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Artificial Intelligence and Human Cognition: A Systematic Review of Thought Provocation through AI ChatGPT Prompts

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Abstract

This paper aims to provide a conceptual investigation over exploring the emergent processes and explanations formulated by a capacity to think, especially when extending reasoning abilities over an AI prompt, such as ChatGPT. These emergencies conceptualize special pathways, forcing human-like frameworks and processes of thought to be instanced, often covering personal qualifiers, in addition to motivations and other personal and emotional idiosyncrasies. Investigating and calling such processes thought whilst pulling for this instance human-like cognitive and behavioral articulation can provide us not only with an interesting standpoint counter to standard platonic maneuvers in cognitive science and AI but can also be utilised and reappraising to more useful and socio-culturally molar notions of optimization, embeddedness, intelligence, soft consciousness, and learning processes.

Keywords: Artificial Intelligence, ChatGPT prompts, human cognition, learning Processes, thought provocation

ملخص

تهدف هذه الورقة إلى تقديم تحقيق مفاهيمي حول استكشاف العمليات والشرحيات الناشئة التي يتم تشكيلها بفضل القدرة على التفكير، خاصة عند تمديد قدرات الاستدلال على استجابة الذكاء الاصطناعي مثل شات جي بي تي. حيث تقوم بتصميم مسارات خاصة، مما يجبر الفكرية البشرية على أن تكون ممثلة، وغالبًا ما تشمل مؤهلات شخصية، بالإضافة إلى الدوافع والخصوصيات الشخصية والعاطفية الأخرى. التحقيق في هذه العمليات واعتبارها تفكيرًا أثناء السحب لتمييزها كتنسيق معرفي وسلوكي شبيه بالبشر يمكن أن يوفر لنا ليس فقط نقطة نظر مثيرة للاهتمام تتناقض مع المناورات القياسية في علم الإدراك والذكاء الاصطناعي، ولكن يمكن أن يكون أيضًا مفيدًا وإعادة تقييمه لمفاهيم أكثر فائدة وسوسيولوجية مثل التحسين، والتكامل، والذكاء، والوعي اللين، وعمليات التعلم.

الكلمات المفتاحية: الذكاء الاصطناعي، مطالبات شات جي بي تي، الإدراك البشري، عمليات التعلم، استفزاز الفكر

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Introduction

Artificial Intelligence (AI) utilises a transformer-based model that selectively encodes the sequence of natural language, potentially along with cognitive attributes resulting from different brain states or mechanisms. The AI provides a verbal response between three to four seconds after the conclusion of the prompt. With this response, the AI model allows for interaction with natural language and aids in the unbiased processing of natural language communication, which can be tested for adaptability to the individual's internal voice.

Artificial intelligence is the application of a machine learning algorithm, a neural network, a deep learning model, or others to a situation or problem specifically tailored to solve for a specified outcome. Human cognition is housed within the cerebrum, which is part of the cerebral cortex (Lucci et al., 2022). The interpretation of AI is essential in considering that much of AI seeks to simulate human thought processes. Human thought processes are housed within the pre-frontal cortex of the human brain and include, but are not limited to, rational decision-making, emotion, language, speech, planning, and learning.

The primary aim of this paper is to systematically review the impact of AI-generated prompts, particularly those from ChatGPT, on human cognition. The study seeks to understand how these prompts influence thought processes, creativity, and cognitive engagement.

The review is conducted to explore the growing interaction between humans and AI, particularly in how AI influences human thinking. While AI is becoming increasingly integrated into educational, creative, and professional settings, assessing how AI-driven prompts can provoke, shape, or limit human cognition and whether they enhance or hinder creative and critical thinking.

The main question that pilots the review is how AI-generated prompts from ChatGPT affect human cognition, particularly regarding thought provocation, creativity, and cognitive engagement.

The Evolution of AI Chatbots

In the realm of computing, AI chatbots have come a long way. Over time, developers have strived to create machines that could be mistaken for human beings in written conversation. There has been a lot of progress in branded AI chatbots, especially in natural language processing and human-computer interaction. Weizenbaum (1966) indicated that early chatbots, such as ELIZA, developed in the 1960s, pioneered their ability to imitate conversation through matching models and written responses. Jurafsky and Martin (2019) summarized that the development of machine learning and deep learning techniques has drastically improved the conversational abilities of AI systems.

