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IS THE INDIAN YOUNG POPULATION'S USAGE OF GENERATIVE AI THE ACADEMIC DRIVER FOR THE NEXT DECADES?

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Abstract

This qualitative study investigates the extent and nature of generative AI usage among young Indians for academic purposes. Employing a thematic analysis of data collected from 206 participants aged 16-30, the research explores the motivations driving this adoption, examining the shift from traditional research methods towards AI-powered tools. Findings reveal a high level of awareness and frequent usage of generative AI across various platforms, primarily driven by convenience, efficiency, and ease of access. While participants express limited concern regarding ethical implications, the study highlights the potential for over-reliance and the need for greater awareness of responsible AI usage. The research contributes to a growing body of work examining the impact of generative AI on young people, emphasizing the need for responsible adoption strategies, particularly in educational settings. Further quantitative research with larger, more representative samples is recommended to corroborate and extend these initial qualitative findings.

Keywords: Artificial Intelligence, Generative AI, Youth, India, Ethical Considerations

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Introduction

Generative Artificial Intelligence, or Generative AI for short, is a remarkable field at the intersection of computer science, machine learning, and artificial intelligence that has been gaining significant attention and driving innovation in recent years. It is a burgeoning field that has garnered significant attention recently due to its capacity to generate content autonomously. Researchers and practitioners have harnessed the potential of generative models to create new data, including text, images, and music. It encompasses diverse techniques and models designed to create, mimic, or generate data, content, or even entire systems autonomously. The fundamental principle behind Generative AI is learning patterns and structures from existing data and then using that knowledge to generate new data that resembles the training data. This technology has brought ground-breaking advancements in various domains, including natural language processing, computer vision, and creative arts. As a result, Generative AI has found applications in fields such as content creation, data augmentation, anomaly detection, drug discovery, and more, pushing the boundaries of what AI can achieve. Generative AI relies on various models and algorithms to produce content. One prominent model is the Generative Adversarial Network (GAN) proposed by Goodfellow et al. (2014). GANs consist of a generator and a discriminator network engaged in a game-theoretic process, where the generator aims to create indistinguishable content from accurate data. GANs have found applications in image synthesis (Karras et al., 2019) and style transfer (Gatys et al., 2016). Another vital model is the Variational Autoencoder (VAE) introduced by Kingma & Welling (2013). VAEs enable data generation while also learning a probabilistic latent space representation. VAEs have been employed for image generation and data reconstruction tasks (Larsen et al., 2016). Generative AI has demonstrated its versatility across numerous domains. In natural language processing, models such as Open AI's GPT-3 (Brown et al., 2020) have shown exceptional capabilities in text generation, translation, and question-answering tasks. In the visual domain, Style GAN (Karras et al., 2019) has facilitated the creation of realistic images and videos, impacting industries like entertainment and fashion. Generative AI is not merely a technological marvel but a profound shift in how people approach problem-solving and creativity. Imbuing machines with the ability to generate novel content and ideas opens the doors to entirely new possibilities in fields like art, entertainment, healthcare, academia, and beyond. Generative AI has shown promise in healthcare, assisting drug discovery (Segler et al., 2018) and medical image synthesis (Wolterink et al., 2017). Creative applications include music composition (Hadjeres et al., 2017) and artwork generation, exemplified by the sale of AI-generated artwork at auction (Christie's, 2018). As we continue to unlock the potential of Generative AI, it is crucial to navigate this transformative technology's ethical, legal, and societal implications, ensuring that it serves as a force for good and benefits humanity. In the following pages, we will embark on a journey to explore the intricacies of Generative AI, uncovering its capabilities, limitations, and the myriad ways it is reshaping the future of AI-driven innovation. Unlike traditional AI, which is often used for tasks like classification and prediction, Generative AI focuses on the creative aspect of AI, enabling machines to produce new and original content that can range from text and images to music and beyond and because of the excellent level of diversity, it is opening a new horizon for quick and easy reservoir of knowledge to the young generation. Despite its remarkable advancements, Generative AI faces several challenges. Ensuring the ethical use of AI-generated content is a pressing concern. It addresses bias, misinformation, and deepfake technology (Hao, 2019). Privacy concerns also emerge as AI models become capable of generating highly personalized content (Zhang, 2022). Moreover, the robustness and interpretability of generative models remain areas of active research (Schmidhuber, 2015). Under such an impactful scenario, it is probably imperative to use generative AI in every sphere of life. This becomes an underlying reason for investigating the addictive nature of youth using generative AI.

