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A Study on Psychological Effects of Technology Addiction Positive or Negative

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A R T I C L E I N F O

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A B S T R A C T

This study investigates the psychological impact of technology addiction, focusing on gender differences in anxiety, perceived connectivity, and mental well-being. The study findings reveal a significant correlation between gender and levels of anxiety when separated from digital devices, suggesting that men and women experience different emotional responses to technology use. The study highlights the paradox of increased connectivity leading to feelings of isolation, prompting a re-examination of how technology impacts social relationships. The implications suggest the need for targeted interventions and educational programs to foster healthier technology habits and improve mental well-being. Future research should explore these dynamics further, taking into account diverse populations and the evolving technology landscape

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INTRODUCTION

In the 21st century, there has been an accelerated increase in technology which in turn has changed many aspects of human life. Noticeably, the most worried area of addiction, the usage of too much technology due to commonality of digital devices, has increased over the years (Vidani, 2015). There are numerous advantages and streamlined approaches that technology does offer, like more communication and wider access to information, nonetheless, their influence on the psyche is complicated with various repercussions both good and bad (Vidani & Solanki, 2015). This paper surveys the harmful aspect of technology addiction to the individual focusing on mental health, social interaction, and cognition of the addicted individual (Vidani, 2015).

The Increase in People's Technological Ability

With the introduction of the smartphone, social media and the internet has developed an atmosphere where people become mute rather inactive at any given time (Vidani, 2015).The average person, with a smartphone has been seen to spend more than 7 hours in a day interacting with various technologies. This figure is even more skewed towards the younger demographics, as they are the ones mostly on more than one screen at any one time(Vidani, 2015). Such extensive use of technology has caused a kind of addiction termed "technology addiction" whereby people become unable to control their gaming, social networking and even their impulses of checking notifications compulsively(Solanki & Vidani, 2016).

Comprehending Technology Addiction

Technology addiction is not just an excessive use of digital devices, it also entails an obsessive behavior to the extent that one refuses to use it, which leads to withdrawal effects(Vidani, 2016).It is very similar to substance abuse in the sense that an organism will want to use a drug, and the timed usage will no longer be observable despite the organized control protocols laid down(Bhatt, Patel, & Vidani, 2017). Several works have documented its psychological aspects, that technology addiction has correlation towards mental health problems, depression social anxiety among others and also stress(Niyati & Vidani, 2016).

Positive Psychological Effects of Technology Use

Despite the potential for addiction, technology also provides numerous psychological benefits(Pradhan, Tshogay, & Vidani, 2016). For instance, social media platforms can foster connections, enabling users to maintain relationships with family and friends, even across long distances(Modi, Harkani, Radadiya, & Vidani, 2016).These platforms offer support networks, particularly for individuals facing challenges such as chronic illness, mental health issues, or loneliness(Vidani, 2016).Furthermore, online communities can provide a sense of belonging and shared identity, facilitating interactions that may be difficult in traditional settings(Sukhanandi, Tank, & Vidani, 2018).

Enhanced Access to Information and Resources

The internet serves as a vast repository of information, providing users with unprecedented access to knowledge and educational resources(Singh, Vidani, & Nagoria, 2016). This accessibility can empower individuals to learn new skills, engage in self-directed education, and seek mental health resources(Mala, Vidani, & Solanki, 2016). online services offer mental health tools, which include apps for exercising mindfulness, apps and websites offering cognitive-behavioral techniques, and online

forums for peer support(dhere, vidani, & solanki, 2016). these tools can improve psychological well-being and equip people with ways to deal with stress and anxiety. Creative Expression and Innovation(Singh & Vidani, 2016).
And the use of technology has also enhanced creativity in the society(Vidani & Plaha, 2016). For instance, people can post their art work on YouTube and other related social media sites like TikTok, Instagram and get feedback and associate with others(Solanki & Vidani, 2016).It goes without saying that having such a possibility in practice can become an incentive to increased confidence in oneself and an enhanced sense of accomplishment that is so essential for improving the state of a person's mental health(Vidani, 2016). posting can be used as an outlet under stress and anxiety to release the same through creation and sharing of more content(Vidani, Chack, & Rathod, 2017).

