

Development of a Chatbot-Based ASMR Video Delivery Sleep Aid Tool and Its Technology Acceptance Model Evaluation

Ying-Yu Xu^{1, *}, Wan-Jiun Hsieh¹, Cheng-Hsiang Wu¹, Jia-Zhuan Lin¹, Si-Han Wu², Cheryl Chin-Hsiu Yang^{2,3}, Cheng-Han Wu^{1,3}

¹ Department of Information Management, National Taipei University of Nursing and Health Sciences

² Institute of Brain Science, National Yang Ming Chiao Tung University

³ Sleep Research Center, National Yang Ming Chiao Tung University

Objective: Insomnia is a global health issue that significantly affects quality of life. While medications exist, their side effects often reduce adherence, and long-term use is not recommended. Recently, non-pharmacological interventions like Autonomous Sensory Meridian Response (ASMR) have shown potential in improving sleep quality. However, maintaining engagement over time can be challenging for individuals, and personal health managers are costly. Automated ASMR video delivery through chatbots offers a more efficient solution. This study aims to explore the feasibility of using chatbots to deliver ASMR videos as a sleep aid tool.

Methods: The chatbot was developed using Python with the Flask framework, incorporating a sleep questionnaire that includes demographic information and the Pittsburgh Sleep Quality Index (PSQI). Participants who fully experienced the chatbot were invited to complete a Technology Acceptance Model (TAM) questionnaire to assess the user experience and acceptance of the chatbot developed in this study.

Results: The chatbot was successfully developed. It included features such as sleep education, sleep questionnaires, ASMR video delivery, and usage tracking. A total of 110 sleep questionnaires were collected, with participants aged between 18 and 24 years. The average PSQI score was 5.94 ± 2.60 . After fully experiencing the chatbot, 10 participants provided feedback, stating that the chatbot was easy to use and helpful, though further improvements were needed in the interface and functionality.

Conclusion: This study developed a chatbot capable of automatically delivering ASMR videos to participants, increasing user engagement, and serving as a potential tool for sleep management.

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作者：徐瑩育*、謝宛均、吳澄香、林家篆、吳思涵、楊靜修、吳承翰
服務單位：國立臺北護理健康大學資訊管理系、國立陽明交通大學腦科學研究所、國立陽明交通大學睡眠研究中心