

The Impact of Deepfake Videos on Students' Ability to Identify Fake Information

Dr. Jeya J¹, Evanjalin Jesicca R²

¹Associate Professor, Department of Commerce, Women's Christian College, Chennai, India

²IIIrd year Bcom (General) student, Women's Christian College, Chennai, India

Abstract- In the era of rapid advancements in artificial intelligence (AI) and digital technology, AI has made it easier to create highly realistic and manipulated videos and audio content. This study explores the factors that influence students' ability to differentiate between authentic and deepfake information, including digital literacy, awareness, and exposure to social media. The study aims to understand students' awareness of deepfakes and assess their ability to recognise manipulated or misleading content. The increasing availability of deepfake technology has made it more difficult for individuals, particularly students, to distinguish between genuine and fabricated information. Furthermore, the research seeks to identify the challenges students face when evaluating the credibility of online information. By examining students' perceptions and responses towards deepfake videos, the study aims to provide insights into the importance of developing critical thinking and digital media literacy skills, which are essential in the present digital age. This study is expected to contribute to a better understanding of how deepfake technology can influence students' perceptions of information and highlight the need for greater awareness and responsible digital information consumption among students.

Keywords-- Artificial intelligence, Deepfake videos, Digital literacy, Fake information, Students.

I. INTRODUCTION

The internet and social media have transformed the way students obtain and share information. Platforms such as YouTube, Instagram, TikTok, and other social networking platforms enable information to spread within seconds. However, this easy accessibility has also contributed to the rapid spread of misinformation. Among the emerging technological developments contributing to this concern are deepfake videos and images.

The rapid development of deepfake technology makes it important to examine whether students are aware of the increasing use of artificial intelligence (AI) in digital content creation. Deepfake technology can replace a person's face, synthesise their voice, or digitally alter their actions, creating content that may appear authentic to viewers.

Such manipulated content can lead to confusion, false beliefs, and the spread of misleading information among students. Therefore, it is important to assess students' awareness of deepfake technology and their ability to distinguish between genuine and manipulated content. The study also highlights the importance of developing digital literacy and encouraging the responsible use of social media to reduce the potential impact of deepfakes.

A major concern associated with deepfake technology is the increasingly realistic appearance of manipulated content. Unlike traditional edited images or videos, modern deepfakes can be difficult for ordinary viewers to recognise as false. This makes the identification of manipulated digital content a significant challenge.

Students are particularly relevant to this issue because they frequently consume and share digital content through social media platforms. They may sometimes judge the credibility of information based on its appearance, popularity, or the number of likes and shares it receives. Hence, developing students' awareness, critical thinking, and digital literacy is essential for helping them evaluate online information and identify potentially misleading or deepfake content.

Obejective

1. To know whether students are aware about the deepfake technology
2. To ensure whether the students are ready to deal with AI – generated misinformation due to rapid increase in technology
3. To understand students' knowledge and perception of the risks associated with deepfake videos
4. To examine students' ability to identify and distinguish deepfake videos from genuine content
5. To suggest measures for improving students' digital literacy and ability to identify deepfake- based misinformation
6. To assess the level of confidence among students in identifying deepfake videos and distinguishing them from authentic content.

II. REVIEW OF LITERATURE

[1] **Allen et al. (2023)**, Implications of Deepfake to Laguna University Students' Trust in media. found that deepfakes can spread misinformation and influence people's perceptions. Among 154 participants, 66.23% failed to identify all deepfake videos correctly, showing the difficulty of detecting manipulated content. Familiarity with the person improved detection, while side-by-side comparison had little effect. The study recommended improving media literacy, awareness, and AI-based detection tools to protect information credibility.

[2] **Laczi and Póser (2024)**, in their study titled "Impact of Deepfake Technology on Children: Risks and Consequences," studied the impact of deepfake technology on children and its psychological, social, and educational risks. The study found that realistic deepfakes make it difficult for children to distinguish real from fake content. Deepfakes can contribute to misinformation, manipulation, and cyberbullying, while social media increases the rapid spread of such misleading content. The authors emphasised digital literacy, awareness, and critical thinking as key solutions. The study highlights the need to improve students' ability to identify and verify fake information.

