AI-Powered CBT: Investigating the Perceived Impact of Voice-Based Generative AI on Reframing Anxious Thoughts

Sophia Wong & Dr. Shahnaz Winer
Department of Psychology, Douglas College

Introduction

This study evaluates the perceived effectiveness and engagement of a Cognitive Behavioural Therapy (CBT) exercise for reframing anxious thoughts when delivered through a voice-based interaction with ChatGPT.

CBT is traditionally facilitated through therapist-led sessions or worksheets, however, barriers such as cost, accessibility, and stigma can limit access to these resources. With the rise of digital mental health interventions, generative AI tools like ChatGPT offer a scalable and accessible alternative.

This research explores whether AI-driven CBT enhances user experience and supports effective cognitive restructuring, contributing to the growing body of literature on AI in mental health care.

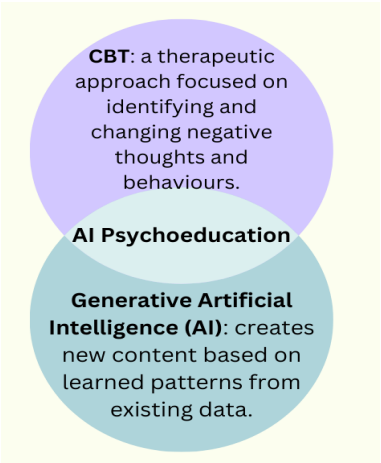

Figure 1. Venn diagram depicting the merging of CBT and Generative AI.

Methods

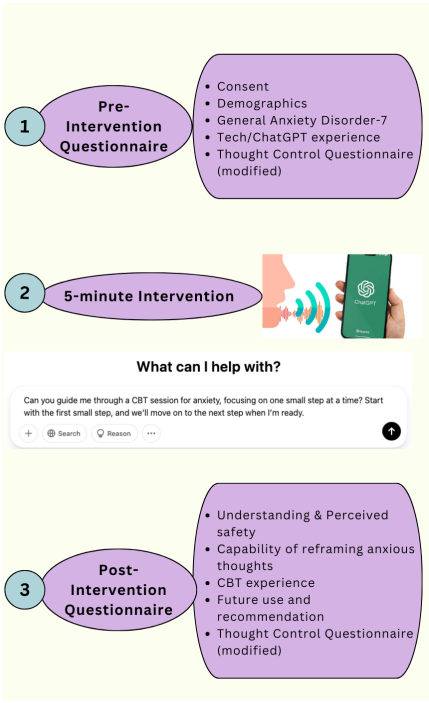

Figure 2. Outline of steps included in the study design.

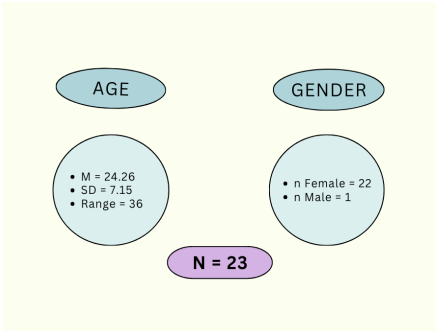

Figure 3. Summary of key demographic information.

Results

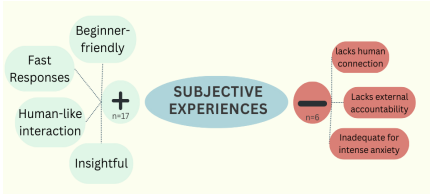

Figure 4. Highlight of common themes revealed through inductive thematic analysis.

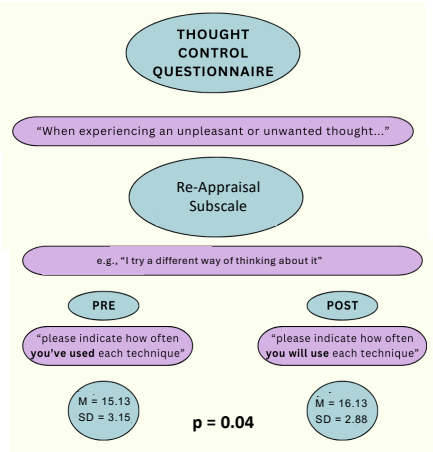

Figure 5. A one-tailed paired sample t-test revealed a statistically significant increase in scores from pre- to post-intervention on the re-appraisal subscale of the TCQ (Wells & Davies, 1994).

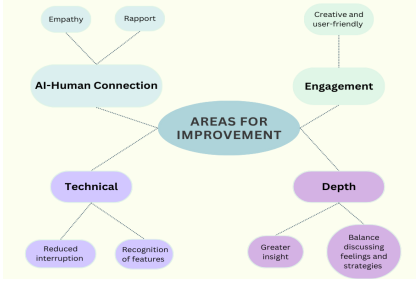

Figure 6. Emerging themes on areas of improvement in the utilization of voice-based generative AI as a psychoeducational tool.

Discussion

This study demonstrates the evolving usability of Generative AI as an accompanying tool to traditional forms of psychoeducation. Although users indicated some areas for improvement, **74% of participants reported a positive experience and a significantly greater ability to re-appraise unwanted thoughts.**

This presents a promising and innovative approach that has the potential to help bridge the gap between therapy and the barriers that limit access to mental health resources.

Future research should explore the long-term efficacy of AI-assisted interventions and assess their impact on diverse populations to ensure inclusivity and effectiveness.

Contact

Undergraduate Researcher
Sophia Wong
wongs50@student.douglascollege.ca

Faculty Supervisor
Dr. Shahnaz Winer
winers@douglascollege.ca

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