigate the effects of smartphone notifications on attention. A total of 221 undergraduate students were used in the study. Computer-based attention tests and fake notifications were applied as the tools. The outcomes revealed that short messages were also causing a lot of disturbance in terms of attention and task accuracy.

Srivastava et al. (2015) researched on creators of technostress and job results. The objective was to study the impact of digital workload on well-being and performance. The researchers carried out the research on 210 professionals. The impressers were the Technostress Creators Scale and the questionnaires of job outcome. The results showed that high technostress was associated with reduced concentration and attentional problems.

Ravindran et al. (2014) examined the fatigue of social networks. This was meant to observe the impact of overuse of social networking resulting in cognitive exhaustion. A total of 265 users of social media were used in the study. The social network fatigue scales and engagement measures were utilized. The results demonstrated less cognitive activity and inability to maintain attention.

Misra et al. (2014) carried out a research on the use of smartphones in classrooms and student attention. It was intended to look at smartphone multitasking and sustained attention. The research sample involved 118 college students. Smartphone use questionnaires and observation of classroom attention were the instruments employed. It showed reduced long-term attention and increased smartphone multitasking.

Rosenet al. (2013) investigated the digital distractions and academic performance. The objective was to determine the effect of interruptions caused by smartphones on attention. There were 43 participants (undergraduate students) in the study. The instruments were task

learning exercises and observational distraction scales. The results displayed a markedly worse performance concerning attention demanding tasks.

The study by Riedl et al. (2012) was done on the neurobiological effects of technostress. The goal was to research by physiological stress reactions to digital saturation. 40 participants were used in the research. These instruments were cortisol and stress-inducing computerized simulations. The findings indicated increased stress-related reactions which have an adverse impact on concentration ability.

Junco and Cotten (2012) explored the topic of digital multitasking and academic success. This was to study the attention in multitasking. A total of 1,839 undergraduate students were used in the study. The instruments were the surveys on media multitasking and academic performance indicators. The results indicated less sustained attention and worse academic results.

The study undertaken by Ophir et al. (2009) was titled as "Cognitive Control in Media Multitaskers". The purpose was to investigate the differences in attentional control of heavy and light multitaskers. A total of 262 participants were surveyed and 41 of them were in the laboratory testing. The instruments were Media Multitasking Index and attention control tasks. The findings revealed that there was very bad sustained and selective attention in heavy multitaskers.

Ragu-Nathan et al. (2008) studied technostress and work results. The focus of the study was to determine the effect of technological demands on stress and performance. The sample used in the study consisted of 233 information system users. They were Technostress Creators Scale and job performance measures. The results demonstrated the elevated level of stress and impaired attention capacity as the results of techno-overload.

According to Tarafder et al. (2007), there are creators of technostress. This was done in an attempt to discuss factors that lead to technostress. The study included 233 users. The measures applied were technostress scales and performance appearance. The findings showed less concentration and a higher amount of cognitive burden because of online overload.

A groundbreaking study of cognitive failures was carried out by Broadbent et al. (1982). The purpose was to evaluate the daily lapses in attentional processes. The study included 300 adults. The questionnaire applied was the Cognitive Failure Questionnaire (CFQ). The results attributed attentional lapses and distractibility to high cognitive failures.

METHODOLOGY

Problem Statement

The investigation was conducted to determine how digital overload influences attention span in the Generation Z individuals aged between 18-25 years.

Aim

To examine how the attention span of the Gen Z individuals aged between 18 and 25 years are impacted by digital overloads.

Objectives

- To investigate the level of digital overload among Gen Z individuals.

- To investigate the level of attention span among Gen Z individuals.
- To investigate the relationship between digital overload and attention span among Gen Z individuals.
- To investigate the relationship between digital stress, smartphone addiction, cognitive failures, and attention-related difficulties.

Hypotheses

- **H_0:** There will be no significant relationship between digital overload and attention span among Gen Z population.
- **H_1:** There will be a significant relationship between digital overload and attention span among Gen Z population.
- **H_2:** There will be a significant relationship between digital stress and attention span among Gen Z population.
- **H_3:** There will be a significant relationship between cognitive failures and attention span among Gen Z population.