Modern chatbots like OpenAI ChatGPT use large language processors trained on large amounts of text data to produce human-like responses. Radford et al. (2019) simplified that these models can not only understand the context but also provide consistent and relevant feedback, which is a significant leap from previous rules-based systems AI chatbots' ability to engage users in meaningful conversations has raised questions about their role in education, mental health, and customer service, and highlights the importance of understanding their impact on human consciousness and by their actions (Shum et al., 2018).

Shrager (2024) stated that their history is characterized by early experiments and developments with chatbots that could mimic any person, narrow AI that is designed to follow

a script, and finally contemporary look-alike bots. While the earlier iterations had little potential for help beyond the apps for which they were made, the most recent GPT-3 iteration of OpenAI has shown an ability to "surprise and surpass" humans At least on a superficial level, these systems have become so complex that they imitate; they can construct tales, poems, code for applications, or engage humans in deep philosophical thought. Such advances beg the question of the extent to which these systems are simulating human cognitive abilities. Furthermore, as these systems become more complex and impactful, chatbots must be more closely examined and understood. This comes with the difficulty that chatbots are constantly updating and changing, becoming more advanced and influential as they do. To begin the study and interpretation of these chatbots, it becomes necessary to outline and evaluate significant milestones in the evolution of AI chatbots.

Historical Development of AI Chatbots

The development of AI chatbots is a testament to the rapid advances in artificial intelligence, natural language processing, and human-computer interaction. This journey extends from basic rule-based systems to modern AI-powered sophisticated machines.

Early Beginnings: The 1960s and 1970s:

Joseph Weizenbaum's Eliza is often credited with being the first chatbot, designed to simulate a conversation with a psychiatrist. Weizenbaum (1966) pointed out that Eliza worked through simple methods of pattern matching, which allowed her to give the illusion of understanding, although she was limited by her inability to truly understand the information she was using. Also, Kenneth Colby created PARRY, a chatbot designed to be a dangerous schizophrenic. Colby (1975) mentioned that PARRY's innovation was based on his use of more complex models of human consciousness, including what is now known as early perceptual mathematics.

Rule-Based Systems and Expert Systems: The 1980s and 1990s:

AI research during this period focused heavily on expert systems. Computer systems mimic the decision-making abilities of human experts even though they are not chatbots in the modern sense. Buchanan and Shortliffe (1984) argued that Jabberwocky was designed in an interesting way to mimic natural human conversation., unlike previous chatbots, Jabberwocky aims to learn from its interactions, incorporating the basics of machine learning and improving it over time.

Internet Era and the Rise of Open-Source Chatbots: The 1990s and 2000s:

Artificial Linguistic Internet Computer Entity was a breakthrough. Wallace (2009) assured that Artificial Intelligence Markup Language was used to enable more complex conversational capabilities. The Loebner Prize Competition won several awards, which showed the rise of chatbots. Also, SmarterChild was one of the first business chatbots that became very popular. Integrated with instant messaging services. Strickland (2015) pointed out that SmarterChild can provide information such as weather updates, sports scores, and even casual conversations, later paving the way for virtual assistants.

The Deep Learning Revolution: The 2010s:

Virtual assistants such as Apple's Siri, Amazon's Alexa, and Google Assistant have been central to building chatbot development (Hoy, 2018). Also, using deep learning and Natural Language Processing NLP, especially recurrent neural networks (RNNs) and their

variants such as short-term memory (STM) interfaces, (Hochreiter and Schmidhuber (1997) mentioned that Deep Learning and NLP are used to maintain and develop chatbot rules in more natural-sounding conversations.

Modern AI Chatbots: The 2020s and Beyond:

While GPT-3 is arguably not sentient or self-aware when it generates text or prompts, it can sometimes produce answers to prompts that affect the cognitive state of the user. One recent study aimed to utilize the prompt suggestions of several AI language models in creative writing prompts to understand how these prompts may inspire creativity in human users. Through this topic, relevant potential and limitations in AI and human cognitive interaction are revealed: the full potential of the AI's thought-provocative ability may lie in tailoring the prompt to the individual user.

There is an intriguing and comprehensive history behind the development of dialogue systems and AI chatbots. The newfound ability of AI ChatGPT to understand and respond to prompts indicates that AI has advanced from the production of mechanical responses to exhibiting emergent, creative reasoning. Fitria (2023) concluded that with the advent of deep learning and AI language models like GPT-3, these old chatbot technologies have been surpassed. AI ChatGPT not only tricks human judges into believing it is a human, but it also openly produces new information and ideas, ranking #1 in creativity. Interestingly, this advancement in AI chatbots has led people to question whether they could be "gentle provocateurs" of human cognition by suggesting new ideas during a creative challenge.