Main Focus of the Study

As already discussed, the study will try to investigate the degree of intensity and awareness of the young generation in India using different AI-based applications and websites for academic interests. Also, it would explore the reasons behind the gradual shift from manually finding adequate information to the dependence on artificial intelligence. It would also reconnoiter the purposes of using generative AI in academia. Figure 1 shows the main focus of the study through a basic flowchart.

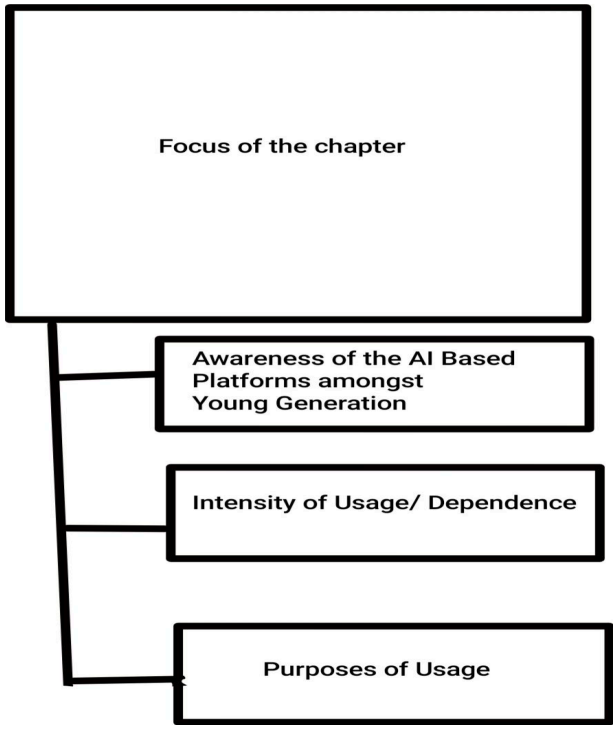

Figure 1 Shows the Main Focus of the Study

Research Methodology

This qualitative study investigates the awareness, usage patterns, and perceptions of generative AI among young people in India. The research employed a mixed-methods approach, combining a literature review with primary data collection.

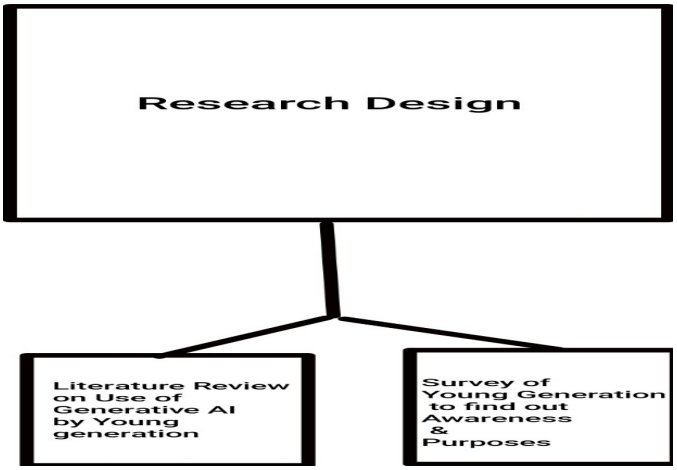

Figure 2 Shows the Basic Research Design for the Study

Participants: The study population comprised young Indian adults capable of independent decision-making. A sample of 206 participants, aged 16-30, was recruited from 27 Indian cities

using a random sampling technique. Data were collected through various methods to ensure anonymity and encourage candid responses (detailed below). The sample included high school, undergraduate, and postgraduate students and young professionals. Additionally, five expert interviews were conducted.

Table 1 Shows the Age Distribution of the Respondents

Serial No.	Number of Respondents	Age Group
1	76	Below 18 years
2	85	18-25 years
3	45	Above 25 years
Total	**206**	

Table 2 Shows Professional Arena of the Respondents

Serial No.	Number of Respondents	Age Group
1	70	High school Students (12 Grade)
2	75	Under Graduate Students
3	45	Post Graduate Students
4	16	Scholars
Total	**206**	

Data Collection: Data were collected through semi-structured interviews (utilizing open-ended and dichotomous questions informed by an initial focus group), online surveys, and WhatsApp communication. Interviews followed a thematic pattern-coding approach. Secondary data comprised a literature review of relevant books, articles, and electronic resources.
Data Analysis: Qualitative data analysis identified recurring themes within interview transcripts and survey responses. Descriptive statistics (percentages) were used to summarize demographic data. Due to the qualitative nature of the analysis, no reliability or multicollinearity tests were conducted.
Research Questions: This study addressed the following research questions:
1) What is the background of generative AI?
2) What is the level of awareness regarding generative AI among young people in India?
3) What factors contribute to the adoption of AI-based platforms by young people in India?
4) What are the primary purposes for which young Indians utilize generative AI?
5) Does the use of generative AI exhibit addictive tendencies among young Indians?
6) What platforms are most frequently used by young Indians to explore generative AI?
7) Are young Indians concerned about the ethical implications of using generative AI?

