

IMPACT OF THE DIGITAL TECHNOLOGY PARADIGM ON STUDENTS' ACADEMIC ACHIEVEMENT AND SOCIAL COHESION: A STUDY OF AKTU AFFILIATED COLLEGES OF LUCKNOW, U.P.

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Abstract

During the last decade, one of the most noteworthy changes in our daily lives has been the proliferation of digital technologies. Within two decades, with unbelievable network speed, the array of services available on the internet has become multifarious. In its true spirit, technology is a two-edged sword. The change in technological frequently emerges solitarily, impacting other dependent domains in society. In the last 20 years, modern technologies have changed our society's social fabric, family structures, values, business culture, eating habits, leisure activities, and educational system. Essig (2012) is of opinion that life on a screen and life, as it has always been, has become very out of sync. This paper analyses the influence of digital technology paradigm on students' academic achievement and social cohesion.

Keywords

Adolescents, digital technology, addictions, social media

Reference to this paper should

be made as follows:

Received: 22/11/25

Approved: 08/12/25

Dr. Vinod Singh

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TECHNOLOGY PARADIGM ON
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LUCKNOW, U.P.*

RJPSSs 2025, Vol. LI,

No. 2, pg. 279-288

Article No. 33

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DOI: *[https://doi.org/10.31995/
rjpss.2025v51i02.33](https://doi.org/10.31995/rjpss.2025v51i02.33)*

Introduction

During the last decade, one of the most noteworthy changes in our daily lives has been the proliferation of digital technologies. Moreover, this expansion seems endless because with each passing day, we witness new changes in the virtual world. These recent advances have improved our lives, and most of us prefer to utilize these innovations to make our daily lives easier. From accessing a massive amount of information on the internet to facilitating communication via social media and playing digital games for enjoyment to utilizing many smartphone applications, digital techno-culture permeates our daily lives. Digital technology dependence has been described by Griffiths (2004) as “the insatiable desire to spend more time or to engage more extensively on digital platforms.” Undoubtedly, these digital technologies hold irrefutable importance in our daily lives. These innovations have enabled us to live more comfortably than ever before.

Rostand (n.d.) once stated, “Science has made us gods even before we are worthy of being men.” Today’s technology has veered away from being valuable and has evolved into something people cannot fully comprehend or manage.

Modern technology dominates, and people are now entirely dependent on their gadgets to make their lives easier. This increasing reliance was noted by Jantz and McMurray (2012), who argued that technology now shapes and defines what individuals believe in. One can see incidents like this everywhere: adolescents glued to their phones or Amazon delivering everything right to our doorsteps. It surely slows down physical activity and is responsible for creating a world full of sedentary lifestyles. Carr (2020) sheds light on the distracting nature of technology and contends that the internet dumbs down individuals rather than making them more intelligent. Today, digital technologies are used for everything, from emailing, chatting, instant messaging, researching, shopping, and gaming to accessing social media (Sheldon, 2008). The COVID-19 pandemic has further exacerbated issues related to digital dependence, with internet gaming disorder and problematic internet use increasing by over 1.5 times (Oka et al., 2021).

If digital technology is harmful, it will affect people of all ages, but adolescents are particularly vulnerable (Dienlin & Johannes, 2020). Beairoviæ and Pajeviaë (2020) regard behavioral addictions as an upcoming pandemic in children and adolescents, noting that “late childhood and adolescence are especially vulnerable and at-risk periods considering the onset of behavioral addiction.” This has been supported by studies, such as those by Jenaro et al. (2007), which highlighted the prevalence of behavioral issues, including high anxiety and insomnia, linked to heavy internet use.

Digital Technology Dependence

Digital Technology Dependence can be defined as frequent and obsessive technology-related behavior that increasingly occurs despite negative consequences. It ranges from low to high dependence and can manifest in behaviors such as avoiding negative feelings through internet use or experiencing withdrawal symptoms when offline (Guan & Subrahmanyam, 2009; Li et al., 2015). Griffiths (1995) identified six core components of technology addiction: salience, mood modification, tolerance, withdrawal, conflict, and relapse. Any behavior meeting these criteria can be considered dependent. For instance, Griffiths (2004) used case studies to show that excessive technology use can often be symptomatic of other underlying issues.