Understanding the Role of AI in Human Cognition and Activities

The AI ChatGPT (popularly called "Charlie" in this experiment) prompt was introduced to understand the impact of completing these narratives on human cognition for abstraction in a research scenario. The access to the informed consent file is reachable upon request from the authors. Not only do we transliterate AI technology into an array of human activities, social norms, laws, morals, and ethics, but it also affects our thinking about everything from particles to galaxies and worlds to ecosystems. AI itself requires an understanding of abstract thinking and sentence structure.

Cognitive science is a cross-disciplinary approach to understanding the mind and how humans think, reason, and learn (Cross & Ramsey, 2021). It is typically associated with the research fields of psychology, philosophy, anthropology, artificial intelligence, neuroscience, logic, and linguistics. Human cognitive processes such as learning and memory, attention and perception, decision-making, and problem-solving have been explored experimentally and in the context of neuroimaging.

The difference Between Human Cognition and AI Cognition

Human cognition and AI cognition sometimes functionally similar, differ fundamentally in their characteristics, processes, and limitations. Understanding these differences is essential to appreciating the capabilities and limitations of AI systems, especially in terms of how they interact with human users.

In terms of the nature of cognition, human cognition is a complex, variable, and dynamic process involving perception, memory, learning, reasoning, problem-solving, and decision-making It is deeply rooted in biology, especially the cerebral cortex, a it is influenced by emotions, experiences, and social interactions (Brennen, 2020). Human consciousness is not

just information processing; Searle (1980) mentioned that human consciousness includes insight, self-awareness, and the ability to understand and make sense.

While AI has no consciousness or self-knowledge. It processes information rhetorically, relying on mathematical connections and big data rather than logic or logic (Russell & Norvig, 2020). AI insights are primarily computational, limited to the data it pulls and the algorithms that follow it.

In terms of processing and learning, humans learn through a combination of experiences, social interactions, and innate cognitive abilities. Kahneman (2011) summarized that this type of learning is usually unsupervised and combines sensory input, perception, and prior knowledge to create a nuanced understanding of the world Human learning is flexible and adaptable if it cannot be predicted.

While AI is good at spotting patterns in data and making predictions based on that data. However, Goodfellow et al. (2016) asserted that AI cannot generalize in human-like ways beyond training, often struggling with tasks that involve understanding context or dealing with ambiguous information.

In terms of consciousness and intentionality, the essence of human consciousness is consciousness—the subjective experience of being aware of and able to reflect on one's thoughts and feelings. This insight is closely related to the mind, the ability to have an idea, which AI lacks. Chalmers (1996) argued that people not only process information but also make sense of it and have intentions behind their thoughts and actions

While AI works without thought or intention. Although it can mimic decision-making processes, it does so unconsciously or unconsciously. Dennett (1984) pointed out that AI systems provide answers based solely on statistical probabilities derived from their training data, with no real understanding of content or significance.

Creativity and Problem Solving

In terms of creativity and problem-solving, human creativity comes from intellect, consciousness, and the ability to think abstractly. Finke et al. (1992) stated that people are capable of solving problems creatively and innovatively, often finding innovative solutions that have not been encountered before This creativity is linked to the brain's ability to connect disparate thoughts and experiences in unique ways.

While AI-driven creativity is basically the recombination of existing data rather than the actual creation of new ideas. Marcus and Davis (2019) mentioned that AI problem-solving thrives on well-defined concepts but struggles on tasks that require out-of-the-box thinking or dealing with incomplete or ambiguous information.

In terms of emotional intelligence, humans' ability to understand and regulate one's own emotions and those of others, is central to human cognition Emotions play an important role in decision-making, social interaction, and mental health in general (Goleman, 1995). While AI does not have true emotional intelligence. Picard (1997) mentioned that AI can be programmed to recognize and respond to emotional cues such as sentiment detected in text, it doesn't understand or feel emotions.

Cognitive Computing and Artificial Intelligence

Traditional attempts at designing intelligent systems would involve careful hand-crafting of various aspects of the system to complete a task as accurately as possible. It was soon realized that for systems to be adaptable to the huge and ever-expanding world, their

capabilities have to be versatile and rely on data and learning-based approaches. It is from this analogy and attempts to replicate human cognitive systems and psychology that artificial neural networks were born. The field of deep learning, which has led to remarkable outcomes in computer vision, natural language processing, as well as clinical and medical applications, heavily relies on neural network structures that resemble, in many ways, the neural structure of the human brain. As a result, recent progress in AI has also led to new additions to various branches of cognitive science.