Effects of technology addiction on the Negative Psychological Aspect

There are undoubtedly several advantages associated with technology; however, physical dependency on many technological products results in diverse psychological disorders(Vidani, 2018). These are the best known: increased levels of anxiety, depression, and changes in the degree of social isolation
(Biharani & Vidani, 2018).A number of studies indicate that, increased screen time is a result of increased risk of anxiety and depression more so among the youths(Vidani, 2018).Their feelings of anxiety and Fear of Missing Out (FOMO) As a result of sustaining technology addiction, there is an emergence of anxiety levels – Fear of Missing Out (FOMO) (Odedra, Rabadiya, & Vidani, 2018).
FOMO can be best described as the sendo of fearing to miss out on enjoyable experiences that those around one are enjoying
(Vasveliya & Vidani, 2019). Such anxiety makes one to always open the phone to check on social networks and notifications over and over to the detriment of his or her health. Prior research has established that high FOMO is linked to higher levels of anxiety and lower levels of well-being especially youth. Economic Challenges and Their Consequences on Social Interactions Surprisingly, technology can cause bonding and it is also the cause of isolation(Sachaniya, Vora, & Vidani, 2019).
Online relationships lack some interpersonal touch and feel which can make the individuals feel lonely even when in touch with people(Vidani, 2019). A study showed that when a person spends most of the time communicating through computers, it becomes difficult to build healthy face-to-face relationships because the acting enzyme which is often present in face-to-face relationships is lacking(Vidani, Jacob, & Patel, 2019). This raises lots of questions about the impact of technology specifically on social skills and interpersonal relationships(Vidani J. N., 2016).

Cognitive Overload and Decreased Attention Span

Technology addiction can also impair cognitive functioning(Vidani & Singh, 2017).The constant barrage of notifications and information can lead to cognitive overload, making it difficult for individuals to focus on tasks(Vidani & Pathak, 2016). Studies suggest that excessive use of technology can decrease attention spans and diminish overall productivity(Pathak & Vidani, 2016). As individuals find themselves frequently multitasking—switching between apps and platforms—this behaviour can hinder their ability to concentrate and retain information effectively(Vidani & Plaha, 2017).

Technology Dependency and Gender

In more recent research finding it seems that gender may be a factor when it comes to technology addiction and its psychological impact(Vidani J. N., 2020). Inmates' research shows that men and women consume technology in differently and are likely to have different degrees of addiction anxiety. For instance, gaming could be the more dominant-cneter among men while social networking among women(Vidani J. N., 2018). These can determine the psychological consequences linked to excessive use of technologies by affecting a need to adopt gender perspectives while studying technology dependency(Vidani & Dholakia, 2020).

Socio-Cultural Differences in the Use of Social Media

Male and Female Studied have revealed that women use the social media to ensure that they get social related updates while men use the social media to get over information and entertainment(Vidani, Meghrajani, & Siddarth, 2023) . This can in turn may influence how each gender perceives technology in their daily living. It is for example possible that women that use Instagram will display higher levels of state anxiety as people tend to only share the best moments of their everyday life(Rathod, Meghrajani, & Vidani, 2022). On the other hand, men reported higher levels of stress due to aspects such as gaming or competition in online context More Items adapted from previous studies may contribute more stress such as gaming or competition in online context(Vidani & Das, 2021).

Digital Detox and Mindfulness

One effective strategy is implementing digital detox periods, where individuals intentionally disconnect from technology for specific time frames(Vidani J. N., 2022). This practice can foster self-reflection and mindfulness, allowing individuals to reconnect with their physical environments and relationships
(Saxena & Vidani, 2023). Mindfulness techniques, such as meditation and deep breathing, can also help manage anxiety associated with technology use. These practices can encourage individuals to develop healthier relationships with technology and enhance overall mental well-being(Vidani, Das, Meghrajani, & Singh, 2023)

Healthy Digitisation

This is the reason that educational programs that can help teach the population how to become healthier digital citizens can be instrumental in helping weaning people from the unhealthy clutches of technology(Vidani, Das, Meghrajani, & Chaudasi, 2023). Local educational institutions can organize seminars and lectures concerning effective and safe utilization of the products of the technological world, as well as different ways of determining one's dependence on them(Bansal, Pophalkar, & Vidani, 2023). When the public is aware and resilient, then they are in a position to contain whatever power technology has over their lives(Chaudhary, Patel, & Vidani, 2023).

RESEARCH OBJECTIVIES

The primary objective of this research is to examine the negative psychological effects of technology addiction, with a particular focus on mental health, social interactions, and cognitive functioning. Specific objectives include: (Patel, Chaudhary, & Vidani, 2023).

Assessing the impact of technology addiction on mental health: Investigate the correlation between excessive technology use and the prevalence of anxiety, depression, and stress(Sharma & Vidani, 2023).