[3] **Alanazi and Asif (2024)** 'exploring Deepfake Technology: Creation, Consequences and Countermeasures' reviewed the creation, consequences, detection, and countermeasures of deepfake technology. The study found that deepfakes can spread misinformation, threaten privacy, damage reputations, and reduce trust in digital media. It also highlighted the difficulty of detecting realistic fake images and videos and emphasised the need for advanced AI-based detection methods, public awareness, and stronger legal regulations.

[4] **Chua, Masangkay, and Mayo (2024)** on the implications of deepfakes on Laguna University Students' Trust in Media. The study involved 368 Laguna University students from different programs and year levels. Students were found to be moderately aware of deepfake technology. However, they faced difficulty in distinguishing real videos from deepfake videos. The study also found that deepfakes affected students' trust in media. A significant relationship was found between deepfake awareness and media trust. The researchers recommended stronger media literacy and awareness to help students identify fake content.

[5] **Cea and Sánchez-Macías (2024)**, in "Students' Perceptions of Fake News Created by Artificial Intelligence: The Case of Deep Soria," examined how 118 university students perceived AI-generated fake news through the short film Deep Soria.

The study found that students generally understood the themes of fake news and disinformation, but only a small proportion recognised the AI-based identity manipulation shown in the film. The authors emphasised the importance of AI knowledge, digital skills, education, and critical thinking to help students better understand and identify AI-generated misinformation.

[6] **Arantes (2025)**, in "Unsafe Workplaces, Marketed Students: The Deepfake Policy Gap in Education," examined how deepfake technology creates new risks for students and teachers in educational environments. The study highlights gaps in existing policies concerning privacy, consent, image use, reporting, and protection from AI-generated harm. It recommends stronger and proactive AI governance, privacy impact assessments, clear consent policies, reporting mechanisms, and safety measures to protect students and teachers from deepfake-related risks.

[7] **Naffi (2025)**, "AI-Augmented Disinformation and the Crisis of Knowing: Rethinking Education in the Age of Deepfakes". Highlighted that deepfakes make it difficult to distinguish real from false information. The study emphasised the importance of AI literacy, critical thinking, and digital awareness. It found that repeated exposure to deepfakes on social media can increase belief in misinformation. The study concluded that education should help individuals critically evaluate information and sources.

[8] **Folorunsho and Boamah (2025)** "Deepfake Technology and Its Impact: Ethical Considerations, Societal Disruptions, and Security Threats in AI-Generated Media" highlighted the importance of education and public awareness in addressing the risks of deepfake technology. The article emphasises public awareness as an important way to reduce the harmful effects of deepfakes. The study emphasised that digital literacy and critical evaluation are important for reducing the impact of misinformation and manipulated media.

[9] **Yusra Paul (2025)** "Deepfake Dangers: How AI is Undermining Youth Morality and Privacy" examined the impact of deepfake technology on youth, focusing on privacy, psychological well-being, social relationships, and misinformation. The study highlights that limited AI and media literacy makes young people more vulnerable to manipulation through social media. It also explains that deepfakes can cause emotional distress, social isolation, reputational damage, and disruption to students' education. The study emphasises the need for media literacy, stronger digital policies, responsible technology use, and greater awareness among youth to reduce the harmful effects of deepfakes.

III. RESEARCH GAP

Although previous studies have examined deepfake awareness, misinformation, media trust, and the importance of digital literacy, there is still a gap in understanding **students' actual ability and confidence to identify deepfake videos**. Most studies focus on general awareness and risks, while fewer examine how factors such as **digital literacy, social media exposure, knowledge, perception, and confidence** influence students' ability to distinguish genuine content from manipulated content. There is also limited research focusing specifically on **students in the Chennai context**. Therefore, this study aims to fill this gap by assessing students' awareness, knowledge, perception, confidence, and ability to identify deepfake videos, while also identifying the challenges they face and suggesting measures to improve digital literacy and critical evaluation skills.

IV. RESEARCH METHODOLOGY

Population: The population for the study is school and college students from Chennai District

Sample size: The sample size is 53

Sampling Technique: The technique used in this study is convenience sampling.

Data collection: The data used in this study is collected from both primary and secondary sources.

Primary data: Collected from a Structured Questionnaire through Google Forms.

Secondary data – Journals, Research Papers & Articles, Reports.

