

108: Amplify, Don't Outsource: How AI Can Boost, Not Replace, Your Creativity

LINDSEY WHISSEL FENTON: Welcome to *12 Degrees*. I'm Lindsey Whissel Fenton. Today, as we explore the creative degree of wellness, we're going to talk about something that feels especially timely: Many of us think of AI as a tool that generates content for us, maybe even replacing what we'd create or selves. But a new study from Penn State might shift this perception. I'm talking with Paul DiStefano, a researcher at whose work suggests that AI can actually help us become better creative thinkers, if we use it to stretch our ideas rather than just outsource them. Paul, I'm excited to talk with you about this study, which we should note is currently a preprint. Where are you in the process of getting it published?

PAUL DISTEFANO: I'm working on a second study. I got a small dissertation pilot fund from the Center for Language Science here at Penn State. That allowed me to collect data for a second study, which I'm going to incorporate into the manuscript and then hopefully submit for publication soon.

LINDSEY WHISSEL FENTON: Okay. Well, before we dive into the findings of the first study, I want to touch on something you highlight early in the paper and that's the idea that creativity is a dual process that involves both idea generation and evaluation. And I wanted to touch on that because, at least anecdotally, it seems that most of us focus mainly on the coming up with ideas. Why is the second piece, the evaluation of ideas so important, especially when we think about AI?

PAUL DISTEFANO: That's an excellent question. Anecdotally, I think a lot of people resonate with that because the traditional notion of creativity you see in the media is the "creative genius" who just has this stroke of insight. But when we're talking about AI, it becomes especially important because AI can say things that are false or plagiarized—it doesn't have all the answers. So, evaluation becomes super important for successful co-creation with AI. It's always important to evaluate your ideas, but especially with AI.

LINDSEY WHISSEL FENTON: Give us a high-level overview of what this first study looked at.

PAUL DISTEFANO: Our study looked at people generating ideas in an engineering design context. For example, they came up with ideas for reducing air pollution—something everyone can generate ideas for, but you'd think engineers would do better at. So, we compared engineers and psychology students at Penn State and saw that those with more expertise were better at producing ideas on their own, which isn't surprising. Then, we had them evaluate some AI-generated ideas and come up with additional ideas afterward. We saw that everyone did better as a result of evaluating AI ideas. They were inspired by the AI and incorporated that into their own ideation. But the people who were more creative and had more expertise were the ones who did better in a co-creative setting. Everyone benefited from evaluating AI-generated ideas, but those with more creativity and domain-specific expertise did best.

LINDSEY WHISSEL FENTON: What does that tell us about AI's role in creativity?

PAUL DISTEFANO: To me, it says that expertise and creativity are still really important. We still need to focus on these human elements. A lot of people get worked up about AI automation, but we have to remember the human element that makes creativity uniquely human.

LINDSEY WHISSEL FENTON: So, is it the expertise in the subject matter or is it expertise related to how skilled someone is at prompting and interacting with the AI model?

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PAUL DISTEFANO: Great question. That's something we're trying to get at with the second study. In the first study, they didn't prompt the AI directly because that adds a lot of variability. We used pre-generated ideas, so we didn't have to worry about differences in working with the model. We still saw domain-specific differences, which tells us this is about actual domain knowledge rather than AI prompting skill.

LINDSEY WHISSEL FENTON: When it comes to these individual differences around creativity and expertise, what are the implications for education or in the workplace, especially as AI does become more integrated into everyday tasks?

PAUL DISTEFANO: One big takeaway is that the human element is essential. We should be developing systems and frameworks that let people use their own voices. One consistent finding in co-creativity research is that there's a lot of sameness in the ideas people generate when working with AI. The unique thing about creativity is expressing your own ideas. So, people need to be aware of these limitations and focus on using AI to enhance their voice and creativity, not just accept what AI suggests. In school and work, it's important to develop these skills—you'll need them in real life. If AI is doing your homework, it'll be harder to get a good job that lets you be creative if you've never learned those skills.

LINDSEY WHISSEL FENTON: Something that stood out to me in your work is the idea of AI as a collaborator in creativity rather than a replacement. And it had me wondering if I used AI to prompt feedback for something creative that I was working on. Is that really any different from collaborating and co-creating with another human?