Background of Generative AI

Generative AI emerged by developing algorithms that produce novel data, including text, music, and images. This capability is the central focus of the rapidly expanding field of generative artificial intelligence. These algorithms, trained on large datasets of existing data, generate new data comparable to their training input. The potential applications of generative AI are extensive, encompassing creative content generation, drug discovery, and materials design.
The origins of generative AI can be traced to early AI research. In the 1960s, Alan Turing's concept of a "Learning Machine," capable of learning from and generating data, foreshadowed key developments in the field. This idea spurred the development of early generative AI models, such as autoencoders and generative adversarial networks (GANs). Autoencoders, a type of neural network, are trained to reconstruct their input data. For example, an autoencoder

might be given an input image and trained to generate an output image as similar as possible to the input. Autoencoders often serve as a foundational component in more complex generative AI models because of their ability to capture the underlying structure of a dataset.
GANs comprise two competing neural networks: a generator and a discriminator (Goodfellow et al., 2014). The generator produces new data, while the discriminator assesses whether the data is accurate or synthetic. GAN training involves simultaneously training the generator to produce data indistinguishable from actual data and the discriminator to distinguish between real and synthetic data.
Recent advancements in generative AI (Donahue et al., 2017) have been fueled by the development of new algorithms, such as variational autoencoders and diffusion models, and increased computational power. Introducing adversarial networks, such as CycleGANs (Zhu et al., 2017), which learn to translate images between domains without paired data, represents a notable contribution. GANs have found applications in drug discovery and development, including molecule generation, optimization, and virtual screening (Tripathi et al., 2022), and in materials science, encompassing tasks such as crystal structure prediction, material property prediction, and material synthesis. These advancements have enabled generative AI models to produce increasingly realistic and high-quality data. (Figure 4).

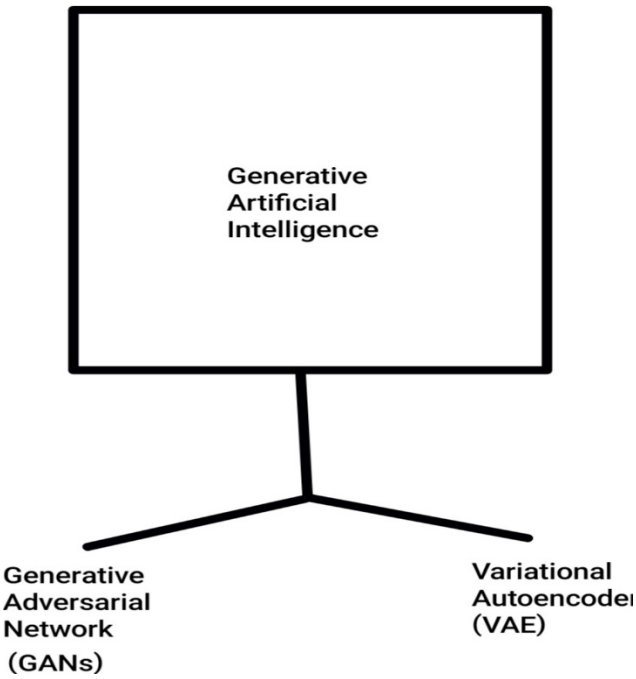

Figure 3 Shows the Two Vital Domains of Generative AI

Use of Generative AI by Young Generation

Young people have rapidly adopted generative AI (Lv, 2023), a powerful technology capable of generating diverse data, including images, music, and text (Fadnavis et al., 2023). This technology has broad applications across numerous sectors, including creative content generation (Yang et al., 2018), education, and entertainment (Habib et al., 2024). Furthermore, young people utilize generative AI for problem-solving, such as in product design and drug development (Zhu et al., 2018).
One prominent application is creative content generation (Lv, 2023). Generative AI produces images, music, and text often indistinguishable from human-created content (Fadnavis et al., 2023), enabling young people to express themselves creatively (Yang et al., 2018), create art and music, and explore new narrative forms with reduced manual effort (Habib et al., 2024).