Variables

- **Independent Variables:**
  - Digital overload
  - Digital stress
  - Smartphone addiction
- **Dependent Variable:** Attention span
- **Associated Variable:** Cognitive failures

Research Design

The present study adopted a quantitative, correlational study to examine the relationship between digital overload and attention span among Gen Z individuals without manipulating any variables.

Sample Size and Sampling Technique

- The study includes a sample of 300 participants aged between 18-25 years.
- Participants will be recruited using a combination of convenience sampling and snowball sampling.

Inclusion Criteria

- Individuals aged between 18-25 years.
- Individuals who use digital devices such as smartphones, laptops, or tablets regularly.

Exclusion Criteria

- Individuals below 18 years and above 25 years of age.
- Individuals undergoing treatment for clinical attention-related disorders.
- Individuals who refuse to participate or do not complete the questionnaires.

Measures

- Digital Stress Scale (DSS) – Argyriadi et al., / 2025
- Smartphone Addiction Scale – ShortVersion (SAS–SV) – Min Kwon, Lee & Co. / 2013
- Adult ADHD Self-Report Scale (ASRS-v1.1) – Ronald C. Kessler, Lenard A. Adler, Thomas J. Spencer / 2005

- Cognitive Failures Questionnaire (CFQ) – Donald E. Broadbent, Paul F. Cooper, Peter FitzGerald, & K. R. Parkes / 1982

Tool Description

- **Informed Consent form and Confidentiality Statement:** The researcher prepared the informed consent form to inform and seek voluntary participation given the purpose of the study. The identity and the response of the participants were guaranteed to remain confidential.
- **Socio Demographic Profile:** Socio demographic profile was generated for collecting necessary information like Name, Age, Gender, educational qualification, occupational status.
- **Digital Stress Scale (DSS):** Digital Stress Scale is a scale that is used to estimate the amount of stress caused by overload of digital respondence, constant connection, and technology pressure.
- **Smartphone Addiction Scale – Short Version (SAS–SV):** This scale measures detrimental smartphone/mobile phone dependency and use. The more the scores are high, the higher the levels of attachment to smartphones.
- **Adult ADHD Self-Report Scale (ASRS-v1.1):** ASRS-v1.1 is a standard self-report measuring assessment tool that can be used to identify attention-related challenges and symptoms pertaining to inattention in adults.
- **Cognitive Failure Questionnaire (CFQ):** The Cognitive Failure Questionnaire is a measure of cognitive slips that common people encounter everyday including forgetfulness, distractibility, perception and action failures.

Statistics Used

Data will be analyzed using Statistical Package of the Social Science (SPSS). The variables will be summarised through the use of descriptive statistics and the Pearson correlation coefficient will be used to compare the relationship between digital overload and attention span.

Sources of Data

Primary sources used to gather data in the current investigation will be standardized questionnaire in self-report format that will be distributed among participants aged between 18-25 years as Gen Z.

Procedure

The sample size used will be 18-25 years of age and will be selected by the convenience sampling and the snowball sampling. All the participants will be informed by giving them the informed consent before collecting the data. The age, gender, educational qualification and occupational status will be gathered as demographic data. The respondents will then be provided with the Digital Stress Scale (DSS), Smartphone Addiction Scale – Short Version (SAS – SV), Adult ADHD Self-Report Scale (ASRS-v1.1), and Cognitive Failure Questionnaire (CFQ). The data received will be compiled and analyzed with the help of the relevant statistical methods to investigate the connection between the digital overload and the level of attention.

Operational Definition

Digital overload

"Digital overload is considered to be too much exposure to digital information and technological demands that are out of the cognitive limits of an individual". **-Ragu-Nathan et al.(2008)**

Digital stress

"Digital stress is the psychological pressure which transpires after constant digital pressure, constant connectivity and very heavy techno-overload". **-Tarafder et al. (2007)**

Smartphone addiction

"Smartphone addiction is behavioural addiction that refers to compulsive use of the smartphone and an inability to control usage". **-Kwon et al. (2013)**

Attention span

"Attention span is described as the capacity to maintain concentration on an activity or stimulus throughout a period of time". **-Posner and Petersen (1990)**

Cognitive failures

"Cognitive failures are the daily lapses in the attention, memory, and action brought about by attentional blunders". **-Broadbent et al.(1982)**

RESULTS

The results and interpretation of the analysis is done to understand the impact of digital overload on attention span among Gen Z population.