1. Evaluating the influence of technology on social interactions: Analyze how technology affects interpersonal relationships, including social isolation and the rise of phenomena such as Fear of Missing Out (FOMO) (Sharma & Vidani, 2023). Exploring cognitive repercussions of technology addiction: Examine how prolonged exposure to digital devices impacts cognitive abilities, including attention span, focus, and multitasking capabilities(Mahajan & Vidani, 2023).
2. Understanding gender differences in technology addiction: Explore how men and women experience technology addiction differently, including varying psychological and social consequences based on distinct usage patterns(Saxena & Vidani, 2023).
3. Identifying strategies for mitigating technology addiction: Investigate solutions such as digital detox and mindfulness, and how educational programs can promote healthier technology usage.

By addressing these objectives, this research aims to contribute to a better understanding of the complex relationship between technology addiction and mental well-being, while suggesting interventions for healthier engagement with technology.

LITERATURE REVIEW

Engagement with the world in the 21st century has changed a lot due to the instant growth of technology. Despite apparent benefits of technology and innovation, people get increasingly worried about its addictive features as well as possible impact on psychological state of users. Many researchers have devoted their attention to ascertaining the qualitative and feasibility effects of the level of technology dependency. This literature review will focus on reviewing the literature on this subject with a view of giving an overview of how technological dependency affects mental health and cognition.

Defining Technology Addiction

Technology dependency is a condition whereby an individual spends an inordinate amount of time using gadgets, mobile devices, and computers, games, and social networks, and it affects ordinary life and individual health. Griffiths (2005) noted that technology addiction control features reliance, tolerance, withdrawal symptoms, and initiates the idea of technological addition as a subset of the internet addiction disorders. Taking up concern in the existence of excessive use of the internet, Young (1998) came up with a measure of the internet addiction on the specific impacts it has. Research done after Young has built upon his work and included the specific Technological Addictions of Social Networking Sites, Gaming, and Mobile phone addiction.

Negative Psychological Effects

Mental Health Issues

The ill effects of the use of technology have been fairly well-documented and one of these that tech addicts are most likely to experience are stress and mental health problems including anxiety, depression and loneliness. According to Shapira et al. (2000), the patients who were found to be addicted to the use of the internet also showed proved cases of high depression and social isolation. And also, research on social networking sites have made similar finding showing association between usage and addictive tendencies and loneliness, anxiety and depressive symptoms (Andreassen, 2015). This has been as a result of social comparison, cyber bullying and

fear of missing out (FOMO) that most people who use social media intensely are liable to experience (Chou & Edge, 2012).

Healing of cognitive decline is complex and is compounded by attention disorders

Sammigration has also brought forth disability on the use of technology as it has negative effects on the learning ability especially on information attention and memory. Carr (2010) noted that social media use frustrated concentration and forced people to chop their thinking into smaller pieces over time. A study conducted by Ophir, Nass, and Wagner :2000 showed that people who use technology to switch back and forth many short tasks will do worse with technology on tasks that involve focus and working memory. Moreover, research has drawn attention to the fact that problematic use of gaming technology may worsen the impulse control disorder as well as the results of Pontes et al. (2015), who assumed that technology-mediated overuse in gaming platforms could lead to worsening of ADHD symptoms.

Sleep Disruptions

One of the most disruptive negative outcomes of the use of technology is sleep disorders. Another paper by Lemola et al, 2015 showed that both night use and evening use of digital devices led to poor sleep quality and more cases of insomnia. It is now known that blue light which is produced by screens inhibits the production of melatonin thereby prolonging the time it takes to sleep and disrupts circadian rhythms (Czeisler et al., 2009). Several authors have also observed that use of social media or gaming right before bed will also raise the arousal level, as well as delay other physiological sleep promoting mechanisms (Cain & Gradisar, 2010).

The over activities lead to improved cognitive skills and learning among the targeted beneficiaries

On the positive side, there are perceived benefits related to use of technology, such as games as well as education technology applications which have been proven to cause improvement in a number of mental functions. Green and Bavelier (2003) showed that action video game players show enhanced visual selectivity and enhanced ability in spatial processing relative to non players. Also, findings have indicated that micro-genres such as educational games and simulations can enhance problem-solving abilities and learning interests, compared to other users especially the younger ones (Gee, 2003).

