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Artificial Intelligence and the changing mindscape of Young Adults: A systematic review

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Abstract
Artificial Intelligence (AI) has quietly become part of the everyday lives of young adults, influencing how they learn, communicate, and even understand themselves. This review brings together recent research to explore how AI affects the psychological, cognitive, and social worlds of people aged 18 to 30—a period when identity, confidence, and life choices are still taking shape. The paper shows that AI-powered platforms play a big role in shaping digital identity, often through personalised feeds, likes, filters, and recommendation systems that guide how young adults present themselves online. AI tools can make studying easier and offer emotional support through chatbots and mental-health apps, but they can also reduce attention spans, limit independent thinking, and encourage dependence on digital validation. Socially, AI can create echo chambers that narrow exposure to diverse views and intensify comparison pressures. The review also highlights that AI does not affect everyone equally—its biases can disadvantage certain groups based on race, gender, or language. Overall, the paper argues that AI is more than a technology; it is becoming a social environment that shapes everyday experiences. To support young adults' well-being and autonomy, there is a growing need for ethical AI design, transparency, and better digital-awareness skills.

Keywords: Artificial intelligence (AI), young adults, digital identity, cognitive development, mental well-being, algorithmic bias

Introduction

Artificial Intelligence (AI) has woven itself into the everyday routines of contemporary life. Whether it is through virtual assistants like Siri or Alexa, personalised suggestions on social media, translation tools, or learning applications, AI now operates quietly in the background of how people think, communicate, and make choices (Floridi, 2014) [3]. What was once the domain of specialists has become a constant companion in ordinary activities, often working so seamlessly that its presence goes unnoticed. For young adults—who rely heavily on digital technologies for education, socialising, and entertainment—this influence is particularly strong. AI does not simply support their tasks; it subtly shapes how they view themselves and interpret the world around them (Fiske & Harris, 2021) [2]. Understanding how AI affects the mental and social worlds of young adults is therefore crucial for assessing both the opportunities and the dilemmas of an increasingly digital society.

Young adulthood, typically considered the period between 18 and 30 years, is marked by major transitions. It is a phase in which individuals experiment with identity, take on new responsibilities, and make choices that guide their personal and professional futures. Their thinking patterns, emotional responses, and social habits are still in formation. In today's context, this developmental journey unfolds alongside constant engagement with digital technologies. Young people turn to AI-driven platforms to study, maintain friendships, explore interests, and even regulate their emotions (Chan & Hu, 2023) [1]. Because these tools are so embedded in daily life, they may be quietly shaping how young adults focus, feel, and interact with others (Twenge & Campbell, 2018) [12].

One of the most visible forms of AI's impact is seen in social media use. Algorithms curate what users encounter online—news stories, videos, music, and even advertisements. These systems continuously learn from users' behaviour, producing highly personalised feeds (Araujo, 2023). While this can make digital interactions smoother and more enjoyable, it also risks narrowing the range of information people encounter. Over time, such patterns may create echo chambers that reinforce existing beliefs and weaken exposure to different viewpoints with implications for critical thinking and open-mindedness. At the same time, the constant stream of notifications, "likes," and algorithmic rewards can heighten anxiety, reduce attention spans, and encourage a dependence on digital validation (Meshi & Ellithorpe, 2018; Sherman *et al.*, 2018) [7].

AI's influence is equally visible in education and the workplace. Tools like adaptive learning platforms, plagiarism checkers, and generative AI applications have changed how young adults access information and complete academic tasks. While these tools can support personalised learning, they can also blur the line between using AI as an aid and depending on it excessively. This raises concerns about the future of creativity, critical thinking, and independent problem-solving (Huang & Rust, 2019) [4], especially when students begin relying on AI for ideation or written work. The debate extends beyond academic practice to questions about authenticity and the development of intellectual agency (O'Neil, 2016) [8].

AI technologies also intersect with the emotional lives of young adults. Many now turn to AI-based mental-health apps, chatbots, or virtual companions for comfort, guidance, or stress relief. Studies show that conversational agents can reduce stress and offer a sense of support, particularly when these systems draw on cognitive-behavioural techniques

(Shin, 2021; Li & Wang, 2023) [5, 10]. However, this growing engagement with AI for emotional needs raises deeper questions. Some young adults report forming strong emotional attachments to AI companions, which may provide short-term comfort but risk limiting real-world social engagement (Turkle, 2017) [11]. Over-reliance on general-purpose chatbots for emotional advice can also be problematic when these systems fail to understand nuance or inadvertently reproduce biases (Logg *et al*., 2019) [6].

