

Impact of AI Tools on Mindset of Youths

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Abstract- The rapid growth of Artificial Intelligence (AI) has significantly impacted various sectors, from healthcare and education to entertainment and social interactions. One of the most profound effects of AI is its influence on the youth mindset, shaping their perspectives, decision-making processes, and overall cognitive abilities. This paper explores how AI technologies, including machine learning, algorithms, social media bots, and personalized content delivery systems, are reshaping the values, beliefs, and behaviours of young individuals. Through a combination of theoretical analysis and empirical research, the study aims to highlight both positive and negative consequences of AI's role in youth development. By understanding these impacts, the paper seeks to offer recommendations for harnessing AI in a way that fosters a more informed, balanced, and ethical mind-set among the younger generation.

I. INTRODUCTION

In recent few years' artificial intelligence has become a part of most of the fields due to its features that has improved the performance. AI has revolutionized the industrial sector, education, agriculture, healthcare and many people think that if it will continue, it will have a direct impact on jobs. There is a threat to jobs, many people may lose their jobs and such various views are a part of common discussion in society. Various researchers have shared their research work elaborating the aspects that have made AI a compulsory component in most of the design and development of systems. No doubt AI has both positive and negative sides. It is necessary to review what makes AI so powerful and in which areas it can replace humans and what are various cautions to be understood while using AI in development of a system.

Youths today are increasingly leveraging the combined power of social media platforms and artificial intelligence (AI) tools to accomplish a wide array of tasks, transforming how they learn, create, connect, and navigate the world.

This paper basically discusses various aspects of AI that has influenced mindset of youth and need to be analyzed. Artificial Intelligence (AI) is no longer a distant concept but an integral part of our daily lives. From personalized social media feeds to voice assistants like Siri and Alexa, AI is embedded in nearly every aspects of technology that young people interact with. The youth in particular, are at the forefront of this AI revolution. Growing up in a world where machines predicts

preferences, suggest content and even assist in learning their perceptions of the world and themselves are increasingly influenced by algorithms and digital systems. This paper examines the intersections of AI technology and the evolving mindset of youth. How does AI affects the way young people form opinions, engage with others and make decisions ? Does AI empower youth with more knowledge or does it limit their exposure to diverse viewpoints ? By investigating both the positive and negative impacts of AI, we aim to understand how this technology is shaping the cognitive, social and emotional aspects of youth development.

II. HYPOTHESIS

AI technology plays a dual role in shaping the mindset of youth by both enhancing cognitive abilities, such as problem solving and learning efficiency and also posing challenges related to mental health, social behavior and critical thinking. Specifically, AI's influence can both broaden and limit the perspectives of youth depending on their engagement with these technologies and the ethical frameworks behind their design.

2.1 AI in Education System

Today's education system involves classrooms and laboratories. A class consists of students around 60 -70 who have different understanding capabilities and have different cognitive levels. Teachers prepare teaching material which is common for all and the teacher delivers lectures in class at the same pace which may not be suitable to all students. The impact of this method is that from the beginning many students find themselves uncomfortable and lags behind. There is no mechanism available which can automatically identify the issues and address them.

If a teacher makes the use of artificial intelligence for developing the content of his subject that should take care of different academic strengths / weaknesses of individual students in class and creates a lesson which will be used by every individual at their own pace, it is possible to address every individual student. AI has a capability to facilitate analysis on data of individual performance, capability, liking preferences etc.

This will ensure the growth of individual students in the right way and the problem of dropout will be solved.

2.1.1 Adaptive learning

In class normally the teacher gives assignments to all students commonly which has some standard level. This may not suit every individual. AI can take care of this and designs assignments for individual students based on their learning level and skills which he has acquired. Similarly, an Artificial intelligence algorithm automatically adjusts the difficulty level of activities / assignments considering his current performance and sets the challenges which are suitable to them [1]. This enables the education system to achieve the goal of providing education to students of different levels but adjusting to the individual level. This way of adaptive learning helps all students to get engaged properly and they will gain confidence.