Social Media and Its Impact

Social media allows adolescents to present a false reality to the world, masking their addictions through seemingly spotless online personas. Kuss and Griffiths (2017) explored how social media dependence mirrors substance-related addictions, leading to issues such as withdrawal, conflict, and loss of control (Blackwell et al., 2017). Cabral (2011) identified behavioral components like salience and mood modification in social media dependence, particularly among Generation Y, while Przybylski et al. (2013) demonstrated that the fear of missing out (FoMO) significantly drives problematic social media use.

Studies indicate that adolescents rely heavily on social media for emotional self-regulation, communication, and information gathering (Savci & Aysan, 2017). However, excessive use of these platforms negatively impacts social connectedness. Davis (2012) found that while social media can foster a sense of belonging, overuse often results in shallow, inconsistent interactions, harming adolescents' ability to form meaningful relationships.

Social Connectedness and Academic Performance

Digital dependence affects not only social relationships but also academic performance. Kraut et al. (1998) showed that heavy internet use diminishes adolescents' social involvement and well-being. Similarly, Jenaabadi & Fatehrad (2015) found that internet addiction inversely affects social skills, weakening individuals' ability to interact meaningfully with others.

Excessive technology use has also been linked to declining academic performance. Lissak (2018) and Robb et al. (2019) found that adolescents increasingly suffer from cognitive and emotional distractions due to prolonged screen time. Hudimova (2021) emphasized that excessive social media use contributes to academic distraction, further hindering adolescents' academic success.

The incidents of digital technology are seen everywhere and every day, from adolescents being glued to their smart phones to websites like Amazon, Flipkart, Myntra, Zomato, Swiggy, and Blinkit delivering everything, including food and grocery, right to our door.

All these available internet-based services like YouTube, social networking sites, and instant messaging apps appear to be a blessing in camouflage to humanity. This technical ecstasy comes with hidden conditions, and those who use it will be distracted, demotivated and impeded in their output to an unthinkable degree. The free online services that allow youngster to move between them easily are to blame for this dangerous form of mental diversion since they are the core of their desire for rapid pleasure. In the background, these interruptions in form of social media are not noticeable in the long run, but they begin to feel demotivated and detached while doing their daily chores; their life without smartphones becomes unimaginable. Various mobile apps are intentionally designed to push a large number of notifications that attempt to get individuals hooked on these applications.

Rosen et al. (2012) were the first to use the term 'iDisorder' to explore the negative correlation between technology usage and psychosocial well-being. In today scenario, digital technologies are used for everything done from emailing, chatting, instant messaging, researching, shopping, and gaming to accessing social media (Sheldon, 2008). Turkle (2011) stated, "Technology is alluring when what it offers coincides with our human frailties." eæiroviæ and Pajeviæ (2020) observed behavioural addictions as an upcoming pandemic in children and adolescents. They stated, "Late childhood and adolescence are especially vulnerable and at-risk periods considering the onset of behavioural addiction."

Digital Natives are the teens who have never known a world without computers, 24-hour television news, the internet, and cell phones with their video, music, photography, and texting capabilities. Many digital natives rarely enter a library, much less consult a traditional encyclopedia; instead, they utilize Google, Yahoo, and other online search engines.

The time spent on digital gadgets(chatgpt) takes away from the task, for instance, doing homework for school-going students. It is not uncommon to observe two adolescents sitting together on a bus, texting frantically on their mobile devices instead of conversing.

There are many contradicting sensations that low-connected people have. These include feelings of isolation and a lack of trust. They are isolated from the rest of society and feel the weight of the world's complexities and difficulties (Denial, 2009).

Beland and Murphy (2016) considered how schools ban mobile phones and influence student test scores. Addiction of video games and social media were consuming them. Technology seemed to shape their social interactions and even how they thought” (Clement & Miles, 2018, pp. 10-11).

Sherry Turkle’s work ‘Alone Together (2011)’ focuses on the effects of digital technology on human relationships, identity, and social interaction.

Manuel Castells “The Rise of the Network Society (1996)”, pioneer in understanding how the information revolution reshapes society. He explores the emergence of the network society, where information flows through digital networks and creates new social, political, and economic dynamics.

Howard Rheingold, *Smart Mobs: The Next Social Revolution* (2002), explores the concept of “smart mobs,” groups of people who use mobile phones, wireless devices, and the internet to coordinate their actions in real time.

Danah Boyd, *It’s Complicated: The Social Lives of Networked Teens* (2014) examines how teenagers use social media, challenging the common perception that digital technologies are detrimental to youth. Her area of research focuses on the role of social media in shaping identity, relationships, and privacy among teenagers, emphasizing how technology plays a central role in their social lives.