Given these developments, this review paper brings together existing research to explore the psychological, cognitive, and social implications of AI for young adults. By looking at both the beneficial and the complex aspects of this relationship, the paper aims to contribute to a deeper understanding of how AI is shaping contemporary youth and, more broadly, how it is influencing what it means to be human in an age heavily mediated by technology.

Methodology

This paper adopts a systematic narrative review approach to explore how Artificial Intelligence (AI) influences the psychological, cognitive, and social lives of young adults. Because AI technologies are developing so quickly—and because they intersect with multiple aspects of everyday life—this method allows the study to bring together insights from a wide range of disciplines, including psychology, sociology, communication studies, education, and human–computer interaction. The review focuses on literature published between 2018 and 2025, a period marked by the rapid spread of AI-driven tools such as adaptive learning systems, conversational agents, and personalised social-media algorithms. These years represent a transformative phase during which AI became deeply embedded in how young adults learn, communicate, and manage their emotions.

To gather relevant sources, a structured search was conducted using major academic databases such as Scopus, Web of Science, Google Scholar, and PubMed. Keywords were selected to reflect the major themes of the study and included terms like "AI and young adults," "algorithmic influence," "digital cognition," "AI and mental health," "AI companions," "social-media algorithms," and "AI-based learning tools." The search focused on peer-reviewed journal articles, book chapters, conference papers, and reputable institutional reports. Studies were included if they addressed one or more of the core concerns outlined in the introductory part: (1) the cognitive and behavioural impact of AI-driven platforms, (2) the emotional or psychological effects of interacting with AI systems, and (3) the broader developmental implications of AI use during young adulthood. Priority was given to empirical research, systematic reviews, and conceptual papers that examined individuals aged 18–30 or technologies commonly used by this age group. Non-academic commentaries, opinion pieces, and studies with unclear methodologies were excluded.

Once the literature was compiled, findings were analyzed using thematic analysis. This involved identifying recurring patterns, tensions, and conceptual connections across studies. Particular attention was given to emerging issues such as reliance on AI tools, shifting emotional boundaries with AI companions, and the formation of echo chambers through personalised recommendation systems. Throughout this process, an effort was made to maintain balance—acknowledging where AI supports learning, mental-health access, and social connectivity, while also highlighting concerns related to reduced critical thinking, emotional over-dependence, and changes in the nature of social interaction.

By combining systematic search strategies with narrative synthesis, this methodology provides a comprehensive and nuanced understanding of how AI is shaping the developmental experiences of young adults in an increasingly digital world.

Thematic Discussion

1. AI and the Construction of Digital Identity

The growing presence of artificial intelligence in everyday life has transformed not only how young adults interact online but also how they understand and express themselves. AI-driven features—including recommendation engines, profile-curation tools, image filters, and conversational agents—now function as subtle "co-authors" of identity. These systems shape what users see, reinforce particular behaviours, and attach numerical markers such as likes and followers that young people often interpret as indicators of social value (Twenge & Campbell, 2018) [12]. This dynamic updates Goffman's notion of self-presentation: the performance still occurs before an audience, but the stage is now structured by algorithms that filter, rank, and optimise visibility. Emerging research suggests that algorithms do more than respond to users; they actively influence identity through feedback loops that reward specific modes of self-expression (Huang & Rust, 2019) [4].

From a sociological perspective, algorithmic personalisation contributes to the formation of an "algorithmic self"—a digitally mediated persona shaped by user data and platform design (Araujo, 2023). Shared cultural rituals such as Spotify Wrapped or TikTok's recommendation cycles have become significant moments through which young adults interpret and showcase algorithmically generated identity narratives. Many users treat these summaries as authentic reflections of themselves, signalling a broader cultural acceptance of algorithmic outputs as meaningful identity cues (Fiske & Harris, 2021) [2].