In education, generative AI facilitates personalized learning experiences and provides new assessment opportunities (Zhu et al., 2018). Applications include personalized learning pathways (Habib et al., 2024), automated feedback on student work, and the generation of new educational materials (Lv, 2023). In entertainment, generative AI creates interactive games (Yang et al., 2018), personalized stories, and immersive virtual reality experiences (Habib et al., 2024). Problem-solving applications extend to product design (Lv, 2023), drug development (Fadnavis et al., 2023), and transportation system optimization (Yang et al., 2018).

The widespread adoption of generative AI by young people presents numerous opportunities. It empowers creativity, self-expression, and problem-solving (Fadnavis et al., 2023) while enhancing learning, entertainment, and social interaction (Yang et al., 2018). Young people are at the forefront of generative AI adoption (Zhu et al., 2018), and this technology can revolutionize how they learn, create, and solve problems (Lv, 2023). However, it is crucial to ensure that young people know both the benefits and potential risks of generative AI to promote its safe and responsible use (Fadnavis et al., 2023).

Fundamental Concept of the Generative AI

Generative AI is a subfield of artificial intelligence focused on developing algorithms capable of generating novel data. These algorithms are trained on extensive datasets and produce new data that resembles the training data. Generative AI has broad applications, including drug discovery, materials design, and creative content generation.

Generative AI systems create new content that is often indistinguishable from human-generated output. Models such as GPT-3, Bard, and Bing are trained on massive datasets to learn underlying patterns and generate diverse outputs, ranging from text to images. These models employ probabilistic frameworks to generate content based on input, demonstrating their potential for creative and problem-solving tasks.

Generative AI operates by learning data representations and then utilizing these representations to generate new outputs. This process involves understanding the underlying structure and characteristics of the input data, enabling the generation of coherent and contextually relevant content. The technology finds applications in natural language processing, image synthesis, and creative content generation, advancing AI-driven creativity and problem-solving capabilities.

Key concepts underlying generative AI include latent variables, encoder-decoder architectures, generative adversarial networks (GANs), variational autoencoders (VAEs), and diffusion models. Generative AI frequently leverages neural networks, particularly GANs and transformers. GANs comprise a generator network that creates content and a discriminator network that evaluates its authenticity, resulting in iterative refinement of generated outputs. Transformers, exemplified by GPT-3, utilize attention mechanisms to capture complex relationships within data, leading to more sophisticated content generation.

As this technology continues to develop, the ethical implications of generative AI, including addressing biases in training data and promoting responsible use, are critical considerations.

Applications of Generative AI

Generative AI has many potential applications, which are illustrated below (Figure 4).

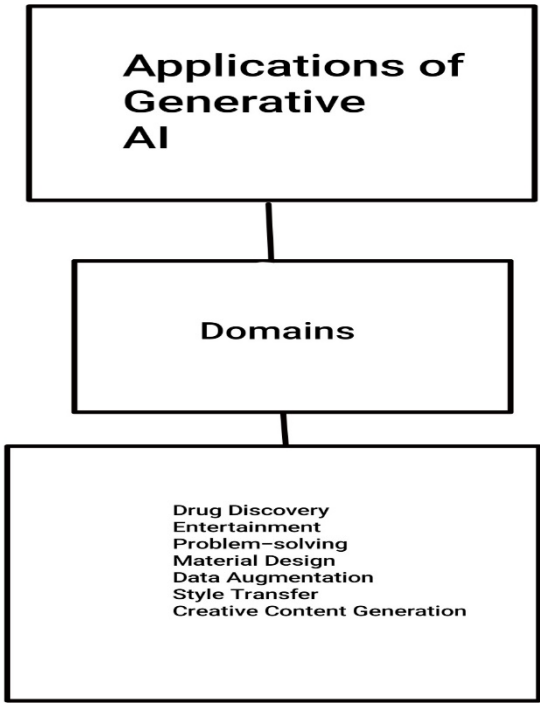

Figure 4 Shows the Quintessential Fields of Current Applications of Generative AI

Drug Discovery: Generative AI significantly advances drug discovery by generating molecules with desired properties (Jensen et al., 2022). Its applications include:
1) Identifying Novel Drug Targets: Analysis of extensive biological data allows AI models to identify promising protein targets for drug development that were previously unknown.
2) Designing Novel Drugs: AI generates virtual molecules with specified properties, accelerating the identification of potential drug candidates.
3) Predicting Drug Efficacy and Safety: AI models analyze pre-clinical study data to predict drug efficacy and safety, reducing reliance on extensive and costly animal testing.
4) Optimizing the Drug Development Process: AI streamlines drug development by identifying promising candidates early and optimizing testing and development procedures.
5) Personalizing Medicine: Generative AI facilitates personalized medicine by tailoring drug therapies to individual patient genetic profiles and specific needs.
Generative AI has the potential to revolutionize drug discovery by enhancing efficiency, effectiveness, and personalization.
Entertainment: Generative AI is transforming the entertainment industry (Fadnavis et al., 2023) through applications such as:
1) Creating Immersive Virtual Worlds: AI-powered simulations provide realistic and interactive experiences in games, films, and other entertainment formats, blurring the lines between virtual and real-world experiences.
2) Personalized Storytelling: AI tailors content to individual preferences, creating unique and engaging narratives through personalized recommendations, interactive stories, and adaptive games.
3) Generating Realistic Characters and Voices: AI generates realistic and believable characters with unique voices and personalities, enhancing audience immersion.
4) Automating Creative Tasks: AI automates creative tasks such as music composition, sound effect generation, and scriptwriting, allowing human artists to focus on higher-level creative endeavors.