2.1.2 AI in creation of instruction:

In education system, the teaching – learning process is the most important and in the conventional education system, it is not so effective and has many lapses. AI has facilitated in creating computer based lectures that are aligned with the understanding levels of students and using latest pedagogical techniques. Intelligent tutoring can enable students and teachers both to have effective performance. Different category examinations can also be conducted using smart platforms based on AI [2]. For conduction activities simulation based tasks can be planned. AI based systems generates reports on various parameters for both students and teachers which can be analyzed and corrective actions can be initiated.

The major aspect of the study is students having hesitation to interact with teachers is totally removed and students are comfortable to use web based AI enabled systems very comfortably. This type of AI based teaching learning instruction is found to improve the performance of education system in totality [3].

2.2 AI in Career Development

AI is becoming a valuable tool for career exploration and preparation. Platforms like LinkedIn and Career Explorer use AI to match skills and interests with potential career paths. AI-powered resume builders and interview preparation tools like Google Interview Warmup help youths create effective resumes and practice for interviews. Furthermore, AI can identify emerging job trends and suggest relevant skills to acquire, guiding young individuals toward future-proof careers.

2.3 Entertainment and Fun

AI offers new avenues for entertainment. AI-driven games can adapt to a player's skill level, providing a more engaging experience. Tools like Story tailor AI allow youths to co-create interactive stories, fostering creativity.

AI music generators enable them to compose original music. Even simple activities like playing trivia or charades can be enhanced with AI-powered prompts and content generation.

2.4. Use of Social Media

Social media platforms serve as dynamic environments for various youth activities. They facilitate education and learning through collaborative groups and access to diverse information. For career exploration and development, platforms like LinkedIn offer networking opportunities and insights into different professions. Youths express their creativity and share content on platforms like Instagram and TikTok. They maintain **connections and build communities** on Facebook and Discord. Social media also provides entertainment and leisure through vast content libraries and fosters awareness and social activism by enabling information dissemination and mobilization [4-6].

In summary, AI is becoming an increasingly integrated part of various tasks for youths, offering personalized, efficient, and creative solutions across education, content creation, career development, and entertainment. It empowers them to learn, create, and prepare for the future in innovative ways.

III. EXPERIMENTATION

To test the hypothesis, a mixed – method research approach has utilized.

- I. **Surveys** : A questionnaire has been distributed among youth (aged 15-24) to gather data on their interactions with AI – driven technologies such as social media algorithms, recommendation engines and AI tutors. Questions has given a focus on frequency of use, perceived benefits and concerns regarding AI's impact on their mind-set. Demographic questions helped to correlate findings with age, gender and educational background.
- II. **Interviews** : In depth interviews with a smaller group of youth participants has provided qualitative insights into how AI affects their cognitive processes, mental health and decision making.
- III. **Case Studies** : Several case studies has been analyzed focusing on real –world examples, where AI has either positively or negatively influenced youth. For example, exploring how AI – driven platforms like TikTok and Instagram shape attitude towards body image, success or social values.

An experimental group has involved a youth exposed to AI powered learning tool and social media. Their

progress, attitude towards learning methods, problem solving and their mind set has analyzed.

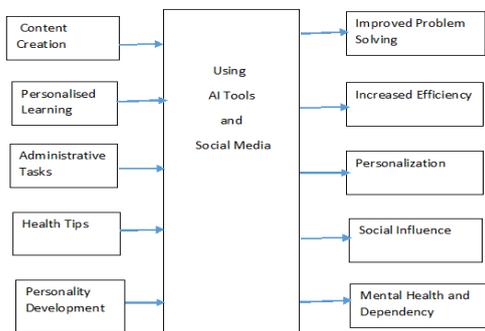


Fig. 1. Functional schematic of use of AI & Social Media and its impact

As shown in figure 1 youth uses AI tools and social media for various purposes like learning, to take health tips, content creation and decision making etc. Using AI and social media has its impact on various aspects like improvement in problem solving and efficiency has been observed. It has influence on mental health.

