



## Understanding Cognitive Offloading in AI-Assisted Research

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### Abstract

*The increasing use of Artificial Intelligence in academic settings has changed how academicians manage cognitive demands when completing academic tasks. This article aims to explore the role of cognitive offloading in AI-assisted research, particularly its benefits and potential risks for cognitive engagement and critical thinking, from the existing literature. This article discusses the relationship between cognitive load and cognitive offloading, the use of GenAI assistants in academic activities, and their implications for learning and research performance. Previous studies suggest that GenAI tools can reduce cognitive demands, improve efficiency, and support academic writing and analytical tasks. However, excessive reliance on these tools may reduce independent thinking, limit critical evaluation, and weaken the development of cognitive skills. Conversely, other findings indicate that AI-assisted cognitive offloading can support critical thinking when users remain actively engaged in evaluating and developing their work. These contrasting findings suggest that the impact of cognitive offloading depends not only on the use of AI tools but also on how individuals engage with them. Therefore, balancing AI assistance with active cognitive engagement is essential to support learning and research productivity.*

*Keywords: Artificial Intelligence, cognitive loading, cognitive offloading, research*