

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

| Introduction | Methods | Results | Discussion |
|--|--|---|--|
| 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 | Pre- Intervention Questionnaire Underwork Output Experiment Experiment Image: State of the state of | Fast Responses Human-like Human-like Insightful Figure 4. Highlight of common themes revealed through inductive | 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 |
| 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. | 2 5-minute Intervention Ø and the first of the state of | thematic analysis. THOUGHT CONTROL QUESTIONNAIRE "When experiencing an unpleasant or unwanted thought" Re-Appraisal | 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. |
| This research explores whether Al-driven CBT enhances user experience and supports effective cognitive restructuring, contributing to the growing body of literature on Al in mental health care. | Understanding & Perceived safety Capability of reframing anxious thoughts CBT experience Future use and recommendation Thought Control Questionnaire | Subscale e.g., "I try a different way of thinking about it" PRE "please indicate how often you've used each technique" | Future research should explore the long- term efficacy of Al-assisted interventions and assess their impact on diverse populations to ensure inclusivity and effectiveness. |
| CBT : a therapeutic approach focused on identifying and | (modified) Figure 2. Outline of steps included in the study design. | (M = 15.13) $SD = 3.15$ $P = 0.04$ $(M = 16.13)$ $SD = 2.88$ Figure 5. A one-tailed paired sample t-test revealed a statistically | Undergraduate Researcher Sophia Wong wongs50@student.douglascollege.ca |
| changing negative thoughts and behaviours. | | significant increase in scores from re- to post-intervention on the re-appraisal subscale of the TCQ (Wells & Davies, 1994). | Faculty Supervisor Dr. Shahnaz Winer winers@douglascollege.ca |
| Al Psychoeducation Generative Artificial | AGE GENDER • M = 24.26 • 50 = 7.15 • Range = 36 • n Female = 22 • n Male = 1 | Al-Human Connection Engagement AREAS FOR IMPROVEMENT | References American Psychological Association. (n.d.). What is cognitive behavioral therapy?. American Psychological Association. https://www.apa.org/dstd-guideline/patients-and- families/cognitive-behavioral Lorging. C.A. (2010). Technology and month health: The role of |
| Intelligence (AI): creates new content based on learned patterns from existing data. | N = 23 Figure 3. Summary of key demographic information. | Technical Depth Reduced Recognition Greater Resigns and Science Sciences Sc | Lovejoy, C. A. (2019). Technology and mental health: The role of Artificial Intelligence. <i>European Psychiatry</i>, <i>55</i>, 1–3. https://doi.org/10.1016/i.eurosy.2018.08.004 Wells, A., & Davies, M. I. (1994). The Thought Control Questionnaire: A measure of individual differences in the control of unwanted thoughts. Behaviour Research and Therapy, <i>32</i>(8), <i>811–878.</i> https://doi.org/10.1016/0005- measure. |
| Figure 1. Venn diagram depicting the merging of CBT and Generative Al. | , guit a, summary of key at moyraphic information. | Figure 6. Emerging themes on areas of improvement in the utilization of voice-based generative AI as a psychoeducational tool. | <u>7967(94)90168-6</u> |