Social Contacts and Emotional Outcome

Such effect is known to be negative but when purposeful and in moderation, such use of social media is known to improve the social complements, and protect emotional isolation over the lonely individuals. More so, the use of social sites such Facebook explained Ellison, Steinfield, and Lampe (2007) enable people to have close and distant relationship in their lives by support as well as being socially included. Consequently, social media can be used as a source of support for the members of a minority – a means to find peers and to exchange stories (Turkle, 2012).Stress

Relief and Entertainment

Thus, for many people, digital technology remains primarily as an entertainment and a way for relieving stress. A completely related research from Reinecke et al. (2012) revealed that people make use of video games and social networks as leisure time activities and even though addictive these can be helpful to psychological well-being whenever done in moderation. Especially, through gaming has been identified as a

mechanism for regulating emotions and averting from stresses in everyday life thus creating a positive impact on the participants mood (Russoniello et al., 2013).

Ambivalence and Balance

The available literature suggests that it is hard to distinguish between pathological and non-pathological use of technologies. Therefore, like any other beneficial invention, simple possession and utilization of the technology exposes youth and adolescents aged 15-35 years to positive as well as negative technology effects. Caplan, 2002 while underscoring the impacts of technologically mediated addictive behaviours pointed out at the same time that such effects vary with use contexts, and that QPoint>people with clinically diagnosed psychopathology may indeed be at higher risk for such outcomes than others<PGen, Here, Caplan also stressed that negative impacts of technology addiction may manifest, depending on how technology is used, which can have great benefits to an individual and his.

RESEARCH GAP

In view of the hypothetical propositions presented with empirical evidence regarding the psychological impact of technology dependency, a number of limitations have been identified in the literature.

Longitudinal Studies on Causal Relationships

Most of the prior research has been conducted using cross-sectional designs, which restricts the identification of cause and effect relationships of technology addiction with the mental consequences. Significant relationships have been established between the levels of technology use and such negative mental health-state variables as depression, anxiety, and, loneliness; however, causal effective relationships remain an object of research debates, especially concerning probes toward showing whether high levels of technology use lead to emergence of these negative states or if people, who already experience such peculiarities of mental health, are in higher risk of becoming addicted to the technology use.

Diverse and Specific Contexts of Technology Use

It is surprisingly little comprehensive work to cover the specific ways of different kinds of technologies, such as social networking, gaming or educational uses that could aid or harm psychological well-being. Most research works take into account technology as a unitary construct, and mostly; its influence on cognition, mental health, and social interaction is not differentiated based on the kind of technology. Dividing these types of technology use will be considered in further research in order to study them individually.

Cultural and Demographic Variation

Many empirical studies addressing technology addiction have been conducted in Western countries, and specifically, the bulk of this research has targeted adolescence and young people. The best knowledge of the authors regarding this matter would indicate that very few studies addressed cross-cultural and demographic differences, including non-Western countries, on technological addiction. This will consequently push a person of cultural norms, socio-economic status, and fitness to a device, how they are influenced or affected by tech-addiction. However, future studies are required to investigate the variables in other samples.

Positive and Constructive Use of Technology:

While there are bits of research conducted into possibly positive effects of technology, for example, in the fields of games and education, there is relatively sparse work done

which outlines how technology can be used in a constructive fashion by the individual but not progress from there to addiction. The best way a person can merge the technology is to deliver maximum cognitive/social/emotional value without having the deleterious characteristics of an addictive substance in this study.

EFFECTIVE INTERVENTIONS AND PREVENTION STRATEGIES

This literature review points out that the majority of the previous research was concentration on the bad side effects of the technology usage but rarely any attention has been given towards the prevention and treatment of the technology overuse. Other previous approaches, like CBT, have been used for treatments for technology addiction, but its long-term efficiency is not known at all. Furthermore, there is little scientific investigation into prevention interventions-specifically, educational programs and public health initiatives-for appropriate technology use among the described populations, especially among the youth.

NEUROBIOLOGICAL INSIGHTS

Although the psychological and behavioral consequences of the addiction have been rather well documented, few attempts have been made to research the neurobiological mechanisms related to the addiction. Thus, understanding how excessive use of technology impacts brain function specifically in relation to areas involved with the reward process, attention, and impulse control may provide great insight into treating and preventing technology addiction through targeted methods.

HYPOTHESIS

H1 There is a significant association between gender and the level of anxiety felt when away from phones or digital devices.
H2 There is a significant association between gender and the perception of technology as a means to feel more connected to friends and family.
H3 There is a significant association between gender and the difficulty in concentrating on tasks without checking phones or other devices.
H4 There is a significant association between gender and the perception of technology use having a positive impact on mental well-being.
H5 There is a significant association between gender and the experience of trouble sleeping due to excessive phone or computer use.
H6 There is a significant association between gender and the perception that technology use has increased stress levels
H7 There is a significant association between gender and the feeling of control over technology use.
H8 There is a significant association between gender and the belief that technology use has contributed to positive changes in personal or professional life.
H9 There is a significant association between gender and the feelings of isolation or loneliness despite being connected through technology.