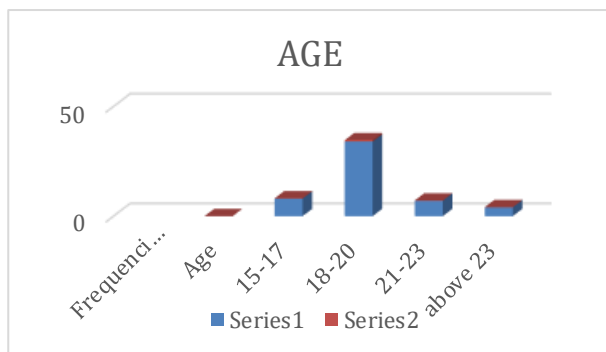


Figure 1. Age-wise Distribution of the Respondents

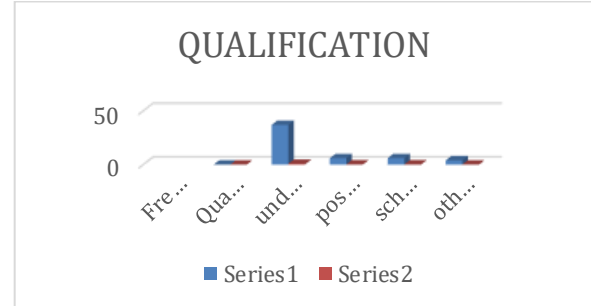


Figure 2. Educational Qualification-wise Distribution of the Respondents

V. ANALYSIS

ANOVA (Analysis of Variance)

Null Hypothesis (H0): There is no significant difference in students' awareness of deepfake information based on their age.

Alternative hypothesis(H1): There is a significant difference in students' awareness of deepfake information based on their age.

TABLE I
ANALYSIS OF AWARENESS BASED ON AGE

	Age	N	Mean	F-value	P-Value
Awareness	15-17	8	1.000	0.659	0.597
	18-20	34	0.853		
	21-25	7	0.571		
	Above25	4	1.000		

since the p-value = 0.597, which is greater than 0.05, the result is not statistically significant.

Therefore, we fail to reject the null hypothesis. This means there is no significant difference in students' awareness levels among the groups being compared.

Null Hypothesis (H_0): There is no significant difference in students' awareness of deepfake information based on their gender.

Alternative Hypothesis (H_1): There is a significant difference in students' awareness of deepfake information based on their gender.

TABLE II
ANALYSIS OF AWARENESS BASED ON EDUCATIONAL QUALIFICATION.

	Qualification	N	Mean	F-value	P-value
Awareness	School	6	8.333	0.151	0.862
	Undergraduate	37	8.32		
	postgraduate	6	8.667		

Since $p = 0.862 > 0.05$, the result is not statistically significant.

Therefore, the null hypothesis is not rejected, indicating that students' age does not have a significant influence on their awareness of deepfake information.

Null Hypothesis (H_0): There is no significant difference in the mean scores of genuine content identification among students of different age groups (15–17, 18–20, 21–25, and above 25).

Alternative Hypothesis (H_1): There is a significant difference in the mean scores of genuine content identification among students of different age groups.

TABLE III
ANALYSIS OF GENUINE CONTENT IDENTIFICATION BASED ON AGE

	Age	N	Mean	F-Value	P-Value
Genuine content	15-17	8	2.25	0.985	4.32
	18-20	34	2.32		
	21-25	7	2.154		
	Above 25	4	1.75		

Since the p-value (.432) is greater than .05, the result is not statistically significant. Therefore, the null hypothesis is not rejected, indicating that students' age does not have a significant influence on their ability to identify genuine content.

Null Hypothesis (H_0): Null Hypothesis (H_0): There is no significant difference in the mean ability to identify deepfake content among students of different age groups (15–17, 18–20, 21–25, and above 25).

Alternative Hypothesis (H_1): There is a significant difference in the mean ability to identify deepfake content among students of different age groups.

TABLE IV
ANALYSIS OF DEEPAKE CONTENT IDENTIFICATION BASED ON AGE

	Age	N	Mean	F-Value	P-Value
Ability To identify	15-17	8	1.25	1.78	0.260
	18-20	34	1.94		
	20-25	7	2.00		
	Above 25	4	1.50		

Since the p-value (.260) is greater than .05, the result is not statistically significant. Therefore, the null hypothesis is not rejected, indicating that students' age does not have a significant influence on their ability to identify deepfake or manipulated content.

Null Hypothesis (H_0): There is no significant difference in the mean familiarity with deepfake content among respondents with different educational qualifications (School, Undergraduate, and Postgraduate).

Alternative Hypothesis (H_1): There is a significant difference in the mean familiarity with deepfake content among respondents with different educational qualifications.

