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A Study of Context Effect in Large Language Models

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Abstract

Large language models (LLMs) are increasingly used for decision-making, raising ethical questions about their decisions compared to human decision makers. A key aspect of human decision-making is the context effect, particularly how decoy options alter previous choices. This study examines whether LLMs exhibit similar context effects in human cognition. We test multiple GPT models using semantic choice probability prompts to assess four context effects: similarity, attraction, repulsion, and compromise. While LLMs exhibit some differences in their context effect maps compared to humans, they consistently exhibit all four-context effects examined qualitatively. Since users primarily seek suggestions rather than direct decisions, we also prompt LLMs to generate suggestions and pros-and-cons analyses, with results further confirming the context sensitivity of the LLMs. These findings suggest GPT models are not only effective in assisting context-dependent decision-making but also offer a scalable, cost-efficient tool for designing psychological study of context effects.

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