Table 1 Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Digital Stress Scale Total	300	20	74	52.36	8.391
Smartphone Addiction Scale	300	13	54	35.25	7.436
Adult ADHD Self Report Scale	300	14	39	26.33	4.711
Cognitive Failure Scale	300	8	89	37.86	12.057
Valid N (listwise)	300				

Table 1 shows the descriptive statistics of the study variables. The findings show that the mean of the Digital Stress Scale was M=52.36 (SD= 8.39) which demonstrates that the level of digital stress among the respondents was moderate to high. The smartphone addiction scale reflected M= 35.25 (SD= 7.44) indicating the respondents had a relatively high level of smartphone dependency. On the same note, the Adult ADHD Self-Report Scale scored the mean (M)= 26.33 (SD= 4.71), thus showing moderate levels of attention challenges on their part. The mean score of the Cognitive Failure Scale was M= 37.86 (SD= 12.06) which implies that there is some variation in terms of cognitive lapses like forgetfulness, distractibility, and daily functioning errors. On the whole, descriptive statistics indicate that the sample has impressive rates of digital stress, smartphone addiction, attention-related problems, or cognitive failures, which justify the topicality of the relationships assessment between these variables.

Table 2 Correlational Analysis

Variables		Digital Stress Scale Total	Smartphone Addiction Scale	Adult ADHD Self Report Scale	Cognitive Failure Scale
Digital Stress Scale Total	Pearson Correlation	1	.702**	.606**	.547**
	Sig. (2-tailed)		.000	.000	.000
	N	300	300	300	300
Smartphone Addiction Scale	Pearson Correlation	.702**	1	.672**	.632**
	Sig. (2-tailed)	.000		.000	.000
	N	300	300	300	300
Adult ADHD Self Report Scale	Pearson Correlation	.606**	.672**	1	.743**
	Sig. (2-tailed)	.000	.000		.000
	N	300	300	300	300
Cognitive Failure Scale	Pearson Correlation	.547**	.632**	.743**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	300	300	300	300

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

Pearson correlation analysis (Table 2) demonstrated the presence of significant positive correlations between all the variables of the study. Digital stress was also positively related to smartphone addiction (r= .702, p< .01) and the implication is that the greater the digital stress, the greater the smartphone dependency. Also, digital stress was moderately positively correlated with attention deficiency symptoms (r= .606, p< .01) and cognitive failures (r= .547, p< .01) indicating that the higher the digital stress levels, the higher the attention related problems and cognitive failures. Attention deficiency symptoms (r= .672, p< .01) and cognitive failures (r= .632, p< .01) are also significantly positively related with smartphone addiction, which means that excessive smartphone use can also lead to the deterioration of attentional control and the development of everyday mental errors.

Moreover, the symptoms of the attention deficiency were shown to have a high positive association with cognitive failure (r= .743, p< .01), meaning that a person with more attention-related issues will be affected by frequent cognitive failures. Although, the results show that all the variables are significantly interconnected that supports the alternative hypotheses. The null hypothesis (H_0) asserting that the digital overload would have no significant relationship with the attention span is rejected. Significant relations were observed between digital stress and smartphone addiction (digital overload factors) and attention-related variables (attention deficiency symptoms and cognitive failures) in the sample of Gen Z making it to accept the alternative hypotheses (H_1, H_2, H_3).

DISCUSSION

The purpose of the current research was to explore the effect of online saturation on the attention of the Gen Z generation on the specific issue of digital stress and smartphone addiction, symptoms of attention deficiency, and cognitive lapses. The results indicated that all the variables had a great deal of positive associations, thus proving the hypotheses. Such findings indicate that digital overload is not an individual construct but an institution that

exists at various levels and influences not only the behaviours (e.g. smartphone usage) but also the cognitive processes (e.g. attention and memory). These strong inter-correlations suggest that when the exposure to digital environments is high it has a progressive impact on the capacity to perform attentional and daily cognitive functions in the youth.

