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Initial Encounters of Elders to a Custom-built AI Chatbot for Them - A Lesson Learned at a Community Center

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ABSTRACT

With the proportion of residents aged 65 or older expected to reach 36.0% by 2046, Hong Kong's aging population presents significant challenges. This demographic shift necessitates sustainable solutions to support older adults and their caregivers. Teaching elders to use digital technologies can help them access essential information, reduce social isolation, and alleviate caregiver burdens. AI chatbots, specifically, demonstrate significant potential in offering companionship, increasing health awareness, and assisting in the early detection of dementia. From February to April 2025, eight university students delivered 10 weekly sessions at a community center, training older adults to use mobile applications. In the final session, participants interacted with a proof-of-concept prototype AI chatbot to explore its practicality. The chatbot asked one question adapted from the Mini-Mental State Examination (MMSE) and two questions on the elders' favourite food and music. Conversations with the elders in traditional Chinese were driven by an open-source large language model (LLM).

Despite the chatbot's limited flexibility and brief interaction, the older adults found the chatbot interesting. They viewed the MMSE question as a game, fostering engagement. However, the bot's slow response and the abrupt conversation halt a few questions highlighted the need for improved adaptability. Also, it is not clear if the older adults will be able to interact with the chatbot without help from students for longer sessions. Despite these limitations in the prototype, this pilot study offered valuable insights for designing more advanced chatbots to enhance older adults' social connections, provide companionship, and support early mental health assessments.

Keywords: Aging population; large-language models; older adults; sustainable solutions; dementia