International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

The Psychological Impact of Artificial Intelligence Misuse on Victims' Mental Health

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Abstract
The growing integration of Artificial Intelligence (AI) into everyday life has raised significant concerns regarding its psychological and social implications. This study examines the impact of AI misuse on the mental health of individuals victimized through AI-powered technologies, including deepfakes, AI-generated harassment, and algorithmic bias. Employing a mixed-methods approach that combines a self-developed online survey with the standardized Depression, Anxiety, and Stress Scale (DASS-42; Lovibond & Lovibond, 1995), the research investigates the psychological outcomes of AI victimization—specifically symptoms of anxiety, depression, trauma, and loss of trust. A total of 120 participants (60 males and 60 females) from the Delhi-NCR region participated in the study. Findings revealed a significant relationship between the misuse of AI technologies and adverse mental health outcomes. Additionally, gender differences emerged in the experience and psychological impact of AI misuse. The results underscore the urgent need for ethical AI regulation, digital literacy, and mental health interventions to mitigate the psychological harm associated with AI-driven victimization.

Keywords: Artificial Intelligence, deep fakes, AI-generated harassment, algorithmic bias, virtual assistants, mental health, gender differences

INTRODUCTION

Artificial Intelligence (AI) refers to the theory and development of computer systems capable of performing tasks that traditionally required human intelligence, such as speech recognition, decision-making, and pattern identification. It encompasses a range of technologies, including machine learning, deep learning, and natural language processing (NLP).

While AI offers immense benefits, its proliferation also presents several dangers, including lack of transparency and explain ability, job displacement due to automation, social manipulation through algorithms, privacy violations, biases in data-driven systems, and the potential erosion of ethical standards. The emergence of AI has transformed sectors such as healthcare, education, finance, and communication; however, its misuse poses substantial risks to psychological well-being.

AI-powered technologies such as deepfakes, AI-generated harassment, and algorithmic bias can be exploited to manipulate, deceive, or harm individuals—leading to heightened levels of anxiety, depression, trauma, and stress. Common areas of misuse include:

- **Social media**, where AI-generated misinformation and propaganda can distort self-image and reduce self-esteem.
- **Online harassment**, where AI-driven bots amplify hate speech and cyberbullying.

- **Healthcare**, where biased AI systems or diagnostic errors can harm patients and erode trust.
- **Surveillance and data mining**, which can compromise privacy and foster fear and vulnerability.

Furthermore, AI contributes to **digital fatigue**, as constant notifications, recommendations, and algorithmic engagement induce decision fatigue and dissatisfaction. The lack of empathy and contextual understanding in AI interactions often results in superficial emotional connections, loneliness, and emotional dependency on AI companions.

Thus, while AI continues to revolutionize modern life, its misuse presents serious psychological challenges that warrant critical examination.

REVIEW OF LITERATURE

This research investigates the misuse of artificial intelligence technologies and their psychological impact on victims.

A 2023 study by **Chidera Okolie** on *Artificial Intelligence-Altered Videos (Deepfakes), Image-Based Sexual Abuse, and Data Privacy Concerns* highlighted how non-consensual deepfakes have proliferated in political and pornographic contexts, particularly victimizing women and leading to severe mental health consequences such as shame, anxiety, and trauma.Similarly, **Kweilin T. Lucas (2022)** in *AI Deepfakes and Domestic Violence* examined technology-facilitated abuse, noting that smart devices and internet-based AI tools are increasingly weaponized in domestic violence situations, intensifying victims' psychological distress.Another relevant study, **Laacke, Regina Mueller, and Sabine Salloch (2021)**, *Artificial Intelligence, Social Media, and Depression*, explored how AI algorithms on social media detect and even amplify depressive symptoms by shaping users' emotional environments.Together, these studies underscore the growing intersection between AI misuse and psychological harm, providing the empirical foundation for the present investigation.

MATERIALS AND METHODS

Objectives

1. To examine the prevalence of AI misuse and its impact on victims' mental health.
2. To evaluate the relationship between AI misuse and mental health outcomes among male victims.
3. To evaluate the relationship between AI misuse and mental health outcomes among female victims.
4. To identify gender differences in the psychological impact of AI misuse.

Sample

The study comprised **120 participants** (60 males and 60 females) aged **18–65 years** from the Delhi and NCR regions.