AI is a fast-growing area in both technological and societal relevance. At a high level, AI can be defined and thought of as involving computational resources to assist in problem-solving or decision-making (Joksimovic et al., 2023). While general AI, meaning human-level intelligence, has yet to be realized, we are capable of building narrow systems to accomplish certain tasks such as facial recognition, chess game playing, and auto-correction systems. Of the many sub-disciplines of AI, cognitive computing is an area that investigates integrating aspects of human cognition with intelligent systems. When creating and evaluating prompts driven through AI, it is important to reflect on the foundation of cognitive science to see how AI has found a place not just in technological development but in the way our minds process, understand, and think.

Impact of AI ChatGPT Prompts on Human Thought Processes

Conversational, AI-based natural language generation (AI ChatGPT prompts) and related collective language processing can foster a variety of thought processes. This would encompass thought processes some might view as algorithmic and not compatible with human-like cognition, as well as thought processes that are more open and creative. Given this range, it is useful to question possible changes in the cognitive process of thinking in connection with the AI ChatGPT prompt's effect being positive, challenging, or a combination of the two, as well as the possibility for one prompt to serve as a boundary or enabler for creative thought creation.

Moritz (2024) stated that AI ChatGPT prompts are likely to influence how a human ponders for several reasons. One, they can set a specific structure by expecting a particular output, which can guide and define one's thinking. Researchers have proposed since the early days of AI to use computers to give humans prompts for thought, but it is mainly with the development of casual conversational agents - and in particular AI ChatGPT - that we can take a closer look at the proposed methods. Experimentally, one of the few conducted studies has investigated whether a combination of prompt-plus-assistant increased people's experience of inspiration and/or perception of idea creativity. In addition, other explorations could build on this to better understand the increasingly prominent practice of accessing 'endless' prompt ideas and other data via casual conversational AI, and whether it hampers or enables creativity in these thought processes.

Empirical investigations of how AI ChatGPT prompts can influence the human thinking process and thought generation are currently ongoing. We urge more experiments to closely investigate this. Beyond that, the ability of AI ChatGPT prompts to evoke the human creative process is of particular interest.

The Influence of AI ChatGPT Prompts on Creativity

Understanding what fosters creativity is a challenging problem and also a key qualification for individuals. Alto (2023) suggested that consciously evoking psychological

cognition associated with creativity can increase the chances of performing in innovative ways, while simultaneously suppressing insightful beliefs increases the chances of shelving creativity. Since GPT-3 is designed to work as a conversationalist, its creative capabilities are unimpeded. Until shown otherwise, GPT-3 already has those features that contribute to creativity in conversation, such as humor, wordplay, teasing, and being interesting. To heighten creativity, qualities that are less common to the user, computer-aided design - using AI, should issue suggestions that lead human responses beyond where cognition would otherwise go.

Analyzing the influence of computer-prompted chatbot interactions on humans' creativity, the richness metrics confirm that predetermined parameters using AI suggestively data from ChatGPT pincers are useful to efficiently supervise creativity and to drive it in a positive or negative direction. This indicated that Chatbot elaboration can help stratify the creativity needs of designed content, while oversaturation of the elaboration may not lead to any evident improvements for either low or mid-creative score distributions. Interestingly, the suggestions do not show prompt-specific improvements, removing the potential of crafting specific prompts for driving creativity. We believe the absence of any evident trend improvement across prompts can be attributed to the way the AI was designed and trained, which may have caused a loss of prompt specificity, especially in creativity enhancement.

Ethical Considerations in AI ChatGPT Interactions

Regular secure database maintenance and management standards have the potential to fall foul and be less than secure for de-identification if machine learning and advanced computer learning algorithms are employed on raw inputs further down the track (Wu et al., 2024). This type of potentially extreme outcome falls within the ethical parameters of allowing a cognitive science and psychological safety net when AI meets humans. Having considered the ethical contexts and implications of sourcing data in this manner, the following section outlines the methodologies and data analyses that inform the iterative process of this research study.