Clay Shirky, *Here Comes Everybody: The Power of Organizing Without Organizations* (2008) Shirky’s ideas about “mass amateurization” and the democratizing power of digital media have influenced how we think about the future of work, political activism, and even media consumption in the digital age.

David Lyon, *Surveillance Society: Monitoring Everyday Life* (2001) examines the growing trend of surveillance in the digital age, focusing on how technology is used to monitor, track, and analyze individuals’ behaviors.

Geoffrey Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (1999)-This book explores how digital technologies, particularly databases and classification systems, shape how we categorize and make sense of the world.

Luc Boltanski and Ève Chiapello, *The New Spirit of Capitalism* (1999) discusses the ways in which capitalism adapts to the changing technological landscape.

Research Questions

Q1. What is the prevalence of digital technologies dependence in UG and PG students?

Q2. What is the level of social cohesion among UG and PG with high digital technologies dependence and low digital technologies dependence?

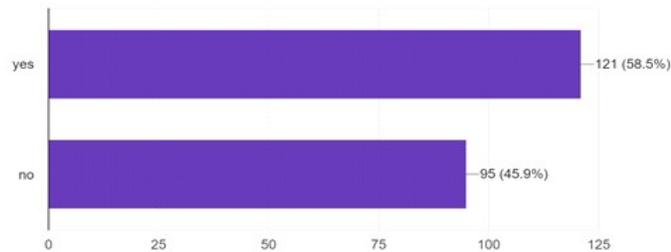
Q3. What is the level of academic performance among students with high digital technologies dependence and low digital technologies dependence?

Objectives of study

1. To investigate the level of social cohesiveness among students with high and low digital technology reliance.
2. To determine the academic achievement of students who rely heavily on digital tools and those who do not.

Table 1

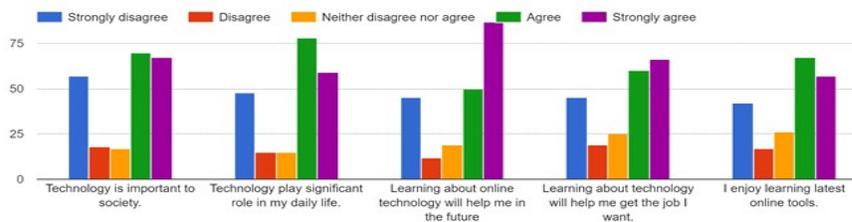
Are you satisfied with the SGPA (semester grade point average) of your chosen course?
207 responses



The above table 1 shows that when students are asked about SGPA (semester grade point average), out of 207 respondents, 121(58.5%) answer is YES whereas 95(45.9%) reflection is NO. Hence, majority of respondents are satisfies with their SGPA.

Table 2

Show your reflection with the following statement about latest technology:



Following questions were asked to respondents in table 2:

- a) Technology is important to society, out of 207 respondents 57 strongly agree, 18 disagree, 17 neither disagree nor agree, 70 agree, 67 strongly agree with the statement.

- b) When asked to reflect on technology play significant role in my daily life, 48 respondents strongly disagree, 15 disagree, 15 neither disagree nor agree, 78 agree, 59 strongly agree with the statement.
- c) Reflection on learning about online technology will help me in the future, 45 respondents strongly disagree, 12 disagree, 19 neither disagree nor agree, 50 agree, 87 strongly agree with the statement.
- d) Learning about technology will help me get the job I want, 45 respondents strongly disagree, 19 disagree, 25 neither disagree nor agree, 60 agree, 66 strongly agree with the statement.
- e) I enjoy learning latest online tools 42 respondents strongly disagree, 17 disagree, 26 neither disagree nor agree, 67 agree, 57 strongly agree with the statement.

Table 3

Please share your opinion about the positive and negative influence of social media: Positive impact of social media: Negative impact of social media:

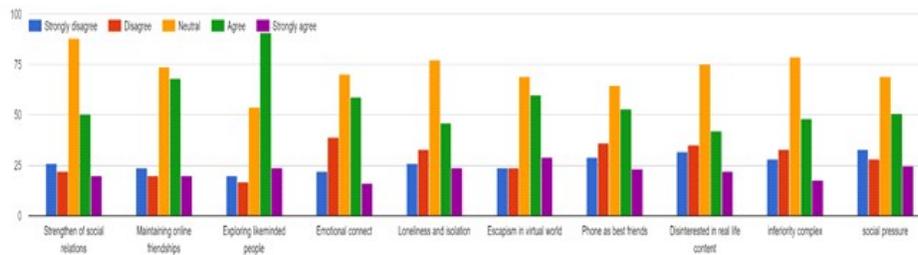


Table 3 discuss about positive and negative impacts of social media. Under study respondents are asked to give their reflections whether they are strongly agree, disagree, neutral, agree and strongly agree. The following responses were registered by the students:

