New Trends in Psychology

Self-Esteem and the Use of Artificial Intelligence in Academic Settings: Implications for Cognitive Autonomy in Young Adults

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Abstract: The accelerated integration of artificial intelligence (AI) applications, such as ChatGPT, in higher education has led to significant changes in learning processes and in how young adults evaluate their academic competence. While these tools can facilitate access to information and support intellectual activities, their use raises important questions regarding psychological impacts on self-esteem and cognitive autonomy. This article examines the relationship between the use of AI applications and young adults' self-esteem, distinguishing between adaptive use, which serves an educational support function, and compensatory use, associated with reduced personal cognitive effort. The implications of these usage patterns on the development of academic identity are discussed, as well as the need to promote critical and responsible engagement with AI in educational contexts.

Keywords: self-esteem; artificial intelligence; cognitive autonomy; adaptive use; young adults

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1. Introduction

In the current context of the rapid expansion of AI across multiple domains of everyday and academic life, it is essential to carefully analyze how these technologies influence individuals' psychological functioning. The use of AI applications is no longer limited by specific criteria of time, field, or age, raising important questions about their impact on self-esteem and the academic trajectory of young adults. Therefore, investigating both the benefits and potential risks associated with AI use, in relation to individual development and social adaptation, is crucial.

Self-esteem is a core dimension of personality, playing a central role in an individual's development and adaptation processes. During young adulthood, self-esteem is actively being consolidated, influenced by educational experiences, feedback received in academic environments, and the ability to meet intellectual and evaluative demands (Bonchiș, 2008). How young adults assess their personal competence and academic performance significantly contributes to identity formation and emotional balance.

The rapid development of generative AI has produced major transformations in higher education, affecting learning, evaluation, and self-assessment processes. Applications like ChatGPT are widely used by students for writing academic papers, clarifying theoretical concepts, and organizing information. Their popularity is supported by high accessibility, immediate feedback, and the ability to reduce the cognitive load associated with complex academic tasks, facilitating the management of educational demands.

From a psychological perspective, these changes raise important questions regarding the effects of AI use on self-esteem and cognitive autonomy, particularly among young adults who are consolidating their academic and professional identities. Self-esteem, understood as the evaluative dimension of self-image (Popescu-Neveanu, 1978), significantly influences motivation, perseverance, and adaptability to academic demands. Within this framework, the present article aims to analyze how AI can function both as a resource for educational support and as a potential factor of psychological vulnerability.

Young adulthood is a developmental stage characterized by the reorganization of self-image and a heightened need for academic and professional validation. In university settings, academic performance becomes a central source of self-assessment and social comparison, influencing perceptions of personal competence.

Cognitively, self-esteem is closely linked to the perception of personal efficacy in completing intellectual tasks and to the sense of control over the learning process (Golu, 2015). Academic autonomy—defined as the ability to learn independently, formulate original ideas, and manage academic difficulties—significantly contributes to the development of authentic and stable self-esteem. Success experiences achieved through personal effort reinforce feelings of competence and self-efficacy (Bandura, 1997).

2. ChatGPT as an Academic Support Tool

When used adaptively, ChatGPT can play a beneficial role in the educational process. The application facilitates understanding of complex concepts, provides logical structures for drafting academic materials, and supports autonomous learning. Recent research indicates that instrumental use of AI applications is associated with higher levels of self-efficacy and positive perceptions of academic competence (Chen et al., 2025).

In this context, ChatGPT can be conceptualized as an extension of one's own cognitive processes, contributing to reduced academic anxiety and an increased sense of control over learning tasks. When used for exploration, clarification, and reflection, AI can support autonomy and intrinsic motivation, consistent with the principles of self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2017).

3. From Autonomy to Compensatory AI Use

Psychological risks arise when the use of ChatGPT exceeds its educational support function and takes on a compensatory character. In such contexts, the application tends to replace personal cognitive effort, and academic success is attributed predominantly to technology rather than personal competence. Literature suggests that students with lower self-esteem and higher academic anxiety may be more vulnerable to developing cognitive dependence on AI applications (Rodriguez-Ruiz et al., 2025).