In the face of potentially deleterious effects, ethical guidelines at large propose a degree of caution when unleashing or activating promptings on AI ChatGPT that can play around or manage human cognition. There are clear warnings against changing internal mental representations and beliefs that are held by AI-activated suggestions. Authors therefore also posit the possibility that prompts that conduct fact-emphasis change in personal or global events could (for instance) potentially harm the statutory system.

Data mining and processing of personal and confidential data via AI ChatGPT may give rise to threats to the security of data and danger around privacy. This is especially true when questions are intimacy-laden and reveal a hoard of personal information. Since there are legal processes in various parts of the globe that dictate the confidentiality of confidential and private data, probing such sensitive topics through AI ChatGPT due to potential data leaks or security breaches could land these systems (and users' or owners' propositions of them) in legal problems.

Global machines with millions (and at times billions) of parameters, and trained via complex deep learning procedures, can easily grab data queries that tend to handle substantial portions of human conversation patterns and practices. As such, they tend to engage deeply with both public and private spheres. AI interaction also has the potential to provide a gamut of psychological, as well as neurocognitive effects in a variety of people, as prior evidence has revealed. There are various ethical considerations and potential risks in this sphere about the ethical deployment of AI ChatGPTs.

Privacy and Data Security Concerns in AI ChatGPT

Privacy and data security are core issues in modern AI agents, especially when it comes to interactions with AI agents such as AI ChatGPT, where sensitive information disclosure can be exploited by adversaries for unintended adverse effects. AI ChatGPT, for instance, can easily generate prompts (thus text/chat content) that would encourage a responder to share personal experiences, emotional states, or other private information. As OpenAI warns AI ChatGPT initiators, outputs may put people in danger (Flanagan & Christakis, 2021). The use of certain AI ChatGPT prompts may potentially place the respondent at risk: an adversarial respondent could intentionally share personal information or insights with ill intent. Thus, facilitators, researchers, and companies must ensure that these prompts are not harm-inducing and are doing so without any flaw.

Advancements in Natural Language Processing

It is of interest to understand how AI models like ChatGPT are positioned how they are listed in the context of massive knowledge graphs or ontologies like OpenAI ConceptNet, and the possibilities of the many different relations they are associated with and linked to. Important for this work, given their potential significance in the further widespread use of AI such as generation AI, and AI-based language understanding technologies, AI ChatGPT is also positioned as being able to have potential repercussions for human cognition. The potential of AI to provoke human thought processes remains unexplored, though, particularly in AI language technologies such as AI ChatGPT (Dergaa et al., 2023). This is likely due to the relative youth of utilizing AI language technologies. But given the latest advancements in massively trained AI models with considerable parameters—as the most current model of AI chat, AI ChatGPT can consist of billions of variables that deeply replicate humanlike language patterns and nuances—the broad potential exists to explore the relevance and impacts on human thought processes.

Roumeliotis and Tselikas (2023) indicated that Artificial intelligence has made significant advancements in the field of natural language processing (NLP). Over the past decade, numerous works in AI research have focused on evolving the effectiveness, efficiency, and capabilities of NLP. OpenAI ChatGPT is a powerful AI model released in 2019 that uses similar advancements in NLP to generate contextually accurate and fluent text. ChatGPT is capable of discussing, answering competitors, and even posing questions to humans across a wide variety of subjects. Brown et al. (2020) concluded that Many AI models that focus on generating natural language text have also shown advancements in various NLP and dialogue benchmarks. Additionally, there is evidence that AI models composed of long wide transformer structures perform particularly well on both NLP and dialogue-based tasks (Brown et al., . AI dialogue agents built from long wide transformer structures, such as ChatGPT, are AI models developed exclusively to converse with humans or provide information on a socially relevant topic.

Future Directions in AI ChatGPT Research

Future research could concentrate on integrating human conversational responses with the machine learning model. That is, after each computer-produced "prompt," the participant would create a conversation response. Following these conversation exchanges between AI ChatGPTs and people, researchers would be best able to deduce whether this interaction has affected human cognition. Other potential ChatGPT research avenues involve usage and control stimulation for changing user behavior (Lin et al., 2023). More complex use of prompts by

varying the number of prompts, or combining prompts from more than one type of GPT model (i.e., blending the two), would also provide possible directions. In the hope of further stimulating thought-provoking for ChatGPTs, future research taking into account the above possibilities could be an exciting and interesting direction to head. This might be especially the case if the impacts transfer to another effect or focus, as was the case in the incompatible-stimulus-effect production.

