



Original Article

# Psychology and Behavioral Science in the Digital Age

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Manuscript ID:  
RIGJAAR-2025-021228

ISSN: 2998-4459  
Volume 2  
Issue 12  
Pp. 133-136  
December 2025

Submitted: 12 Nov. 2025  
Revised: 17 Nov. 2025  
Accepted: 18 Dec. 2025  
Published: 31 Dec. 2025

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Quick Response Code:



Web: <https://rlgjaar.com>



DOI: [10.5281/zenodo.18277895](https://doi.org/10.5281/zenodo.18277895)

DOI Link:  
<https://doi.org/10.5281/zenodo.18277895>



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## Abstract

*The present work explores the multifaceted influence of digital technology on psychological processes and behavioral patterns. Drawing on contemporary research, it examines how digital advancements, such as social media, virtual reality, and action video games, impact mental health, cognitive functioning, and social interactions. The study reveals both positive effects such as enhanced attentional control and cognitive skills and negative consequences, including increased risks of depression, anxiety, addiction, and psychological distress, particularly among adolescents. The analysis also considers the implications of media multitasking and the rise in youth unemployment in India, correlating these trends with digital platform usage. Empirical findings suggest that excessive engagement with digital media can disrupt sleep, foster social comparison, and contribute to mood disorders. Conversely, innovative technologies like virtual reality show promise in clinical assessment and treatment. The synthesis underscores the need for balanced digital media consumption and further research to mitigate adverse effects while harnessing benefits. Overall, this study emphasizes that understanding the psychological impact of digital technologies is crucial for developing effective interventions and ensuring societal well-being in the digital age.*

**Keywords:** Digital technology, Mental health, social media, Cognitive functions, Virtual reality, Behavioral patterns, psychological impact

## Introduction

Psychological study is the scientific examination of the mind and behavior, aiming to describe, explain, predict, and influence human and animal actions and mental processes. Its significance is broad, crucially supporting individual well-being through mental health treatment and self-understanding. Furthermore, psychology is vital in improving society by informing better practices in education, business, law, and public health. Ultimately, it serves to advance scientific knowledge about how and why we think, feel, and act.

Behavioral Science is an interdisciplinary field combining insights from Psychology, Economics, and Sociology to systematically study human decision-making and behavior. Its main goal is to understand the systematic biases and irrationalities that drive actions. The field is highly applied, focusing on creating practical interventions, often called "nudges," to predict and influence behavior toward positive outcomes in areas like public policy, marketing, and organizational management. Essentially, it uses scientific understanding to design environments that encourage desired behavior changes.

The Digital Age (or Information Age) is the current historical period defined by the shift from analog to digital electronic technologies, enabling the rapid processing and sharing of data. It is characterized by ubiquitous connectivity via the Internet and the widespread use of computers and mobile devices. While foundational electronics emerged in the mid-20th century (1940s-1970s), the Age truly began with the mass adoption of the World Wide Web in the 1990s. This transformation has established a global knowledge-based economy. The rapid advancement of digital technology has profoundly transformed human communication, learning, and social interactions. While these innovations offer numerous benefits, such as improved connectivity and cognitive training tools, they also pose significant challenges to mental health and social well-being. The present communication explores the multifaceted influence of digital platforms on psychological processes and behavioral patterns, examining both positive impacts like enhanced cognitive skills and negative consequences, including addiction, stress, and mood disorders.

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## How to cite this article:

Kanade, V. M. (2025). Psychology and Behavioral Science in the Digital Age. Royal International Global Journal of Advance and Applied Research, 2(12), 133–136. <https://doi.org/10.5281/zenodo.18277895>



Through studying of recent research and data analysis, the study aims to understand how digital technology shapes individual and societal behaviors in the contemporary era.

#### Review of Literature

Green & Bavelier (2012) explored how action video games influence learning and attentional control. The authors discussed evidence suggesting that playing action video games can enhance various cognitive functions, particularly attention, processing speed, and visual perception. They highlighted that gamers often show improved abilities in tasks requiring rapid decision-making and visual attention compared to non-gamers. They also examine dhow these improvements could be harnessed for educational and rehabilitative purposes. They emphasized proposed that engagement with action video games can lead to beneficial changes in the brain's attentional mechanisms, emphasizing the potential of video games as tools for cognitive training.

(Keles,et.al, (2020) during studies they examined the impact of social media use on depression, anxiety, and psychological distress among adolescents. analyzed multiple studies to identify patterns and relationships between social media activities and mental health outcomes. They also revealed excessive or problematic social media use is generally associated with increased levels of depression, anxiety, and psychological distress in adolescents. They also discussed potential mechanisms, such as social comparison, cyberbullying, and sleep disruption, which may contribute to these negative effects. They also highlight the complexity of these relationships and the need for further research to understand causality and develop effective interventions. And also underscored the importance of promoting healthy social media habits to support adolescent mental health.