Fragile self-esteem is often associated with a heightened need for external validation and a tendency to avoid failure, which may favor the adoption of compensatory strategies in evaluative contexts (Sava, 2020). Over time, excessive reliance on technological support can erode personal competence and reinforce the belief that

academic performance is unattainable without constant external assistance, negatively impacting cognitive autonomy and self-confidence.

4. Psychological Implications for Academic Identity

Academic identity is built through assuming the role of an individual capable of autonomous learning, critical thinking, and solving complex problems in diverse educational contexts. This process involves confronting challenges, managing failure, and accumulating experiences of overcoming obstacles, which contribute to the development of resilience and the consolidation of authentic self-esteem. Excessive use of AI applications, particularly when they substitute for personal cognitive effort, may reduce exposure to these formative experiences, potentially affecting perceived competence and academic autonomy. In higher education, these processes are amplified by mechanisms of social comparison, which significantly influence self-evaluation and performance appraisal (Neculau, 2004).

In the current context of accelerated digitalization, AI and digital platforms are redefining the criteria by which young people evaluate their personal and academic value. Rapid and constant feedback, expressed through reactions, messages, or performance indicators, can initially support self-esteem. However, literature suggests that such external validation, when predominant, can promote subtle psychological dependence on social confirmation, at the expense of internal competence evaluation. In the absence of feedback or in the presence of negative reactions, anxiety, self-doubt, and the tendency to evaluate personal worth based on external perceptions may arise.

Moreover, algorithms that personalize online content may amplify social comparison processes by constantly exposing individuals to idealized images and difficult-to-attain performance standards. Repeated exposure can heighten the discrepancy between real and projected digital identity, affecting self-esteem and self-concept coherence. Among young adults forming academic and professional identities, this discrepancy can foster excessive self-criticism, feelings of insecurity, and, in some cases, impostor phenomena, impacting confidence in one's abilities and emotional stability.

Another relevant aspect is the tendency of some users to develop emotional attachment to AI-based applications. Literature reports cases where frequent interaction with chatbots partially or progressively substitutes real interpersonal

relationships, perceived as more emotionally demanding. In such contexts, there is a risk of reduced authentic social contact, decreased empathy, and difficulties managing emotions in direct interactions.

In more extreme forms, this preferential orientation toward technologically mediated interactions can contribute to social isolation and weaken relational skills, affecting the sense of belonging and emotional balance. The lack of authentic human connections and real relational support may indicate psychological vulnerability and the need for specialized intervention, particularly among young adults in an identity-forming stage. These risks are further compounded by experiences of cyberbullying, which, due to their public, repetitive, and hard-to-control nature, can significantly impact self-esteem and emotional regulation.

However, AI should not be analyzed solely from a negative perspective. When used responsibly and integrated within a critical framework, it can be a valuable tool for self-knowledge, educational support, and access to personal development resources or online counseling. Many young adults successfully use technology as real support in learning and academic adaptation, provided clear usage limits exist and content is approached reflectively. Thus, the impact of AI on self-esteem and academic identity is fundamentally conditioned by usage patterns and the individual's ability to maintain a functional balance between technological support and authentic interpersonal relationships.

Protecting self-esteem in the current digital environment primarily requires developing awareness of personal needs, limits, and resources. The online environment does not faithfully reflect the reality of individual experiences, and building self-image solely on digital validation can lead to distorted self-evaluation and emotional vulnerability. Maintaining authentic, direct interpersonal relationships remains essential for emotional balance and a sense of belonging.

AI can serve as a useful educational and personal support tool, but it cannot replace criteria for evaluating personal value or competence. In situations of emotional overload or difficulties in affect regulation, accessing support from mental health professionals and meaningful support networks is an important protective factor for maintaining self-esteem and adaptive psychological functioning.

5. Conclusions

The influence of AI on self-esteem among young adults is a complex phenomenon, characterized by multiple nuances and contextual contingencies. Technology can support personal and academic development when used as a complementary learning tool rather than as a substitute for cognitive effort and authentic interpersonal relationships.

However, uncritical or excessive use of AI applications may create psychological vulnerabilities by affecting cognitive autonomy and increasing reliance on external validation. Maintaining a functional balance between the digital environment and offline experiences is essential for consolidating stable self-esteem and developing an authentic academic identity. Responsible engagement with emerging technologies and the promotion of critical reflection on their use are relevant strategies to support emotional well-being and academic adaptation in the current generation.

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