The Utilization of Artificial Intelligence in Cancer Psychology and Its Relationship With Image Generation

Kadir Uludag
http://orcid.org/0000-0003-3713-4670
Shanghai Jiao Tong University, China

ABSTRACT

Presently, Microsoft Bing and other artificial intelligence enterprises such as Google offer services that facilitate effortless image generation through simple textual prompts. It can be used in many fields such as psychology, art, social sciences, sociology, and psychology. Furthermore, created images can trigger certain emotions and can be used in research. However, there are a few studies on this topic considering that people have just started to use it. Moreover, it can find application in the realm of self-psychology for individuals with cancer, considering their frequent struggles with depression. The objective is to explore the potential use of chatbots in generating images as a supplementary tool in the field of psychology, alongside traditional methods such as psychotherapy. The authors have also discussed its potential application in providing psychological support to individuals with cancer who are in need of psychological assistance.

1. INTRODUCTION

Chatbots such as ChatGPT, also known as conversational agents, represent a breakthrough in how we interact with technology (Mohamad Suhaili, Salim, & Jambli, 2021). Chatbots are commonly used in the field of psychology (Uludag, 2023a, 2023b, 2024). Moreover, there have been advancements in chatbots capable of generating images, which individuals have begun utilizing for the purpose of creating visual representations. The field of psychology can make use of those visuals.

A previous study suggested that utilizing AI tools such as DALL·E6 for image generation and Sora7 for video generation could potentially aid in the cost-effective illustration a of hallucinations experienced by individuals with psychiatric diseases such as schizophrenia (Østergaard, 2024).

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The outcomes of psychotherapy and pharmacotherapy can be greatly influenced by the impact of religious delusions and the approaches mental health professionals take to address them (Uludag&Zhao, 2024).

In addition, chatbots were employed to provide young individuals who had undergone cancer treatment with positive psychology techniques and encourage their overall well-being (Greer et al., 2019). Enhancing chatbot technology can additionally contribute to the enhancement of individuals' psychological well-being. Chatbots have the potential to offer therapeutic advantages in the field of psychology.

Additionally, chatbots have the ability to provide information to individuals experiencing delusions. These individuals can engage with chatbots by asking them questions to determine the reality of their experiences. Essentially, chatbots can assist in clarifying and validating the perceptions of individuals with delusions. For example, a person experiencing delusions might interact with a chatbot that is programmed to provide objective and evidence-based information. Through conversations with the chatbot, the individual can receive feedback and explanations that challenge their delusional beliefs, helping them gain a clearer understanding of their situation. This process of clarification and validation can contribute to the individual's overall treatment and recovery journey.

Additionally, chatbots can also be beneficial for individuals who do not have psychiatric diseases such as depression and schizophrenia. They can provide support and guidance in various areas such as mental well-being, stress management, goal setting, and personal development. There is a limited body of literature available on this topic due to its relatively recent emergence. Due to the potential adverse reactions associated with psychiatric medications (e.g., antipsychotics) (Uludag et al., 2021), specifically in the case of schizophrenia, it is crucial to explore other therapeutic options.

The subsequent chatbots have the ability to produce images easily according to certain prompts:

*OpenAI DALL·*E: DALL·E is an AI model developed by OpenAI that generates images from textual descriptions.
RunwayML: RunwayML is a platform that offers a range of AI tools, including image and video generation models. It provides a user-friendly interface for creating AI-generated content.
Artbreeder: Artbreeder allows users to combine and evolve images using AI algorithms. It enables the creation of unique and visually captivating artwork.
Deep Dream Generator: Deep Dream Generator utilizes AI algorithms to create dreamlike and surreal images. Users can upload their own images or use predefined styles to generate unique visuals.
Jukin Media's Sora: Sora is an AI-powered video creation tool developed by Jukin Media. It allows users to transform text into video content, making it suitable for various applications. It may differ from the other tools since it allows users to create videos.
Google Gemini: Moreover, Google Gemini has the capacity to generate images. Additionally, it has the capability to retrieve relevant images using the powerful search engine, Google, thus providing users with a visual representation related to their search queries.

Literature Review

Application of Image-Generating Chatbots in the Field of Psychology

Visuals such as game cards can be utilized by psychological therapists and other professionals in the field of psychology to investigate and reflect upon specific psychological concepts. In addition, artificial in-