

How Can GenAI Affect Design Work?

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Generative-AI Creativity Design fixation
Design Creativity support tools AI-CSTs

Study One

The effects of GenAI on design fixation and divergent thinking



We aimed to **understand the effects of AI-generated imagery** as a source of inspiration in an ideation task.



A between participant lab experiment

With three conditions No Support, Google Image, and Generative AI support.



Participants

University students with a visual design background.



Task

Ideate many solutions for a chatbot Avatar.



Mixed methods

Bayesian statistical models [1].
Braun and Clarke's 6-phase reflexive thematic analysis approach [2].



Exposure to AI-generated images led to **higher design fixation** and **lower fluency, variety, and originality** compared to the baseline condition [3].

Fixation displacement occurred, where some participants fixated on the AI-generated images and copied what they saw, even if it was different from the example design [3].

Scan here for more details



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Main image is generated with Dall-E and edited in Adobe Photoshop by using Generative AI fill

Study Two

How professional designers are adopting, considering, or rejecting AI-CSTs



We aim to **understand professional designers' perceived benefits, challenges, and risks** regarding using AI-CSTs.



Participants

Professional UI/UX and Graphic designers.



Task

We conducted semi-structured interviews.



Qualitative Methods

Braun and Clarke's 6-phase reflexive thematic analysis approach [2].



Participants provided **insights** into **benefits that motivate** designers to consider using AI-CSTs, **risks** that lead to apprehension about using AI-CSTs and **In-conveniences** when using AI-CSTs.

Future Directions

Conduct co-design workshops with designers to understand their requirements and explore ways to **design GenAI tools that enhances the design process.**

References

- [1] Richard McElreath. 2020. Statistical rethinking: A Bayesian course with examples in R and Stan (2e). Chapman and Hall/CRC.
- [2] Braun, V. and Clarke, V. 2022. Thematic analysis: a practical guide. SAGE Publications Inc.
- [3] Wadinambiarachchi, S. et al. 2024. The Effects of Generative AI on Design Fixation and Divergent Thinking. Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11â-f16, 2024, Honolulu, HI, USA. 1, (2024), 18. DOI:https://doi.org/10.1145/3613904.3642919.