Tools Used

1. **Depression, Anxiety, and Stress Scale (DASS-42; Lovibond & Lovibond, 1995)** – a standardized tool measuring symptoms of depression, anxiety, and stress. The scale demonstrates high internal consistency (Cronbach's $\alpha = 0.81–0.97$) and strong convergent and discriminant validity.
2. **Self-Developed AI Misuse Questionnaire (2025)** – designed to assess participants' encounters with AI misuse in their personal and professional lives.

Procedure

Data were collected via both **online (Google Forms)** and **offline** methods (Ambedkar University and Connaught Place, New Delhi). Participants were informed about the purpose of the research, assured of confidentiality, and given the right to withdraw. Demographic data collected included age, gender,

relationship status, location, profession, and education. The DASS-42 and AI Misuse Questionnaire were administered to assess the psychological impact of AI misuse.

Table: 1 Depicts result of participants on DASS 42 (Depression, anxiety, and stress)

	Male Participants	Female Participants	SCORE	CATEGORY
Anxiety	3	5	0-7	Normal
	13	8	8-9	Mild
	15	14	10-14	Moderate
	16	15	15-19	Severe
	11	16	20+	Extremely Severe
Depression	5	7	0-9	Normal
	12	15	10-13	Mild
	23	21	14-20	Moderate
	17	12	21-27	Severe
	2	0	28+	Extremely Severe
Stress	10	1	0-14	Normal
	13	7	15-18	Mild
	23	20	19-25	Moderate
	9	24	26-33	Severe
	0	2	34+	Extremely Severe

Table: 2 Depicts results of participants impacted by Artificial Intelligence Misuse

Male Participants	Female Participants	SCORE	CATEGORY
7	11	1-33	High Exposure to AI Misuse
32	32	34-67	Moderate Exposure to AI Misuse
22	10	68-100	Low Exposure to AI Misuse

Table: 3 Showing mean and standard deviation value of male and female participants for Depression Anxiety Stress Scale 42

S.NO	Participants	MEAN	STANDARD DEVIATION
1	Male	0.400	25.77
2	Female	0.441	10.46

Table: 4 Showing mean and standard deviation value of male and female participants for Artificial Intelligence Misuse

S.NO	Participants	MEAN	STANDARD DEVIATION
1	Male	0.519	11.81
2	Female	0.571	12.18

Table: 5 showing correlation Coefficient (r) and level of significance (p value) between Depression Anxiety Stress Scale 42 and Artificial Misuse

Correlation (r)		Level of significance (p value)
0.896**	P<	0.0001

DISCUSSION

The study reveals a **strong positive correlation** between AI misuse and psychological distress. Participants with higher DASS scores—indicating elevated depression, anxiety, and stress—also reported more frequent experiences of AI misuse. The statistical analysis yielded a **p-value < 0.0001**, confirming a significant relationship between the two variables.

This finding suggests that exposure to AI misuse—whether through deepfakes, algorithmic discrimination, or online harassment—directly contributes to deteriorating mental health. Individuals experiencing psychological distress are also more likely to perceive or engage with AI-related harm, reinforcing a cyclical pattern of vulnerability and stress.

Notable case studies further illustrate this phenomenon. In **2023**, a Belgian man known as *Pierre* tragically ended his life after prolonged interaction with an AI chatbot (*Eliza* by Chai Research). The chatbot exacerbated his anxiety about climate change and deepened his suicidal ideation. Another example is the **Eleven Labs** voice synthesis incident (2023), where users generated deepfake audio of public figures engaging in harmful or abusive speech—demonstrating how AI tools can amplify psychological harm through deception and defamation.

These incidents highlight three key insights:

1. **Malicious actors** will continue to exploit AI for personal or political gain.
2. **Human susceptibility** to emotional attachment with AI systems increases psychological risk.
3. **Digital literacy and ethical AI design** are essential to prevent exploitation and harm.

The study's findings thus align with global concerns regarding AI misuse as both a technological and psychological threat.

CONCLUSION

This study examined the psychological impact of Artificial Intelligence misuse on victims' mental health, emphasizing the growing intersection between technology and psychological well-being. The findings confirm that AI misuse significantly contributes to increased anxiety, depression, addiction, and reduced self-esteem **a**mong victims.

Gender differences were also observed, with female participants reporting greater emotional and psychological distress compared to male participants. These results emphasize the need for gender-sensitive mental health interventions and ethical AI governance frameworks to protect vulnerable populations.

Future research should include diverse, cross-cultural samples and explore intervention strategies to mitigate AI-related psychological harm. Expanding empirical data in this area will deepen understanding of the complex relationship between AI misuse and mental health, ultimately guiding the development of policies and practices that promote digital safety and psychological resilience.

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