Table 1. Response of youth on Impact of Technology and Social Media

S.No.	Topic	Total youth participated	Positive Response	Negative Response
1	How often do you use AI-driven platforms	50	48	2
2	Do you feel that AI algorithms recommend content that aligns with your interests?	50	40	10
3	How much do you trust AI-driven recommendations?	50	45	5
4	Do you believe that AI technology has helped you improve your academic performance or learning experience?	50	48	2
5	Have you ever felt that social media or AI-driven content affected your self-esteem or body image?	50	47	3
6	Do you trust AI systems to provide fair and unbiased recommendations?	50	45	5
7	What do you think, AI technologies are beneficial for young people like you?	50	43	7
8	Do you balance your use of AI-driven tools with other forms of learning or socializing?	50	21	29
9	Do you feel that these tools help you understand subjects better than traditional methods?	50	47	3
10	Do you feel more motivated or less challenged by the content you are given by AI?	50	37	13

Impact of Technology and Social Media

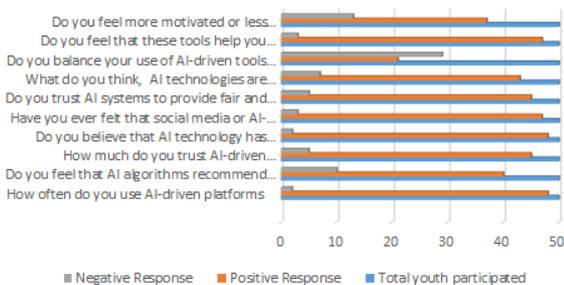


Fig. 1-A : Response of youth on impact of technology and social media

Table 1 and Fig 1-A shows the details of various parameters and it is clear that AI driven platforms and social media has its positive impact on youth. Majority of the youth made use of these tools and have utilized them very efficiently and improved their performance.

Table 2. Response of youth on influence of social media

S.No.	Topic	Total youth participated	Positive Response	Negative Response
1	Do you use social media platforms like Instagram or TikTok?	50	42	8
2	Have you ever experienced moments of comparison or dissatisfaction due to what you see on these platforms?	50	27	23
3	Do you think use of AI and social media affects mental health and mind set?	50	48	2
4	Do you feel your perception of "success" or "happiness" has been influenced by social media algorithms?	50	47	3
5	Do you feel about the content recommended to you by AI algorithms? Does it make you feel more connected to others or isolated?	50	44	6

Response of youth on influence of social media

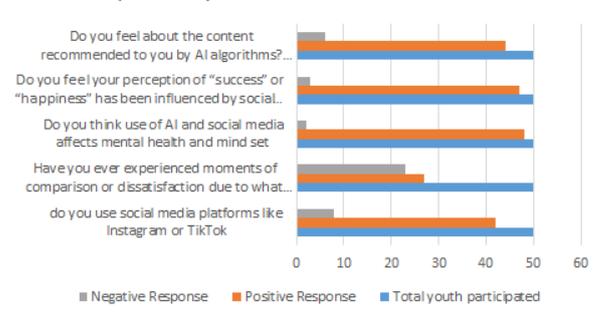


Fig.2 : Response of youth on influence of social media

Table 2 and Fig.2 gives the details of various parameters. It is clear that majority youth agreed that they use the social media and they believe that their success has improved. However they have also accepted that there is a notable influence on the mental health.

Table 3. Response of youth on use of AI for health tips

S.No.	Topic	Total youth participated	Positive Response	Negative Response
1	Do you use any AI-based mental health apps or platforms that suggest exercises, meditation, or therapy?	50	35	15
2	AI suggested exercises has impacted your mental health?	50	36	14
3	Do you feel positive after consuming AI-generated content on mental health topics?	50	26	24
4	Have you noticed any patterns in your emotional state after spending time on social media?	50	44	6
5	Do you feel any relationship between AI-driven content and your overall mental well-being?	50	42	8

Response of youth on use of AI for health tips

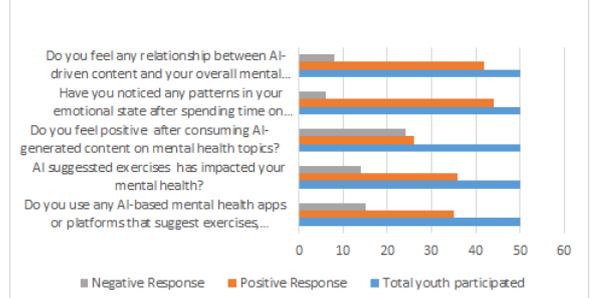


Fig. 3 : Response of youth on use of AI for health tips.