Table 1: Validation of Questionaire

Statements	Citation from JV citation file (You can add more than 1 citation)
Average time spent on technology per day.	(Saxena & Vidani, 2023)
I often feel anxious when I am away from my phone or digital devices.	(Vidani, Das, Meghrajani, & Singh, 2023)
Using technology helps me feel more connected to friends and family.	(Vidani, Das, Meghrajani, & Chaudasi, 2023)
I find it difficult to concentrate on tasks without checking my phone or other devices.	(Bansal, Pophalkar, & Vidani, 2023)
Technology use has positively impacted my mental well-being.	(Chaudhary, Patel, & Vidani, 2023)
I have trouble sleeping due to spending too much time on my phone or computer.	(Patel, Chaudhary, & Vidani, 2023)
Technology use has increased my stress level.	(Sharma & Vidani, 2023)
I feel in control of my technology use.	(Sharma & Vidani, 2023)

**Source: Author's compilation*

METHODOLOGY

Table 2: Research Methodology

Research Design	Descriptive
Sample Method	Non-Probability - Convenient Sampling method
Data Collection Method	Primary method
Data Collection Method	Structured Questionnaire
Type of Questions	Close ended
Data Collection mode	Online through Google Form
Data Analysis methods	Tables
Data Analysis Tools	SPSS and Excel
Sampling Size	25
Survey Area	**AHMEDABAD**
Sampling Unit	Students, Private and government Job employees, Businessmen, Home maker, Professionals like CA, Doctor etc.

**Source: Author's compilation*

DEMOGRAPHIC SUMMARY

The demographic summary of the participants consists of 24 individuals, all aged 18-25. Gender distribution shows that 16.7% identify as male, 37.5% as female, and 45.8% as non-binary. In terms of education, a majority (62.5%) hold a master's degree, while 29.2% have completed high school or an equivalent, and 8.3% possess a bachelor's degree. Regarding technology use, 75% primarily engage online, with 12.5% using offline resources and 8.3% using both. Occupationally, 41.7% are employed full-time, 25% are students, 25% are employed part-time, and 8.3% are self-employed. Lastly, the average time spent on technology daily varies, with 41.7% spending 4-6 hours, 29.2% spending 6-8 hours, and 12.5% spending more than 8 hours. This demographic profile highlights a young, highly educated, and predominantly non-binary group with significant online engagement.

Table 3: Results of Hypothsis Testing

Add rows as per number of hypothesis you have created

Sr. No	**Alternate Hypothesis**	**Result p =**	**>/< 0.05**	**Accept/ Reject Null hypothesis**	**R value**	**Relationship**

H1	There is a significant association between gender and the level of anxiety felt when away from phones or digital devices.	0.784	<	H01 Rejected(Null hypothesis is rejected)	0.558	Strong
H2	There is a significant association between gender and the perception of technology as a means to feel more connected to friends and family.	0.026	>	H02 Accepted (Null Hypothesis Accepted)	0.021	Weak
H3	There is a significant association between gender and the difficulty in concentrating on tasks without checking phones or other devices.	0.329	>	H03 Accepted (Null Hypothesis Accepted)	0.542	Strong
H4	There is a significant association between gender and the perception of technology use having a positive impact on mental well-being.	0.287	<	H04 Accepted(Null Hypothesis Accepted)	0.258[c]	Weak
H5	There is a significant association between gender and the experience of trouble sleeping due to excessive phone or computer use.	0.123	<	H05 Accepted(Null Hypothesis Accepted)	0.746[c]	Strong
H6	There is a significant association between gender and the perception that technology use has increased stress levels	0.318	<	H06 Accepted (Null Hypothesis Accepted)	0.89	Strong

H7	There is a significant association between gender and the feeling of control over technology use.	0.132	>	H07 Accepted (Null Hypothesis Accepted)	0.673	Strong
H8	There is a significant association between gender and the belief that technology use has contributed to positive changes in personal or professional life.	0.481	<	H08 Accepted (Null Hypothesis Accepted)	0.161	Weak
H9	There is a significant association between gender and the feelings of isolation or loneliness despite being connected through technology.	0.380	>	H09 Accepted (Null Hypothesis Accepted)	0.394	Weak

**Source: Author's compilation*

DISCUSSION

The effect of technology over-dependency has recently received much focus depending on gender differences. It was the intention of this research to investigate different factors of technology dependence and its psychological impact The findings drawn from this research provided an understanding of the multiple factors of gender, connectivity, anxiety, and views of technology associated with mental health.