According to Kuss & Griffiths (2017). ten important lessons learned about social networking sites (SNS) and their potential for addiction. They revealed how excessive use of SNS can resemble addictive behaviors, impacting mental health and daily functioning. It highlights key insights, such as the role of reward systems, the importance of individual differences, and the need for clear criteria to define SNS addiction. They also emphasized that while SNS addiction shares similarities with other behavioral addictions, it remains a complex phenomenon requiring further investigation. they called for more standardized measures and awareness to better understand and address problematic SNS use.

Freeman, et al. (2017) use of virtual reality (VR) in the assessment, understanding, and treatment of mental health disorders. They discussed how VR technology provides immersive, controlled environments that can simulate real-life situations, making it a valuable tool for psychological research and clinical practice. VR can enhance the assessment of symptoms, improve understanding of underlying mechanisms, and offer innovative treatment options, such as exposure therapy for anxiety disorders. They also highlighted the potential benefits of VR, including increased engagement and personalization of interventions, while also addressing current challenges like technological limitations and the need for rigorous research

to establish efficacy. VR was presented as a promising adjunct in mental health care, with the potential to improve outcomes for various disorders.

Ophir, et.al (2009) investigated how media multitasking using multiple forms of media simultaneously affects cognitive control and attention. The researchers found that individuals who frequently multitask with media tend to have poorer performance on tasks requiring focused attention and cognitive control compared to those who do less multitasking. Specifically, heavy media multitaskers exhibited greater difficulty filtering out irrelevant information and showed reduced ability to switch attention effectively. The findings suggest that media multitasking may be associated with diminished cognitive control, potentially impacting everyday functioning and learning. The study highlighted the importance of understanding the cognitive costs of media multitasking in an increasingly digital world.

Twenge, et.al (2018) examined the rise in depressive symptoms, suicide-related outcomes, and suicide rates among U.S. adolescents after 2010, and explored the potential connection to increased screen time from new media. The researchers found that during this period, adolescents reported significantly higher levels of depression and suicidal thoughts, with rates of suicide and self-harm also increasing. The study highlighted a strong association between the rise in mental health issues and increased hours spent on screens, such as smartphones and social media. It suggested that excessive media screen time may contribute to poorer mental health in adolescents by disrupting sleep, reducing face-to-face interactions, and exposing youth to cyberbullying and social comparison. The findings raise concerns about the impact of digital media consumption on adolescent mental health and underscore the need for further research and intervention strategies.

Bavelier & Green (2019). explored how action video games can be used to improve attentional control and cognitive skills. The authors revealed evidence showing that playing action video games enhances various aspects of attention, such as visual attention, attention switching, and the ability to filter out distractions. These improvements are attributed to the fast-paced and demanding nature of action games, which require players to process multiple sources of information quickly and efficiently. They also discussed how these findings have implications for cognitive training and potential applications in education, rehabilitation, and clinical interventions. Further highlighted that action video games are a promising tool for boosting attentional control and cognitive flexibility.

Montag & Reuter (2017) discussed the neuroscientific perspectives and ongoing debates surrounding internet addiction. Studies on the neural mechanisms involved in problematic internet use, highlighting similarities with other behavioral addictions such as gambling and substance abuse. They explored how excessive internet use can affect brain regions related to reward, impulse control, and decision-making. Despite growing evidence linking internet addiction to neurobiological changes, the authors emphasize that there is still controversy over its classification as a formal mental



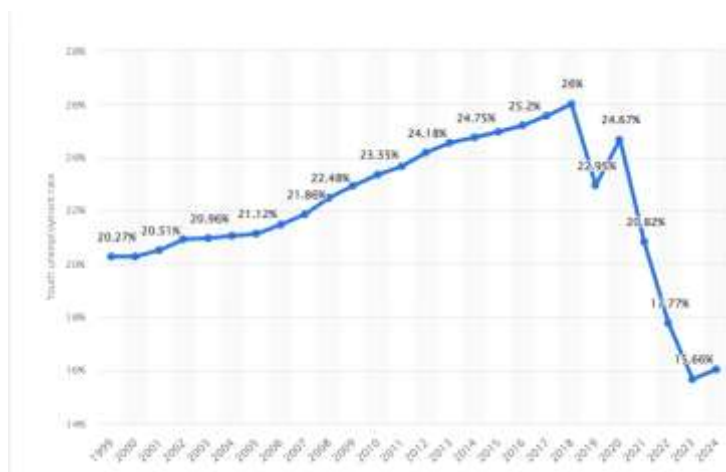
disorder. They call for standardized diagnostic criteria and further neuroscientific research to better understand the nature of internet addiction and its implications for treatment.