It is observed that youth uses AI and social media for taking tips for health issues. Many on them are using social media for updating their knowledge on physical fitness and yoga. It is observed that there is a notable relationship between social media and mental health.

Table 4. Response of youth on impact of using AI / Social media on mind-set

S.No.	Topic	Total youth participated	Positive Response	Negative Response
1	After using AI-driven tools, do you feel more confident in making decisions or solving problems independently?	50	46	4
2	Have you found that your thinking style has changed after interacting with AI-powered content ?	50	47	3
3	Do you feel you rely more on AI-driven recommendations now compared to before?	50	48	2
4	Do you feel AI technology has much influence on your decision-making process, compared to your own judgment?	50	47	3

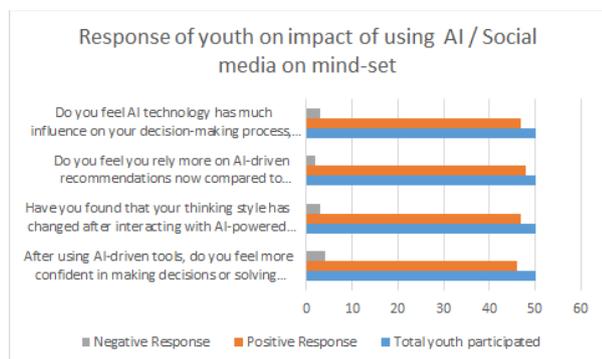


Fig. 4 : Response of youth on impact of using AI / Social media on mindset

As mentioned in table 4 and bar diagram of fig . 4 use of AI tools and social media has it impact on personality of youth as it affects various parameters and it is observed that it has helped in improving the performance and efficiency but at the cost of mental health and mind set.

IV. RESULT AND DISCUSSION

The preliminary findings suggest that AI technology has both beneficial and detrimental effects on youth :

1. Positive Impacts :

- **Enhanced Learning** : Youth using AI –driven educational tools showed improved problem solving skills and faster comprehension of complex subjects.
- **Increased Efficiency** : AI – powered tools such as virtual assistants and task management applications helped students increased productivity and manage time more effectively.
- **Personalization** : Social media algorithms were found to create more personalized content that resonated with the personal interests and aspirations of youth, fostering a sense of identity and belonging.

2. Negative Impacts :

- **Social Influence** : AI’s ability to curate content based on user preferences led to echo chambers, limiting exposure to diverse perspectives and fostering confirmation bias.
- **Mental Health Concerns** : There was a noticeable increase in anxiety and self- esteem issues among youth who were highly engaged with AI – driven social media platforms, especially due to body image or success comparison.
- **Dependency** : Over – reliance on AI tools for decision making and information processing led to a decrease in critical thinking skills, as youth began to accept AI recommendations without questioning them.

V. CONCLUSION

AI technology has a profound influence on the mindset of today’s youth. While it offers tools for enhancing learning, personalizing experiences and improving efficiency, it also presents challenges, such as reinforcing biases, promoting unhealthy comparisons and decreasing independent thinking. As AI continues to evolve, it is critical that both developers and educators work together to design AI systems that prioritize ethical guidelines, mental well-being and the promotion of diverse viewpoints. Encouraging a balanced approach to AI engagement could empower youth to utilize these technologies effectively while mitigating their potential drawbacks.

To ensure that AI positively shapes the future generation, it is necessary to implement frameworks that encourage responsible use of AI, foster critical thinking and promote emotional intelligence. Further research should explore long-term effects of AI on youth development, especially in relation to identity formation, mental health and social relationships.

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