PAUL DISTEFANO: Great question. We have other early-stage work looking at AI providing feedback, and it can be similar to a human. The difference is people tend to use AI like a "yes man." The AI will support what you say, even if your idea isn't good, unless you specifically tell it not to. A human collaborator will tell you when your idea isn't great. So, it depends. You can use AI smartly to bounce ideas around, but it doesn't have real-world constraints or the courage to tell you when something's bad.

LINDSEY WHISSEL FENTON: We've been talking about collaborating with AI to directly enhance creativity. But what about using it more to preserve our creative resources? For example, you know, we have limited mental bandwidth. Maybe we use AI to handle lower stakes tasks like drafting emails or organizing our notes. What does your research suggest about using AI this way as a sort of cognitive offloading tool? So, it might not be creating things for us, but we use it in a way that allows us to save our limited cognitive and or creative bandwidth for more mentally demanding tasks.

PAUL DISTEFANO: That's a great insight. We're seeing that a lot. But people still need to work on cognitively demanding things. If you don't have the social skills to craft an email, that can be a problem. If you use AI to make your day smoother, that's fine—as long as you're putting in the effort where it really counts.

LINDSEY WHISSEL FENTON: So, if we are going to work collaboratively with AI, how do we make sure to set ourselves up so that we're using AI as a thought partner without letting it take over the whole creative process?

PAUL DISTEFANO: If your goal is to protect your own creative ideation, a good place to start is coming up with ideas before you work with the model. Don't let the model guide everything—maintain agency. If

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you have a vision in mind, let AI give feedback or develop those ideas. If you just say "Hey ChatGPT, give me ideas," you'll get stereotypical answers. If you start with your own ideation and then build on it, you'll get more creative diversity in the responses that way.

LINDSEY WHISSEL FENTON: I'm thinking about reports I've heard or read about AI, composing symphonies or creating paintings. But if I'm understanding it correctly, AI is trained on existing human knowledge, and I wonder what that means for discovery if AI's, you know, quote, creativity is really about remixing stuff we already know. Like, so much of human progress has come from ideas that were initially met with extreme skepticism because they broke from accepted norms. Everything from the earth being round to the Germ Theory of disease to in the creative world, early critics who called impressionists painters like Monet sloppy and unfinished or, you know, jazz being dismissed as just "noise." So, you know, if we were relying on AI to vet ideas in those cases, I'd be worried that we would never have come up with some of those things. So, what space does this collaboration or co-creativity with AI leave for discovery? You know, these big leaps forward?

PAUL DISTEFANO: It's worth noting that a lot of small-scale creativity—scientific research or everyday creativity—is built on remixing what we know. No science happens without standing on what came before, so AI can help there. It can predict what comes next based on trends. But the groundbreaking, unexpected breakthroughs? I'd be surprised if AI could do that alone. I think the next big breakthroughs will come from humans working with AI, not AI by itself. That's where co-creation can really shine.

LINDSEY WHISSEL FENTON: That makes sense. Before we wrap up, what's one thing you'd want the person listening to remember when they're experimenting with AI for creative work?

PAUL DISTEFANO: Two things. First, for students: think about how fast AI is improving. If you're using AI for your creative or schoolwork, you're not developing the skills that make you happy or successful. Second, creativity is enjoyable! People like being creative—don't give that away to AI. Why would you? Being creative is fun and hard and rewarding. So, speak with your own voice and develop those creative skills on their own.

LINDSEY WHISSEL FENTON: That seems like a perfect note to end on. Paul, thanks so much for your work and for this conversation.

PAUL DISTEFANO: Thank you for having me.

LINDSEY WHISSEL FENTON: That was Paul DiStefano, a researcher at Penn State. His work explores the relationship between humans, AI, and creativity. That's it for this episode of *12 Degrees*. To learn more, visit wellness.psu.edu. Be sure to like and follow this podcast so you don't miss upcoming conversations to help you adopt healthy habits. Until next time, we wish you good progress on your wellness journey. *12 Degrees* is produced by WPSU in collaboration with the Penn State Ross and Carol Nese College of Nursing. This podcast is for informational purposes only and not a substitute for medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health care provider with any questions you may have regarding a medical or mental health condition. Please consult your provider immediately if you're experiencing suicidal thoughts. If you're in crisis, help is available for free, 24/7, in the U.S. by calling or texting the Suicide and Crisis Lifeline at 988. More info is at 988lifeline.org.

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