### Objective

1. To study the influence of digital technologies on unemployment

### Data Analysis and Interpretation

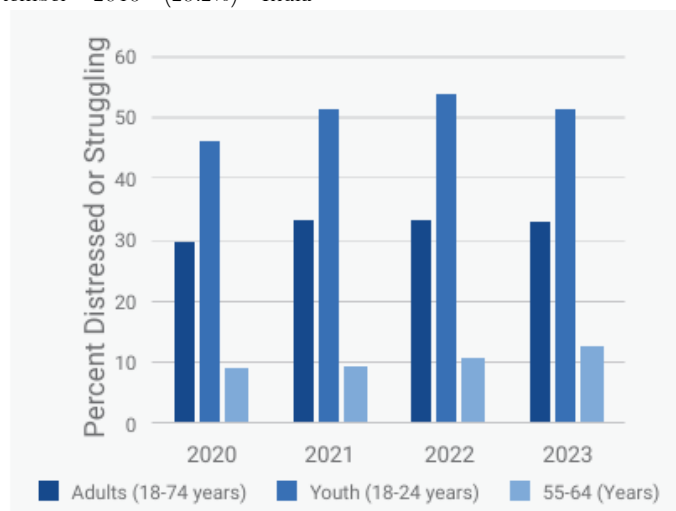
2. To identify the positive effects of digital media on mental health, social interactions, and cognitive functioning.
3. To study the role of digital platforms in shaping social and behavioral patterns.



Graph:01 India:Youth Unemployment rate from 1999 to 2024

According to statistical analysis it is seen that youth unemployment in India has drastically decreased till 2023(15.66%). And its slightly increased in 2024(16.03%). In the age group 15-24 year. It is seen that after the launch of Jio 4g network in September 2016 (25.2%) India

unemployment rate has slightly increased over the two consecutive years 2017 (25.57%) and 2018 (26%). Then in the year 2020 (24.67%) again the increase of unemployment has been observed. (Graph:01)



Graph :02 India: Percentage of distress from 2020-2023

According to statistical analysis it is observed that percent of distress in India is higher in youths (18-24 years) in all four years data (2020-2023). The use of smartphones and social media is more in this age group. We can observe in data that in 2022 when 5g network was launched distress is more. Not only in youth but it is also observed that as compare to last two years (2020-2021) in 2022 distress has increased in all the age groups. (Graph:02)

Social media platforms facilitate unprecedented levels of social connectivity but also pose risks for emotional well-being. Excessive use has been associated with increased feelings of loneliness, depression, and anxiety (Keles, McCrae, & Grealish, 2020). The phenomenon of social comparison and cyberbullying represent behavioral challenges that impact mental health. Same like bobo doll experiment it is seen that emotions have been regulated as per the content shown on social media. More the negative



content more the negative thoughts and emotions of person. same goes for positive content. Social media has brought up many mood disorders.

### Conclusion

The digital age presents both opportunities and challenges for psychology and behavioral science. As digital technologies continue to evolve, ongoing research is essential to understand their impact on human behavior and mental health, ensuring that technological advancements benefit society at large. The present study revealed that due to increase in digital technologies, used of increase use of social media the youth have seen less aware towards employment and stick to temporary happiness in the form of excessive use of social media such as WhatsApp, Instagram, Facebook, Snapchat etc. This has lot of mental pressure on parents about their children also hampering parents' employment behavior and lack of concentration in full strength work habits of them.

The present study revealed that due to increase in digital technology use and increased in use of social media the youth are seen to be more stressed and are less concentrated towards the health. Social media and smartphone addiction have affected people so badly that people are more isolated and has decreasing social communications in real life. The isolated behavior due excess use of social media, addiction to digital games, digital scams and introduction of Artificial Intelligence is having drastic effect on psychology and behavior of modern generation and as well as old age peoples. These effects are much visible in the form of increased stress, unemployment, frauds, divorce, health issues and many more Noncommunicable Disease (NCD) deaths. Digital age has affected on people's attention mood and other psychological problems. As a result, we can observe rapid increased in mental health issues in India. So there is need to increase awareness for less use of social media specially reels, online games, fraudulent apps etc. among peoples and various measures should be taken to overcome the mental stress.

### Acknowledgment

I express my sincere gratitude to all those who have directly or indirectly contributed to the successful completion of this research work titled "Psychology and Behavioral Science in the Digital Age."

First and foremost, I would like to acknowledge the constant support, encouragement, and academic guidance provided by the management and administration of Abasaheb Marathe Arts & New Commerce Science College, Rajapur, which created a conducive environment for research and scholarly pursuits.

Finally, I express my sincere thanks to my family and well-wishers for their patience, motivation, and unwavering support, which played a crucial role in the completion of this research work.

### Financial support and sponsorship

Nil.

### Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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