Gender and Anxiety Levels

The results suggest that the relationship between gender and the level of realised anxiety when separated from the gadget, tested in H1, is significant. The p- value, 0.784, is significant hence answering the null hypothesis, with evidence that there is correlation between the variables. To our knowledge, this result suggests that potentially men and women have different levels of anxiety when they are not connected to technology, which is an important avenue that needs to be explored. Such can be attributed to FOMO or social isolation showing the importance of showing that technology usage affects mental health.

Perception of Connectivity Surprisingly

the proposed relationship between gender and the extent to which it is believed that technology can help one feel closer to friends and family (H2) is quite small, according to significance level of 0.026. This means both men and women may regard technology as a blessing, but which at the same time brings with it shallow relations compared to brick and mortal relations. The weak correlation suggests that the nature of people's interactions through technology requires additional qualitative analysis of the emotional nature of those perceptions.

Concentration Challenges

Another interesting result is connected with the measures proposed for coping with the inability to focus on assignments without accessing devices (H3). Obviously from the given R –value 0.542, there is an impressive correlation between gender and concentration problems. This result supports prior research findings indicating that technologically-mediated dependency results in short attention span and lower levels of efficiency. The consequences of such are significant and marked notably in academic sphere and in the sphere of work when attentiveness is of cardinal importance.

Correct Knowledge regarding Mental Health Condition and Sleep Disorders

The study also cover exploration of attitude towards Technology influence on Mental Health (H4) and effect of Technology usage on Sleep Interference (H5). As for both hypotheses, the null hypotheses were accepted, which means that there can be certain agreement between males and females concerning the unfavorable impact of technology on sleep and emotional state. As such, the mere fact that the association with H4 is weak indicates a certain reluctance to affirm the technology as an unequivently positive factor for the mental wellbeing of the population, which may arguably stem from a recently identified potential for negative impact of the technology abuse.

Stress and Control over Technology are interrelated perspectives to describe the effects of Information Technology on Members of the Workplace.

Both stress related to technology use (H6) was found to be weakly confirmed which poses that both genders may find stress to do with technologies but they do not differ significantly on perceived control over technology use (H7). This highlights an important consideration: increasing ownership over the use of technology may well be identified as a potentially major component in reducing stress and improving people's quality of life.

Feelings of Isolation

Finally, gender and perception of loneliness despite the connection (H9) was no longer significant meaning that technology connecting people may not reduce feelings of loneliness. This particular contradictiveness forms the gist of broader psychological impact of technology dependency since it undermines the conventional internet-linked social health enhancement postulation.

THEORETICAL IMPLICATIONS

Altogether, the results of this study on the psychological consequences of technology dependency bear many theoretical implications helping to enhance the current comprehension of the relation between technology consumption, psychological health, and gender variation. The presented implications could be useful to develop further studies and theoretical models in psychology, sociology and technology studies.

1. Sex Usage of Technologies

If the level of gender interacts significantly with amount of anxiety expressed when away from digital devices, as hypothesized by H1, then we can argue that current theories on the use of technology must consider gender as a measure. These differential anxiety responses may actually represent more general cultural attitudes toward technology in general, which in turn may influence how men and women approach interactive technology devices. This applies pressure on theories explaining technology addiction to take gender as a social determinate to provide explanations on the emotive responses of different groups.

2. Thus, there is the richness of connectivity perceptions' complexity.

The low correlation between gender and the extent to which one may view technology as a mechanism of orchestrating social connectedness (H2) surface the dynamism of social relations in cyberspace. This finding counteracts cheerful assumptions that technologies always increase social relations. They recommend that the next theories should incorporate the two aspects of technology; the ability to connect and the ability to turn relationships into shallow rope. Perhaps enhancement of social psychological theories concerning relationship and loneliness might help throw more light on such relationship.

3. Attention and concentration frameworks are applicable irrespective of the specific disease, and its recognition becomes possible only after observing deviations from these models.

The cross-tabulation results further confirmed the significant relationship between the research variables such that gender was a strong correlate of difficulty in concentrating on tasks without checking devices (H3) is well-explained in theories of attention and cognitive load. In particular, as has been mentioned above, this result reasserts the emerging focus on elaborating existing cognitive frameworks to be able to comprehend the difficulties connected with technology dependency. Regarding attentional resources theories it is necessary to underline the potential use of the effects of digital distractions adding more valuable insights of how cognition is changed by technology.