5) Developing Novel Forms of Entertainment: Generative AI enables entirely new forms of entertainment, such as AI-generated interactive theatrical performances, personalized music that evolves in real-time, or AI-powered virtual companions.
Generative AI is poised to shape the future of entertainment significantly.
Problem-Solving: Generative AI is increasingly employed to address complex challenges (Zhu et al., 2018), including:
1) Generating Hypotheses and Solutions: AI models analyze vast datasets to identify potential solutions to complex problems that humans might overlook.
2) Optimizing Processes and Decision-Making: AI simulates various scenarios and predicts the outcomes of different decisions, leading to better-informed and optimized solutions.
3) Accelerating Scientific Research and Discovery: AI assists scientists by generating and testing hypotheses, analyzing data, and designing experiments, accelerating scientific discovery.
4) Personalizing Solutions: AI personalizes solutions to specific problems based on individual needs and preferences, resulting in more effective interventions.
5) Augmenting Human Intelligence: AI collaborates with humans to brainstorm ideas, explore possibilities, and develop creative solutions to complex problems.
Generative AI holds significant potential for enhancing problem-solving across diverse domains, leading to more efficient, effective, and innovative solutions.
Materials Design: Generative AI is revolutionizing materials science by enabling the design of novel materials with desired properties such as strength, conductivity, and biocompatibility. Key applications include:
1) Discovering Novel Materials: AI analyzes existing materials to identify patterns and predict the properties of entirely new materials.
2) Optimizing Material Properties: AI designs and optimizes materials for specific applications, tailoring properties to achieve desired performance characteristics.
3) Accelerating Material Development: AI significantly reduces the time and cost of material development by automating computational tasks and identifying promising candidates for further research.
4) Personalizing Materials: AI enables the creation of customized materials to meet specific needs and preferences across diverse applications.
5) Generating Bio-Inspired Materials: AI learns from natural structures to design materials that mimic the superior properties of biological systems.
Generative AI's potential in materials design is immense, paving the way for lighter, stronger, more efficient, and sustainable materials across various industries.
Data Augmentation: Generative AI plays a crucial role in data augmentation, enhancing both the quality and quantity of data for training machine learning models:
1) Generating Synthetic Data: AI creates synthetic data that resembles real-world data, mitigating data scarcity and reducing the need for extensive and expensive data collection.
2) Augmenting Existing Data: AI manipulates existing data through transformations or noise addition to increase dataset diversity and improve model generalizability.
3) Addressing Data Imbalance: AI generates additional data points for underrepresented classes to create balanced datasets and improve model performance across diverse scenarios.
4) Enhancing Data Privacy: AI generates synthetic data that preserves statistical properties while protecting individual privacy, enabling the use of sensitive data for model training without compromising confidentiality.
5) Tailoring Data for Specific Tasks: AI generates data relevant to specific tasks or applications, leading to more effective and accurate models for targeted domains.
Data augmentation using generative AI leads to more robust, generalizable, and accurate machine-learning models.

Style Transfer: Generative AI facilitates style transfer across various creative mediums:
1) Image Style Transfer: AI algorithms analyze and apply the stylistic elements of one image to another, altering the artistic style and visual appearance.
2) Text Style Transfer: AI models learn the writing styles of specific authors or genres to generate text mimicking their distinct characteristics.
3) Music Style Transfer: AI analyzes stylistic features of musical pieces to generate new music in a similar style while introducing creative variations.
4) Video Style Transfer: AI manipulates videos to adopt the stylistic elements of other visual mediums, creating unique visual experiences.
5) Personalized Style Transfer: AI adapts style transfer techniques to individual preferences, allowing users to personalize the style of creative outputs.
Generative AI offers increased creative control and flexibility in style transfer, enabling artists and designers to explore new creative possibilities.
Creative Content Generation: Generative AI is revolutionizing creative content generation (Yang et al., 2018) by:
1) Generating Original Content: AI creates original art, music, text, and code, exploring creative possibilities beyond human imagination.
2) Assisting Human Creators: AI assists artists and writers by generating ideas and drafts and overcoming creative blocks.
3) Personalizing Content: AI personalizes creative content to individual preferences.
4) Democratizing Creativity: AI tools empower individuals to explore their creative potential.
5) Expanding Creative Possibilities: Generative AI opens doors for new forms of artistic expression and interactive experiences.
Generative AI is ushering in a new era of creativity, expanding artistic horizons, and enriching the cultural landscape.

