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Research: Gen AI Makes People More Productive—and Less Motivated

Studies of more than 3,500 people reveal the hidden trade-off of collaborating with AI tools. *by Yukun Liu, Suqing Wu, Mengqi Ruan, Siyu Chen, and Xiao-Yun Xie*

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Generative AI (gen AI) has revolutionized workplaces, allowing professionals to produce high-quality work in less time. Whether it's drafting a performance review, brainstorming ideas, or crafting a marketing email, humans collaborating with gen AI achieve results that are both more efficient and often superior in quality. However,

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our research reveals a hidden trade-off: While gen AI collaboration boosts immediate task performance, it can undermine workers' intrinsic motivation and increase feelings of boredom when they turn to tasks in which they don't have this technological assistance. Our findings have big implications for companies looking to leverage gen AI's potential gains without hurting their employees' drive when it comes to their other responsibilities.

The Research

In four studies involving more than 3,500 participants, we explored what happens when humans and gen AI collaborate on common work tasks. Participants completed real-world professional tasks, such as writing Facebook posts, brainstorming ideas, and drafting emails, with or without gen AI. We then assessed both task performance and participants' psychological experiences, including their sense of control, intrinsic motivation, and levels of boredom.

Our findings point to two contrasting outcomes of human-Gen AI collaboration:

- **Immediate Performance Boost:** Gen AI enhanced the quality and efficiency of tasks. For instance, performance reviews written with gen AI were significantly longer, more analytical, and demonstrated a more helpful tone compared to reviews written without assistance. Similarly, emails drafted with gen AI tended to use warmer, more personable language, containing more expressions of encouragement, empathy, and social connection, compared to those written without AI assistance. This highlights how gen AI can help workers deliver outputs that are polished, engaging, and well-structured.
- **Psychological Costs:** Despite the performance benefits, participants who collaborated with gen AI on one task and then transitioned to a different, unaided task consistently reported a decline in intrinsic

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motivation and an increase in boredom. Across our studies, intrinsic motivation dropped by an average of 11% and boredom increased by an average of 20%. In contrast, those who worked without AI maintained a relatively steady psychological state. This finding reveals a critical nuance to collaborations' benefits: While using gen AI tools can feel productive and empowering at first, it may leave workers feeling less engaged when they shift to tasks that don't involve AI support—a common reality in workflows where not every task can or should be AI-assisted.

Why Motivation Dips and Boredom Grows

Collaboration with gen AI can remove the most cognitively demanding parts of a task, often the aspects that make work stimulating and personally fulfilling. For example, crafting a performance review requires critical thinking and tailored feedback. When gen AI generates much of this content, the process becomes less engaging, and humans may feel disconnected from the task. This sharp contrast becomes evident when individuals return to solo work, leading to boredom and diminished motivation.

In our study, we found that gen AI collaboration initially reduces workers' sense of control—the feeling of being the primary agent of their work. Sense of control is a key component of intrinsic motivation: When people feel that they are not fully in charge of the output, it can undermine their connection to the task. However, we found that transitioning back to solo work restores this sense of control, albeit at the cost of enjoyment. Essentially, workers regain their autonomy but feel less inspired and challenged.

These findings carry important implications for the future of work. While gen AI can help organizations achieve short-term performance gains, its overuse may have long-term consequences for workers'

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psychological well-being. If employees consistently rely on AI for creative or cognitively challenging tasks, they risk losing the very aspects of work that drive engagement, growth, and satisfaction.

Consider a marketing professional who regularly uses gen AI to generate campaign ideas. The AI may produce outputs that are faster and even more polished than those developed independently. However, if this professional begins to rely on gen AI entirely, they may miss opportunities to refine their creative thinking, problem-solving skills, and sense of accomplishment—key drivers of personal and professional development.

Over time, the lack of intrinsic motivation can lead to disengagement, lower job satisfaction, and even burnout. Increased boredom, which our research showed following AI use, can also be a warning sign that these negative consequences might be on their way.

What Companies Can Do

The solution isn't to abandon gen AI. Rather, it's to redesign tasks and workflows to preserve humans' intrinsic motivation while leveraging AI's strengths. Here are five actionable strategies:

1. **Blend AI and Human Contributions:** Instead of letting gen AI complete entire tasks, integrate AI outputs as a starting point while encouraging human creativity. For example, gen AI can draft a performance review outline, but the manager should refine the content with personalized insights. Similarly, AI could generate initial ideas for a project, while team members are expected to expand, refine, and build on them.
2. **Design Engaging Solo Tasks:** To counterbalance the psychological costs of AI collaboration, follow up AI-assisted tasks with work that provides autonomy and a sense of creative challenge. For instance,

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after drafting AI-supported emails, assign a task that allows workers to be in control of designing a new project. These tasks allow employees to exercise their skills, creativity, and decision-making without relying on AI.

3. **Make AI Collaboration Transparent:** Our study found that workers can feel disengaged when they perceive that AI has taken control. Clear communication about how AI is assisting—not replacing—their contributions can help workers maintain a sense of ownership and fulfillment in their tasks.
4. **Rotate Between Tasks:** Organizations can sustain both productivity and engagement by structuring workflows that alternate between AI-assisted and independent tasks. Rather than clustering similar task types, managers can sequence the day to begin with cognitively demanding, solo work and shift to AI-supported tasks later for efficiency. For example, starting with strategy development and ending with AI-assisted editing balances mental stimulation with output quality.
5. **Train Employees to Use AI Mindfully:** To avoid an over-dependence on AI, organizations can offer training to build employees' ability to use gen AI thoughtfully and effectively. This might include running workshops on prompt writing, engaging in critical evaluations of AI-generated content, or introducing scenario-based exercises that highlight when human judgment should take the lead. Workers can learn how AI might complement their work and what part their own skills have to play in their tasks—a perspective that fosters autonomy, creativity, and long-term skill development.

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Human-gen AI collaboration has immense potential to boost productivity and performance, but organizations must be mindful of its psychological consequences. By thoughtfully designing workflows that integrate gen AI, businesses can unlock its benefits without

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compromising workers' motivation and engagement. After all, the future of work isn't just about what AI can do—it's about what humans and AI can achieve together.

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YL

Yukun Liu is an assistant professor at the School of Management, Zhejiang University. His research focuses on transformative work design, employee well-being, and how organizations can support human sustainability in the digital age.

SW

Suqing Wu is an assistant professor at the School of Management, Zhejiang University. Her research focuses on creativity and innovation, work motivation, team dynamics, and how individuals thrive in contemporary organizational settings.

MR

Mengqi Ruan is a doctoral candidate at the School of Management, Zhejiang University. Her research focuses on how digital technologies reshape employee behavior and workplace dynamics.

SC

Siyu Chen is a doctoral candidate at the School of Management, Zhejiang University. She studies the implications of emerging technologies for human resource management and organizational behavior.

XX

Xiao-Yun Xie is a professor and the Dean of the School of Management, Zhejiang University, where he also leads the Digital Innovation and Management Lab. His research focuses on organizational change, team dynamics in extreme environments, leadership, and digital-era HR management.

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