Advances in AI models such as ChatGPT have opened up new avenues for research, innovation and application. As AI technology continues to evolve, several key areas will emerge as focus areas for future research. These areas aim to advance the capabilities of AI, address ethical concerns, and explore new applications that can significantly impact various fields.

One of the main challenges with current AI models such as ChatGPT is their inability to maintain context within a broader conversation. Future research will likely focus on equipping AI with long-term memory so that it can better remember and process information from previous interactions. Radford et al. (2019) pointed out that this will enable coherent and contextualized conversations about, improving user experience and extending the utility of AI in complex projects.

ChatGPT and other AI models are trained on large data sets that may have biases, leading to biased results. Future research will likely focus on strategies to identify, reduce, and eliminate biases in AI models. Bender et al. (2021) pointed out that this includes improving dataset curation, developing fairness measures, and developing algorithms that can adapt to different user needs and perspectives.

The ability of AI to collaborate creatively with humans is a promising area of research. Future research will explore how AI can be used as a tool to enhance human creativity in areas such as writing, music, art, and design. McCosker and Wilken (2020) summarized that this could include developing AI systems that can generate creative ideas, provide inspiration, or assist in the iterative creative process.

As AI systems become more sophisticated, they will explore how humans and AI can better work together. This includes developing networks that facilitate seamless communication between humans and AI, as well as studying the social and psychological effects of AI collaboration in various settings (Shneiderman, 2020).

As AI becomes more integrated into society, it is important to understand its legal and ethical implications. Floridi et al. (2018) indicated that research in this area will address issues such as data privacy, intellectual property rights, and the ethical use of AI in decision-making to ensure the development and responsible use of AI technologies.

To address privacy concerns and improve model performance, research could further explore integrated learning, where AI models are trained on machines using local data. Kairouz et al. (2021) concluded that this approach is not that it not only protects users' privacy but also reduces the need for large centralized datasets, potentially making them more robust and customizable to AI.

Given the number of possible future advancements in the fields of AI ChatGPT, including using a different model, involving or adding users, multiple prompts, or combinations of these, the question of using this model in natural language processing or related areas can be a profoundly interesting one and could open new scope for thinking. Making a case for a future subsection will provide scholars in the field with some new directions they might want to

pursue. Further research of the operationalization of thought dynamics in web-based mediated group deliberations stems from a critical realist multi-phase, multi-method action research project.

Conclusion

The systematic review of thought provocation through AI ChatGPT prompts reveals a nuanced understanding of how artificial intelligence intersects with human cognition. ChatGPT and AI models represent a major advance in natural language processing and enable dynamic discussion and interaction that challenges traditional ways of thinking and enables problem-solving. These AI systems can stimulate creativity, facilitate learning, and generate new perspectives on unexpected ideas. However, the gap between AI and human cognition, such as the lack of insight, attention, and true understanding in AI, highlights AI's limitations in completely replicating or replacing human cognitive processes. While AI can help and improve human cognition, it's clear that the thought stimulus generated by AI operates under certain constraints.

Future research should focus on increasing contextual understanding of AI, improving ethical policies around AI technologies, and finding ways to better integrate AI into creative and collaborative processes, not necessarily helpful not only to human imagination but also pushes the boundaries of what is possible in it also knowledge generation and problem-solving. Prompting others' thoughts and feelings is dual-use. In the case of AI-ChatGPTs, it may have the effect of prompting more thoughtful generations, though it is unknowable. The process of crafting such prompts, even if they are never employed, sheds light on natural language processing and the informatics of human cognition. Formulating AI ChatGPT prompts is a thought-provoking exercise with potentially constructive applications. The effect of AI ChatGPT prompts on cognition warrants further research. Prompting is an age-old psychological tool for accessing latent thought and producing cognitive shifts.

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Declaration of AI Use

This research paper has used AI tools, specifically Grammarly and Scholar AI Chat, to assist with tasks related to language editing. The AI was used to improve grammar and stylistic choices. All intellectual contributions, ideas, and conclusions remain the authors' work, and AI tools were not involved in the creation of texts or critical thinking processes related to the research.

The authors take full responsibility for the content of the paper and the accuracy of the information presented. The use of AI was in line with ethical guidelines for responsible

research conduct, and its contribution was limited to supporting editorial tasks without impacting the integrity or originality of the research paper.

Statement of Absence of Conflict of Interest

The authors mentioned above hereby solemnly declare that they are not and shall not be in any situation that could give rise to a conflict of interest in what concerns the findings and recommendations contained in this academic article.

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