Positive impact of social media:

- a. Strengthen of social relations :26 strongly agree, 22 disagree,88 neutral, 50agree and 20strongly agree
- b. Using social media for positive means :24strongly agree, 20disagree, 74neutral, 68agree and 20strongly agree
- c. Maintaining online friendships :20strongly agree, 17disagree, 54neutral, 91agree and 24strongly agree

- d. Exploring likeminded people :strongly agree, disagree, neutral, agree and strongly agree
- e. Emotional connect :22strongly agree, 39disagree, 70neutral, 59agree and 16strongly agree

Negative impact of social media:

- a) Loneliness and isolation :26strongly agree, 33disagree, 77neutral, 46agree and 24strongly agree
- b) Escapism in virtual world :24strongly agree, 24disagree, 69neutral,60 agree and 29strongly agree
- c) Phone as best friends :29strongly agree, 36disagree, 65neutral, 53agree and 33strongly agree
- d) Disinterested in real life content :32strongly agree, 35disagree, 75neutral, 42agree and 22strongly agree
- e) inferiority complex :28strongly agree, 33disagree, 79neutral, 48agree and 18strongly agree
- f) social pressure :33strongly agree, 28disagree, 69neutral, 51agree and 25strongly agree

Table 4

c) Kindly give your opinion about the uses of information technology(ICT) on the following statements: The use of information technology in my courses:

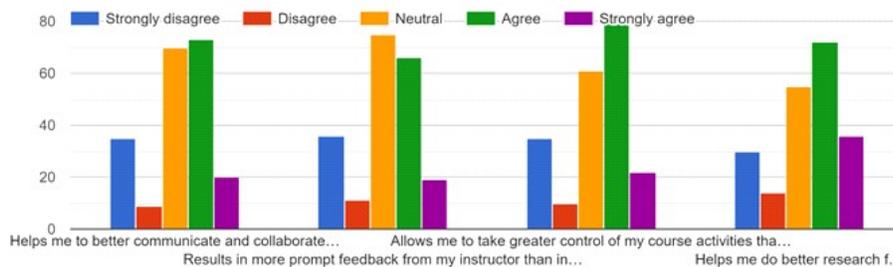


Table 4 indicates about data related to perceptions of uses of information technology (ICT) on the following statement:

- a) ICT helps me better communicate and collaborate with my classmates than in courses that do not use technology, 35strongly agree, 9 disagree, 70 neutral, 73 agree and 20 strongly agree.

- b) Results in more prompt feedback from my instructor than in courses that do not use technology. 36 strongly agree, 11 disagree, 75 neutral, 66 agree and 19 strongly agree.
- c) Allows me to take greater control of my course activities than in courses that do not use technology. 35 strongly agree, 10 disagree, 61 neutral, 79 agree and 22 strongly agree.
- d) Helps me do better research for my courses than in courses that do not use technology. 30 strongly agree, 14 disagree, 55 neutral, 72 agree and 36 strongly agree.

Conclusion

The study investigates the impact of digital technology dependence on academic performance and social cohesiveness among UG and PG students in AKTU-affiliated colleges of Lucknow, Uttar Pradesh. The data from 207 respondents reveal several key insights:

- 1. Digital Technology and Social Cohesion:** The study suggests a strong reliance on social media among students for emotional support and alleviating loneliness, with nearly half of the respondents acknowledging this dependence. However, the overall social cohesiveness appears nuanced, as technology may provide a platform for connection while simultaneously contributing to feelings of isolation among those with low digital engagement.
- 2. Academic Performance:** A significant portion of students (58.5%) expressed satisfaction with their SGPA, indicating that digital technology might not be adversely affecting academic achievement for most. However, family factors were overwhelmingly seen as influential in academic discipline, highlighting the complex interplay between personal circumstances and academic outcomes.
- 3. Perception of Technology:** The respondents generally view technology as essential, with a majority agreeing that it plays a significant role in their daily lives and future careers. Skills in various digital tools, such as spreadsheets, presentation software, and online resources, are generally rated as good, suggesting a reasonable level of digital proficiency among students.

In conclusion, while digital technology is integral to students' academic and social lives, its effects are varied, with both positive and negative implications for social cohesion and academic performance.

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