Trends in the Domain of Generative AI

Generative AI rapidly transforms various domains, driving significant advancements and posing unique challenges. Key trends include:
1) Multimodal Creativity: Generative models evolve beyond single modalities (text or image only) to encompass diverse media formats. This facilitates the creation of interconnected content, such as music videos and interactive narratives, and enhances the realism and personalization of generated outputs, leading to more immersive and tailored experiences.
2) Democratization of AI-Powered Creativity: User-friendly interfaces and open-source platforms make generative AI accessible to a broader audience, empowering individuals to explore creative avenues without requiring technical expertise. Simultaneously, integrating AI tools into creative workflows fosters collaborative human-computer interactions and unlocks new possibilities for artistic expression.
3) Expanding Applications: Generative AI is revolutionizing numerous industries, including fashion, design, marketing, and entertainment, through applications such as product design, marketing material generation, personalized content creation, and interactive experience development. Scientific research accelerates hypothesis generation and data analysis in fields like drug discovery and materials science, facilitating faster scientific breakthroughs.
4) Ethical Considerations and Responsible Development: The increasing power of generative AI necessitates addressing ethical concerns such as bias and fairness in generated content. Efforts focus on developing inclusive models and mitigating biases through careful data selection and algorithm design. Transparency and explainability are also critical; ongoing research is being done to develop methods for understanding how these models arrive at their outputs, fostering trust and responsible use.
5) Interconnectedness with Other AI Advancements: Generative models are increasingly integrated with other AI technologies, such as natural language processing, computer vision,

and robotics. This convergence creates powerful capabilities for understanding and interacting with the world, leading to hybrid intelligence. This collaborative approach combines human creativity and AI capabilities to achieve unprecedented innovation and problem-solving.

Issues, Controversies, and Challenges in Generative AI

Generative AI presents several ethical challenges, particularly concerning the responsible use of AI-generated content, especially among young people. Key concerns include:

1) Bias and Fairness: Generative AI models trained on biased datasets may perpetuate and amplify existing societal biases in their outputs (Gallegos et al., 2024; Hanna et al., 2025).

2) Lack of Transparency and Explainability: The lack of transparency in the decision-making processes and output generation of generative AI models raises concerns about trust and accountability (Ribeiro et al., 2016; Hassija et al., 2024). Methods such as Layer-Wise Relevance Propagation (LRP) or model-agnostic explanation frameworks are being developed to address this issue.

3) Misinformation: The ability of generative AI to create realistic and persuasive content poses a significant risk of misinformation through deepfakes, synthetic text and images, algorithmic bias, and the automation of misinformation campaigns.

4) Accountability and Control: The ethical dilemma of assigning accountability for the actions of generative AI models, particularly in high-stakes sectors, raises concerns about potential misuse and harm (Hao, 2019). Frameworks emphasizing human control and responsibility are being proposed (Mittelstadt et al., 2016; Huang et al., 2023).

5) Privacy Concerns: Generating highly personalized content raises significant privacy concerns (Zhang, 2022).

A survey (results summarized in Table 3) suggests that Indian youth may not be overly concerned about the ethical implications of generative AI due to a lack of perceived consequences for misuse and a belief that publicly available information is ethically permissible.

Table 3 Shows the Ethical Considerations of the Youth regarding Usage of Generative AI

Category Coding	Number of Respondents	Percentage	Theme
1	127	61.65	Not bothered about ethical consideration
2	176	85.44	Not bothered about consequences
3	167	81.07	Have not seen anyone suffer / no consequences
4	172	83.50	Believe in nullified impact due to prodigal usage
5	93	45.15	Taken as Accepted norms
6	86	41.75	Encouraging others to use
7	49	23.78	Do not consider it unethical since this is information available in the public sphere.