TABLE V
ANALYSIS OF FAMILIARITY WITH DEEPAKE CONTENT BASED ON
EDUCATIONAL QUALIFICATION

	Qualificatio n	N	Mean	F- Value	P- Value
familiarity	School	6	4.00	1.07	0.383
	Undergradu ate	37	2,92		
	postgraduat e	6	3.00		

The results showed that there was no statistically significant difference in familiarity, $F(2, 8.91) = 1.07$, $p = .383$.

Since the p-value (.383) is greater than .05, the result is not statistically significant, Therefore, the null hypothesis is not rejected, indicating that students' age does not have a significant influence on their familiarity with deepfake content.

Null Hypothesis (H_0): There is no significant difference in the mean understanding scores of deepfake content among students of different age groups (15–17, 18–20, 21–25, and above 25).

Alternative Hypothesis (H_1): There is a significant difference in the mean understanding scores of deepfake content among students of different age groups

TABLE VI
ANALYSIS OF UNDERSTANDING OF DEEPAKE CONTENT BASED ON
AGE

	Age	N	Mean	F- Value	P- Value
Understanding	15-17	8	2.75	0.681	0.582
	18-20	34	2.85		
	21-25	7	3.14		
	Above 25	4	2.50		

The results showed that there was no statistically significant difference in understanding, $F(3, 11.0) = 0.681$, $p = .582$.

Since the p-value (.582) is greater than .05, the result is not statistically significant. Therefore, the null hypothesis is not rejected, indicating that students' age does not have a significant influence on their understanding of deepfake content.

VI. SUGGESTIONS

The study suggests that educational institutions should strengthen students' digital literacy and deepfake awareness through regular workshops, seminars, and practical training on identifying AI-generated and manipulated content. Since the findings show no significant differences across age and qualification groups, awareness programmes should be provided to all students rather than targeting a particular demographic. Students should also be encouraged to verify information through reliable sources before sharing content on social media and to use appropriate deepfake detection tools when necessary.

VII. CONCLUSION

The study concludes that deepfake videos have a potentially significant impact on students' ability to identify fake and misleading information, as AI-generated content can appear highly realistic and may influence students' perceptions, trust, and decision-making. However, the ANOVA findings show that there is no statistically significant difference in students' awareness, familiarity, understanding, or ability to identify genuine and manipulated content across the age and qualification groups examined, as all p-values are greater than 0.05. This indicates that age and educational qualification do not significantly influence students' ability to recognise deepfake information in this study. Therefore, the findings highlight the need for greater digital literacy, media awareness, and practical deepfake identification skills among all students, irrespective of their demographic characteristics.

REFERENCES

- [1] Allen et al. (2023) — study on students/participants' to identify deepfake videos and the influence of familiarity and comparison on detection.
<https://www.sciencedirect.com/science/article/pii/S2444569X25001271>
- [2] Ana Isabel Cea & Inmaculada Sánchez-Macias (2024) — study examining deepfake awareness/detection among university students.



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 09, September 2026)

- [3] Arantes (2025) — Unsafe Workplaces, Marketed Students: The Deepfake Policy Gap in Education — discusses deepfake risks to students and gaps in educational policies.
- [4] Naffi, N. (2025). AI-augmented disinformation and the crisis of knowing: Rethinking education in the age of deepfakes. UNESCO Futures of Education. □
- [5] Cea, A. I., & Sánchez-Macías, I. (2024). Students perceptions of fake news created by artificial intelligence: The case of Deep Soria. *Journal of Technology and Science Education*, 14(4), 1011–1024. <https://doi.org/10.3926/jotse.2735>
- [6] Alanazi, S., & Asif, S. (2024). Exploring deepfake technology: Creation, consequences and countermeasures. *Human-Intelligent Systems Integration*, 6, 49–60. <https://doi.org/10.1007/s42454-024-00054-8>
- [7] Laczi, S. A., & Póser, V. (2024). Impact of deepfake technology on children: Risks and consequences. *2024 IEEE 22nd Jubilee International Symposium on Intelligent Systems and Informatics (SISY)*, 215–220. <https://doi.org/10.1109/SISY62279.2024.10737593>
- [8] Arantes, J. (2025). Unsafe workplaces, marketed students: The deepfake policy gap in education. *Policy Futures in Education*, 24(3), 436–452. <https://doi.org/10.1177/14782103251381953>