With the findings, digital stress had a significant and positive relationship with smartphone addiction, symptoms of attention deficiency, and cognitive failures. This is gauged by the notion that those who are more unfazed by digital stress tend to indulge in uncontrollable use of smartphones and tend to have problems in their attention and frequent moments of lapse of cognitive ability. A potential reason of this observation can be explained by the concept of cognitive load, which assumes that high cognitive demands of information processing can be too many in relation to the limited cognitive resources of a particular person. The environment of constant and ongoing notification both in digital space and the stream of social information and overload of information can pose the attention over the course of the day, limiting the capacity to focus well and maximising the chances of mistakes in functioning in a daily environment.

Moreover, the positive relationship between smartphone addiction and attention deficiency symptoms is significant and implies the negative effect of high levels of smartphone usage on the attentional control. Constant multitasking, the rapid change of software and applications, and constant interruption can deteriorate the ability to maintain attention and grow impulsive behaviour, which is also typical of attention deficiency symptoms. Moreover, the results of addiction to smartphones turned out to be highly correlated with cognitive impairments, and this fact indicates that excessive use of devices is one of the factors behind daily mistakes in form of forgetfulness, distraction, and low efficiency of the work. This may be described in the context of attentional fragmentation whereby unending digital interruption affects the continuity of cognitive functioning and renders the inability of people to focus on a given activity over a long duration.

The closest relationship that was found in the study was between symptoms of attention deficiency and cognitive failures meaning that these people are more likely to have frequent cognitive lapses in their everyday life as a result of having more attention-related problems. This observation can be related to the current body of psychological research, which has stated that the deficits of executive functioning and the defect of attention control play a role in creating the cognitive inefficiencies. All in all, the results of the current research point out to the fact that digital overload has a tremendous influence in reducing attention span and contributing to cognitive failures in Gen Z people. The intimately related character of digital stress, addiction to the smartphone, and impairments in attention highlights the relevance of spreading healthy digital behaviour and informing people about the cognitive and psychological implications of overindulgent spending on the digital-world.

CONCLUSION

The current paper analyzed how digital overload affects attention span in Gen Z participants aged 18-25 years and concluded that there were strong correlations between digital stress and smartphone addiction with attention deficiency symptoms and cognitive failures. The results suggest larger scores of digital overload are correlated with greater difficulties in attention and daily lapses in cognitions and consequently dismiss the null hypothesis and prove the alternative hypotheses. The findings emphasise how too much use of digital technologies, manifested by continuous connection, the ability to multitask, and saturation of information can diminish the ability to focus attention and think effectively. In general,

the research can be added to the expanding literature on the subject of digital overload by highlighting the point that it is a major psychological issue among young adults, especially in the Indian context where digital presence is fast growing.

Limitations

- The research method was an aspect of cross-sectional and correlational study design, limiting the possibility of causality existence between digital overload and attention span.
- The self-report might be exposed to the response biases as social desirability and false self-perception.
- The sample was restricted to Gen Z representatives of the age category 18-25 years and was chosen on a convenience and snowball sample, which could have an impact on the applicability of the results to a wider population.
- The research failed to consider other factors that were likely to influence the results, including personality factors, sleep habits, or mental illnesses, which can also affect attention and cognitive abilities.

Recommendations

Depending on the results of the current research, the researcher concludes by suggesting that subsequent research should be conducted using longitudinal and experimental research designs to further prove the cause and effect relationship between digital overload and attention span. There is also a recommendation that further studies should take more representative and diverse samples of the study to enhance the extrapolation of results in other communities. In terms of the practical aspect, the researcher advises on how digital well-being should be promoted among Gen Zs, with special focus on such strategies as focusing on screen time, using notifications, and employing mindfulness in technology use. The researcher also suggests that both institutions and mental healthcare practitioners should actively engage in the research to establish awareness about the cognitive and psychological effects of over-digitization. Also, it is highly advised to develop and implement intervention programs to increase attention regulation and decrease cognitive overload to reduce the ill effects of the digital technology on young adults.

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Conflict of Interest

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