Mitigating Ethical Risks in Generative AI

Given the widespread adoption of generative AI, particularly among young people, proactive measures are crucial to address associated ethical concerns. Strategies should promote responsible development and use rather than attempting to restrict access. Key recommendations include:

1) Promoting Transparency and Explainability: Generative AI models should be designed with transparency and explainability as core principles. This involves developing techniques to make these models' internal workings and decision-making processes understandable to users, fostering trust and enabling informed usage.
2) Enhancing Data Governance: Robust frameworks ensure responsible data collection, curation, and use in generative AI models. This includes prioritizing diverse, unbiased, and representative datasets to mitigate bias and prevent the generation of harmful content.
3) Verifying Content Authenticity: Mechanisms for verifying the authenticity of AI-generated content are necessary. This involves implementing fact-checking tools, content moderation systems, and comprehensive user education campaigns to maintain ethical standards.
4) Establishing Regulatory Frameworks: Governments and regulatory bodies must establish clear frameworks to oversee the development and deployment of generative AI technologies. These frameworks should address critical issues such as bias, accountability, and the spread of misinformation.

Proposed Solutions for Establishing Ethical Standards

Effective solutions require multi-faceted approaches:
1) Multi-Stakeholder Collaboration: Addressing the ethical challenges of generative AI, mainly misinformation, demands collaboration among researchers, developers, policymakers, and civil society organizations. This collaborative approach ensures a holistic understanding of the issues and facilitates the development of comprehensive solutions.
2) Education and Awareness Initiatives: Public education programs starting early are essential to raising awareness about the potential for misuse of generative AI and the methods for identifying and mitigating misinformation. Educational institutions can play a vital role by incorporating relevant training into curricula and offering specialized courses to equip individuals with the skills necessary to critically assess and utilize generative AI responsibly.
3) Technological Advancements: It is crucial to continue developing technologies to detect and prevent the spread of misinformation. This includes ongoing research and development of tools such as advanced fact-checking software and deepfake detection algorithms.

Discussion

This study examines the awareness and usage of generative AI among young people in India, a developing nation with relatively limited internet penetration. Despite this limited digital access, the findings reveal a surprisingly high level of awareness. All respondents demonstrated familiarity with the term "generative AI," as evidenced by positive responses in a word association task (Table 4). Even those participants (24.1%, n = 50) who reported no prior experience with generative AI tools exhibited awareness of the term.

Table 4 Shows the Self-proclaimed Awareness Levels and Dependence on AI Platforms of the Respondents

Category Coding	Number of Respondents	Theme
1	15	Aware of the term but do not know in detail
2	9	Aware of it but never used
3	67	Aware and use it intermittently
4	89	Aware and use it frequently
5	26	Aware of and have grown dependent on it
Total	**206**	

While overall awareness is high, the dependence on generative AI platforms is significantly lower. Only 26 respondents (12.6%, n = 50) explicitly admitted dependence on generative AI

systems for data mining. Although the remaining participants reported using generative AI for various purposes, they did not acknowledge a level of reliance suggestive of addictive behavior. However, responses to questions regarding their ability to function without generative AI in the future were revealing (Table 6). A substantial majority (92%) indicated a perceived inability to manage without generative AI. Further investigation into usage frequency and intensity (Table 5) indicated heavy usage patterns in a substantial proportion of the sample, potentially indicative of problematic use. When asked directly about the growing dependence on generative AI, most respondents provided affirmative responses. Usage frequency ranged from four to seven days per week, suggesting intensive reliance.

Table 5 Shows the Usage Rate for Different Generative AI Platforms

Category Coding	Number of Respondents	Theme
1	42	Usage varies/Irregular pattern
2	31	Use at least 4 days/week
3	109	Use almost every day/week
4	9	Never used
5	15	Do not know the application
Total	**206**	

Table 6 Shows the Confidence of Respondents to Survive without the Help of Generative AI in the Future

Category Coding	Number of Respondents	Percentage	Theme
1	30	14.56	Not sure
2	103	50.00	Difficult
3	56	27.18	No
4	17	8.25	Yes
Total	**206**		

The shift towards generative AI for data acquisition is primarily attributed to its convenience and ease of use, with respondents citing "stress-free" and "hazard-free" experiences (Table 8). The preference for readily available, customized data through generative AI platforms is evident, compared to the perceived challenges of traditional data searching methods. The primary applications of these platforms among young people include content creation and problem-solving for academic assignments and projects (Table 9). Data augmentation, extraction, and self-assessment tools (e.g., mock tests) are also frequently utilized. Respondents ' usage patterns of paid versus unpaid versions of generative AI platforms varied (Table 10), with those using paid versions citing additional features and benefits (Table 11). In contrast, users of free versions reported sufficient functionality in the unpaid options.