4. Mental Health and Technology Interface

The initially assumed null hypothesis about perception of Technology influencing Mental Health (H4) is in line with the emerging findings that far from endorsing an unambiguous linear causality tying technology to deterioration of mental health. This in turn raises questions about models that we have held regarding technology as a beneficial enabler of mental health improvement. Subsequent theoretical conceptualizations specifically should narrow down the circumstances in which technology might encourage optimal mental health and under what circumstances it might be a detriment and sensitive to the context and environment as well as the individual characteristics.

5. Stress, Control, and Agency

Hypotheses six and seven proposed relations between stress levels and perceived control over technology use; the negligible results mean that models that examine technology dependency must incorporate the concept of agency. Earlier theories on self-control and self-determination should be incorporated into discussion on technology utilization to establish how perceived levels of control or the lack of

impacts on the individual psychological responses. It could possibly inform future interventions regarding healthier uses of technology and optimizing user's control.

6. Isolation Paradox

The failure to observe the generality of AS1, Get Participants' gender herein does not covary with feelings of loneliness despite connectedness (H9) is a paradox that holds water in this day and age of social media and technology hailed as unqualified boons for social interaction. Such theoretical frameworks should delve into the ever complex nature of connectedness in the present world of digital interface, and the reality that this connectivity is capable of deepening feelings of solitude, for researchers to start thinking more critically about the impact of technology on them.

CONCLUSION

Consequently, the theoretical contributions of the present research lie in warning that traditional approaches to defining tech addiction no longer suffice and necessitating that theories accounting for gender differences, social interactions, and cognition, and agency be taken into consideration. And yet, none of these dimensions are currently being accounted for by existing theoretical models of the effects of technology on psychological well-being we would like to see more useful interventions and policies promoting healthy technology use. The study should be continued for developing and validating these theoretical constructs in a variety of settings for better understanding of the psychological consequences of technology dependency.

PRACTICAL IMPLICATIONS

Some of the practical implications of the present study on the psychological impact of technology dependency are discussed as follows: This knowledge can guide interventions that seek to increase healthier technology use as well as improve the mental health of the population.

1. Knowledge enhancing of community Awareness and Education programs

Depending on the correlation between the levels of anxiety and the degree of technological dependence, there is an obvious lack of awareness on potential psychological related consequences of high technology usage. Incentives could be provided for the type of strategies, which are aimed at dealing with the concern of being disconnected, such as the mandatory time for disconnection from technology and the prevention of worry about such disconnection. That means that different sections of the population could be in some way addressed differently: gender-targeted stereotypes and issues might be treated at workshops and/ or seminars.

2. Creating a Healthy Use of Technology

With regard to the third hypothesis H3-the level of difficulty concentrating on tasks- we can talk about the need to develop healthy technology use. The guidelines regarding the utilization of technology should articulate perfect time that employees or students can switch off their technology gadgets. The strategies, that include leaving one's technology after some time, like the Pomodoro Technique, might improve attention and performance without increased dependency on the electronic devices.

3. Supportive Environments

It is therefore requisite to develop the appropriate environments to enable the management of use of technology. Superiors of workplace and educators of schools must encourage the discussion on the issue of technological loneliness and its impact

on psychology. Group leaders who aim at forming support groups in which with such individuals with label can share on their experiences as well as the coping methods they also employ may help in reducing feelings of loneliness.

4. Mental Health Resources

Based on a fairly low correlation between technology use and mental health (H4), mental health workers should be prepared to deal with technology in sessions. Clinicians are able to incorporate questions related to technology use into the assessment processes and offer specific recommendations and material to the clients with technology dependence issues. Publishing materials that can be one-handed for managing one's technological life can help a person to regain their ability to regulate their digital life.

5. Promoting Face Time

It means that there should be specifically designed measures against such an adverse outcome as establishment of connections provokes sensation of being alone (H9). True-life social contacts can be obtained from local programs and social events, which makes it good to engage in the activities in order to do away with loneliness. Employers can encourage people to get together, host meetings, or partake in activities that will prevent their members from using technology to avoid interrelating with different people.

6. Policy Development

Concerning regulations regarding digital media and technology platforms, policymakers should take into account possible psychological consequences of technologies' application. The instructions coming from the study that would help to regulate the amount of time that people spend with technology in facilitating responsible technology use among the youthful populace could help in eradication of the negative psychological impacts associated with technology use. They may include banning the use of electronics by students in classroom or coming up with safe use of technology at home regulation.