Young adulthood is a critical developmental stage, and AI-enhanced environments can both support and complicate identity exploration. Tools that enable aesthetic experimentation, avatar creation, or generative persona-testing may broaden opportunities for self-discovery. However, they also shift validation toward external metrics determined by opaque systems. Studies among students indicate growing reliance on algorithmic feedback to judge the quality and acceptability of their work (Chan & Hu, 2023) [1], raising concerns about intrinsic motivation, self-efficacy, and authenticity.

AI systems also intensify social comparison processes. Beautification filters, generative image tools, and visibility algorithms can heighten appearance-related pressures while narrowing the diversity of norms that gain traction online. Research links prolonged engagement with these reward-driven systems to heightened anxiety, validation-seeking, and reduced attention spans, all of which can influence developing self-concepts (Meshi & Ellithorpe, 2018; Sherman *et al*., 2018) [7].

Another emerging dimension is relational identity shaped through interactions with AI companions. As chatbots

simulate empathy and continuity, some young adults begin to treat them as genuine social partners. While these tools may offer comfort and accessibility, they also raise questions about dependency and the erosion of boundaries between human interaction and machine simulation (Shin, 2021) [10]. Recent policy debates—such as age-related restrictions and legal cases concerning AI-companion harms—reflect concerns about their impact on users whose identities are still forming.

Finally, these identity-shaping processes are not evenly distributed. Algorithmic bias rooted in socioeconomic, cultural, and linguistic inequalities privileges certain forms of expression while marginalising others. Users with greater digital literacy or access to advanced tools can curate identity more effectively, while others face systemic barriers. In this way, AI expands opportunities for self-expression even as it reproduces broader inequalities in visibility and cultural recognition (O'Neil, 2016) [8].

Cognitive Transformations in the Age of Algorithms

A growing body of research shows that AI-driven digital environments significantly shape the cognitive, emotional, and social development of young adults. A systematic review found that heavy use of social-media platforms—often guided by AI recommendation algorithms—was linked with reduced attention, weaker working memory, and lower executive functioning (Twenge & Campbell, 2018) [12]. At the same time, the review noted that purposeful engagement with certain digital platforms could enhance language development and memory.

Broader reviews echo this dual impact. Scholars argue that AI can both support cognition by offloading tasks such as planning or memory and risk diminishing creativity, problem-solving, and self-reflection when reliance becomes excessive (Floridi, 2014) [3]. AI's influence on psychological well-being is similarly complex. Meta-analytic evidence shows that conversational agents grounded in cognitive behavioural therapy can reduce distress among young people (Shin, 2021) [10]. However, their effectiveness depends heavily on design quality and user expectations. Studies also warn of over-trust: some findings show that general-purpose language models sometimes outperform therapeutic bots in recognising bias, raising concerns about misplaced confidence in AI advice (Logg *et al*., 2019) [6]. Newer risk frameworks highlight concerns around privacy, exploitation, toxic interactions, and developmental vulnerability.

At the same time, user experiences are not uniformly negative. Large-scale surveys indicate that many young women using social-AI platforms experience reduced social anxiety and feel emotionally supported. Yet scholars caution against viewing AI as a substitute for human relationships, noting potential long-term risks of dependency and weakened interpersonal skills (Turkle, 2017) [11].

AI also shapes identity and social understanding. Algorithmic curation contributes to echo chambers that limit exposure to diverse viewpoints and reduce opportunities for empathetic, critical engagement (Araujo, 2023). Reviews of mental-health AI research show rising academic interest but also note limited longitudinal evidence (Li & Wang, 2023) [5]. Concerns over inequality remain central: biased models may misinterpret mental-health signals from underrepresented groups, as seen in findings that AI tools detect depression less accurately among Black Americans.

Finally, ethical concerns arise regarding over-reliance, automation bias, and loss of human cognitive skills. Some scholars argue that outsourcing self-reflection to AI may weaken introspection and self-awareness (Fiske & Harris, 2021) [2]. Privacy vulnerabilities, especially for young users, underscore the need for algorithmic literacy, transparent design, and stronger safeguards (O'Neil, 2016) [8].

Emotional and Social Consequences of AI-Mediated Interaction

AI is becoming an emotional presence in the lives of young adults, shaping how they feel, connect, and build relationships online. One major shift comes from the way social-media algorithms reward certain behaviours. Likes, comments, and visibility often feel like signals of approval or social value, and this constant cycle of algorithmic feedback can heighten anxiety and increase the need for validation (Twenge & Campbell, 2018) [12].