Table 7 Shows the Responses of Respondents to the Consideration Dependence of Young Indians on Generative AI

Category Coding	Number of Respondents	Percentage	Theme
1	179	86.89	Yes
2	19	9.22	No
3	8	3.88	Not Sure

Table 8 Shows the Reasons behind Shifting from Manual Data Mining to AI-Based Data Extraction and Creation

Category Coding	Number of Respondents	Theme
1	182	Convenient
2	179	Comfort
3	176	Less time consuming
4	168	Stress-free
5	159	Shortcut to success
6	121	Easy way out
7	114	No hazards
8	86	Less attention span

Table 9 Shows the Purpose of Using Generative AI-Based Platforms

Category Coding	Number of Respondents	Percentage	Theme
1	167	81.07	Assignment solving/Project completion
2	82	39.81	Explaining terms
3	158	76.69	Data extraction
4	154	74.76	Mock test
5	96	46.60	Template of question paper
6	83	40.29	Programming/coding
7	182	88.34	Creating content/Content development
8	164	79.61	Data augmentation
9	157	76.21	Research work

Table 10 Shows the Consumption Pattern for Paid and Unpaid Generative AI

Category Coding	Number of Respondents	Percentage	Theme
1	84	44.77	User for Paid & Unpaid platforms
2	98	47.57	User for only Unpaid platforms
3	24	0	
Total	**206**		

Table 11 Shows the Reasons for Consumption Patterns for Paid and Unpaid Generative AI

Category Coding	Number of Respondents	Percentage	Theme
1	84	40.78	Better Facilities and Options
2	98	47.57	It can Managed with unpaid versions since these ensure choices
3	24	11.65	NA
Total	**206**		

Popular Generative AI Platforms Among Young Indians

This study identified several popular generative AI platforms used by young Indian participants. Platform usage varied depending on individual needs and technical expertise. The following list categorizes the platforms by data modality:

1) Text-Based Generative AI Platforms: Levity AI, Nanonets, Bard, Bing, Hypotenuse.ai, GPT-4, Delv.ai, Rytr, Jarvis, OpenAI's GPT-3, TensorFlow, PyTorch.

2) Image-Based Generative AI Platforms: NightCafe Creator, Artbreeder, Deep Dream Generator.

3) Music-Based Generative AI Platforms: MuseNet, Jukebox, Amper Music.

4) Multimodal Generative AI Platforms: Midjourney, Stable Diffusion, DALL-E 2.

5) Additional Generative AI Resources: Mobile Applications - Numerous mobile applications utilize generative AI for tasks such as personalized poem generation, custom avatar creation, and creative text formatting. Online Communities - Online platforms like Discord and Reddit host communities dedicated to generative AI, facilitating user collaboration and knowledge sharing.

Future Research Directions

The qualitative nature of this study limits the generalizability of findings and precludes statistical analysis. The focus on Indian youth also restricts the scope of the conclusions. Future research should incorporate the following:

1) Quantitative Methods: Including quantitative methods would enhance the robustness of findings and allow for statistical analysis.

2) Cross-Sectional Comparisons: Cross-sectional analyses comparing Indian youth with other demographic groups would broaden the scope and relevance of the study. This could include comparisons across different nations or age groups.

Conclusion

Young people in India are increasingly using generative AI platforms, which provide new opportunities for self-expression, creativity, and technological curiosity for them. These platforms' influence on India's creative scene is anticipated to only grow as they develop and become more widely available. Generative AI has much promise for good, but it is also a potent tool that might be misused to spread misleading information. By acknowledging the moral concerns and taking appropriate action to address them, we can ensure that generative AI is used intelligently and morally to develop society. Though the laxity in moral standards regarding the copious use of generative AI is a grave concern, the overflowing usage should be reduced over time due to a lack of novelty, the rise of ethical standards and bars, and diverse collaborations. It is guaranteed that if generative AI is created and applied ethically and responsibly by encouraging cooperation between academics, decision-makers, and the general public, it will become a complete bliss for future society, and this would help to shape a better future for everybody. Regarding young adult addiction, it is already irrefutable that generative AI has taken a firm hold worldwide and nearly taken up residence in young people's thoughts permanently. Whether they realize it or not, young Indians' regular academic consumption patterns have become heavily dependent on it. It should be frivolous and too early to call it an addiction right now. However, the inclination is indicative of influential mental association, which would be doltish to refuse at the moment without drawing any further conclusion. It is also noteworthy that generative AI has made the different creative and academic processes more enjoyable and engaging, helping the new generation learn quickly and expand their knowledge horizon. Therefore, on the one hand, it makes people more efficient through better learning and experimenting; on the other, it makes people more indolent.

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