

# AI and creativity in students: A double-edged tool?

D. Castillo, N. Recuero-Virto

## Virtual presentation

The increasing presence of generative Artificial Intelligence (AI) in education has fueled debate over its role in student creativity. While AI tools offer valuable support for idea generation, concerns persist about whether they foster creative confidence or strengthen dependence, probably undermining students' ability to think independently. This study examines how AI-assisted learning tasks influence students' creativity, trust and dependence on AI at the University of Malta.

Structural Equation Modelling-Partial Least Squares (PLS-SEM) was used within a sample of 97 university students to examine the relationships between creative IT self-efficacy (CIT), trust in innovation ability (TRU), effort to innovate using IT (TRY), AI dependence (DEP), and creative work involvement (CWI).

The results revealed that students with higher creative self-efficacy are more likely to experiment with AI in academic assignments (CIT → TRY:  $\beta = 0.085$ ,  $p < 0.01$ ). Likewise, students with greater trust in their ability to innovate engage more actively with AI tools (TRU → TRY:  $\beta = 0.101$ ,  $p = 0.074$ ). This increased AI testing usage enhances participation in creative academic tasks (TRY → CWI:  $\beta = 0.080$ ,  $p < 0.01$ ), reinforcing AI's role as a driver of student engagement in AI-assisted creativity.

However, AI dependence significantly and positively influences creativity and self-efficacy. Stronger dependence on AI is associated with changes in creative self-efficacy (DEP → CIT:  $\beta = 0.085$ ,  $p < 0.01$ ) and creative involvement (DEP → CWI:  $\beta = 0.089$ ,  $p < 0.01$ ). While AI-dependent students remain involved in creative work, they tend to integrate AI-generated content into their processes more frequently, shifting their creative approach from independent idea generation to AI-assisted elaboration.

Furthermore, AI dependence affects students' trust in their ability to innovate (DEP → TRU:  $\beta = 0.075$ ,  $p < 0.01$ ). As students incorporate AI into their creative processes, they may begin to perceive it as an essential tool rather than a complement, which can reduce their confidence in making independent creative decisions.

This study provides empirical evidence of AI's dual impact: enhancing creative engagement while shaping self-efficacy. PLS-SEM analysis highlights the importance of balanced AI integration in education, ensuring AI is used to support rather than replace human creativity.

Academics should design strategies that encourage responsible AI use, helping students develop technological knowledge while maintaining confidence in independent thinking. A balanced AI approach will allow students to maximize AI's benefits while safeguarding creative autonomy.

**Keywords:** generative AI, creativity, self-efficacy, student autonomy, digital learning, AI dependence.