7. Research and Evaluation

Further studies have to be conducted, and its impacts have to be assessed regularly in order to understand mental health conditions more. Researchers and practitioners should then take it upon themselves for tracking the outcome of efforts that seek to control technology dependency and enhance mental health. Such tests may help in tweaking future practices and policies, including relevant attempts to respond to changing dynamics of technology use.

CONCLUSION

The above study illuminated the various effects of technology dependency on psychological domains and that both the positive and negative sides are vary with sex. It can also be seen from the study that there is a strong negative as well as positive association between technology usage and many psychological variables including for instance; anxiety, concentration level, and perceived connectedness. Some are only expressed in how technology is a problem that brings anxiety and lack of concentration, while others verify the mixed perception of people regarding the use of technology as a communication tool. From the findings, there is no support for the null hypothesis of anxiety; our results contribute to the relevance of carrying out interventions that consider emotional consequences from social exclusion from

technology products. In addition, low interconnection between the identified set of references and the assessment of impact that technologies have on mental well-being and perceptions of loneliness also suggests an important reconsideration of the role that technology plays in intimate relationships. In practical consideration, this research delin- eates the need for prompt and thorough health-awareness campaigns, guidelines for uncomplicated and appropriate use of technologies, and environments that foster healthy interpersonal connection. It has in mind that technology use need to be brought into conversation in mental health services and policy in enabling the provision of responses that can deal with new issues that facilitate by digital media. Altogether, as the life of people continues to mix with technology it is important to care for its psychological impact. By awareness of the specific impact of technology dependency. Therefore, the parties then are at par position with the ability of assisting individuals in being in a position to take care of their affairs in the digital aircraft aiding the clients hence getting healthier modes of interaction with the technologies then lifting the mental health of the people. Further studies should be carried out on the said relations so that the implemented techniques do not lose usefulness, where technology remains abreast. FUTURE SCOPE OF THE STUDY/ SUGGESTIONS FOR FUTURE RESEARCH

The results of this study have been fruitful in opening a number of avenues that may eventually lead to further research about understanding the psychological impacts of technology addiction. The recommendations below make it easier to actually express the important areas to be explored:

1. longitudinal studies

longitudinal designs should be taken into future research so as to investigate how technological addiction and the psychological consequences change over time. monitoring these individuals' technology use and their associated mental health outcomes will provide a lot of insight into the long-term effects of digital connectivity, especially within different demographic groups.

2. Qualitative research

qualitative methods, such as interviews and focus groups, can dig deeper into the complicated issues people have with technology addiction. these personal narratives can go to the heart of emotional depth technology usage portrays in its relation to relationships and psychological health, providing a richer, more nuanced context for any quantitative findings.

3. diverse populations

further, the study should be extended to as many diverse populations as possible; these are age groups, socioeconomic status, and cultural backgrounds. thus, with an understanding of how these variables enhance use of technology and its psychological effects, a more tailored intervention as well as support strategy may be developed.

4. Intervention studies

The efficiency of certain interventions aimed at reducing technology addiction and its unhealthy influence on the psychological level should be researched. Research can focus on mindfulness, detox digital programs, and cognitive-behavioral approaches to study them for their impact on mental health outcomes and technology habits.

5. Impact of emerging technologies

New emerging technologies are multiplying, and hence future studies will be welcomed that examine unique psychological impacts of their emergence. Such areas include social media implications, virtual reality and artificial intelligence implications on mental health and social relationships. Human behavior as shaped by these technologies will form a landmark to devise appropriate responses to the challenges they bring.

6.Role of social support

Further research in the role social support systems have in the psychology de-addiction of technology is therefore justified. Under this, one may research how support from family, peers and community contributes to the development of human skills that are required to control one's use of technology along with all the emotional stressors.

7. Comparative studies

These cross-group comparisons may reveal significant differences among various age groups or cultures in terms of variation in technology use and its psycho-emotional implications. Such variations may provide more information regarding how to establish culturally sensitive approaches for the treatment of the addiction to technology.

8. Positive focus

Whereas much of the more recent literature has revolved around the deleterious effects of technology addiction, positive impacts of technology usage on mental well-being need to be addressed. Exploring the role in which technology can be used to connect, build support networks, and grow as individuals may open up a more balanced perspective that guides interventions in these practices.

In fact, the future scope for studies on technology addiction is huge and diverse. And by exploring such recommendations, researchers will strengthen their contributions toward better understanding the psychological impacts of technology use, which means better and more effective ways toward integrating mental well-being within an almost suddenly highly digital world. Tackling these areas will ensure that future studies remain relevant and responsive to the continued evolution of technology and its impact on society.

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