Another important change is the rise of AI companions and chatbots. Many young adults turn to these systems for support, especially because they offer immediate responses and a sense of being heard. Studies suggest that well-designed conversational agents can reduce distress and provide meaningful emotional comfort (Shin, 2021) [10]. But this also raises concerns. When people start relying on chatbots for emotional reassurance, it can blur the line between real human interaction and machine-generated empathy. Scholars warn that this may affect how young people handle conflict, seek support, or maintain boundaries (Turkle, 2017) [11].

Socially, AI shapes how young adults interact with the world around them. Personalised feeds and recommendation systems tend to show users more of what they already believe. While this creates familiarity, it can narrow exposure to different viewpoints and reduce opportunities for empathy (Araujo, 2023). At the same time, AI-driven filters and generative-image tools fuel social comparison, intensifying body-image pressures (Meshi & Ellithorpe, 2018) [7].

AI does not affect everyone equally. Algorithms can carry cultural and linguistic biases that shape who gets visibility and whose experiences are overlooked. For example, mental-health AI tools have been found to misinterpret or under-detect symptoms in users from underrepresented groups (Li & Wang, 2023) [5]. These uneven effects show that AI is not just influencing emotions and relationships—it is shaping broader patterns of social inclusion and exclusion (O'Neil, 2016) [8].

Social Inequalities, Ethics, and the Future of Human Agencies

AI technologies do not affect all young adults equally. Instead, they often reproduce existing social inequalities, shaping who benefits and who is left vulnerable. Studies show that AI systems trained on non-diverse datasets tend to misinterpret or ignore the experiences of marginalised groups (Li & Wang, 2023) [5]. For instance, mental-health algorithms are significantly less accurate for Black and minority users, raising concerns about misdiagnosis and unequal access to support.

Ethical concerns also arise from the growing dependency on AI for thinking, decision-making, and self-reflection. Scholars warn that outsourcing tasks such as planning, remembering, or emotional regulation may weaken essential

cognitive abilities (Fiske & Harris, 2021) [2]. Over-trusting AI systems—known as automation bias—can reduce willingness to verify information, especially when AI appears authoritative (Logg *et al*., 2019) [6].

A broader ethical challenge lies in the erosion of human agency. As AI systems nudge behaviour through personalised feeds, automated suggestions, and optimised learning paths, they influence choices in invisible ways. Over time, this can limit opportunities for independent judgment and critical thinking, especially for younger users whose identities are still developing. Some psychiatrists caution that relying on AI for emotional guidance may weaken introspection or relational abilities (Turkle, 2017) [11].

As AI becomes woven into education, work, and social life, questions about the future of human agency become urgent. Researchers argue that the outcome depends on how societies respond—with ethical design practices, transparency, and widespread algorithmic literacy (Floridi, 2014) [3]. Ensuring fairness, accountability, and inclusivity in AI development is essential if young adults are to retain autonomy and participate meaningfully in a world where human and machine decision-making intersect (O'Neil, 2016) [8].

Conclusion

This review shows that Artificial Intelligence has become a quiet but powerful force shaping how young adults think, feel, and interact in their everyday lives. From personalised social-media feeds to AI study tools and emotional support chatbots, these systems influence identity, cognition, and relationships in ways that are often subtle but deeply impactful. While AI can expand opportunities for learning, creativity, and mental-health support, it also introduces challenges—such as dependence on algorithmic feedback, reduced critical thinking, social comparison pressures, and unequal treatment of marginalised groups through biased systems. These findings suggest that AI is not simply a tool but a growing social environment that participates in shaping the developmental landscape of young adulthood.

Going forward, the central concern is how to preserve human agency in a world increasingly guided by algorithmic decision-making. Future research needs to move beyond short-term studies and examine long-term developmental effects, especially in areas such as emotional resilience, interpersonal skills, and the formation of political or social attitudes. There is also a need for more inclusive datasets and culturally grounded research to ensure AI systems serve groups that have historically been underrepresented. Finally, strengthening digital and algorithmic literacy among young adults is crucial. Empowering young people to understand how AI works—and how it shapes their choices—will play an essential role in building a future where AI supports human potential rather than narrowing it.

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