

Investigation of Acceptance and Behavioral Intention to Use AI Chatbots among Medical Students at the Universities of Palermo and Catania: A Preliminary Study of the DIADEMA Project

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INTRODUCTION

Artificial Intelligence (AI), particularly generative AI, is increasingly transforming educational and information-seeking practices. Medical students are among the most frequent users of AI chatbots for learning and accessing medical information. However, due to their direct and dialogic mode of interaction, concerns have been raised regarding chatbots use and their potential impact on cognitive autonomy, critical thinking, and dependency-related attitudes.

OBJECTIVES

This study presents the preliminary findings of the broader DIADEMA Project, which investigates AI chatbot dependency among first-year medical students at the Universities of Palermo and Catania. Specifically, this initial phase focuses on assessing the acceptance and behavioural intention to use AI chatbots in this population.

MATERIALS AND METHODS

Following informed consent, participants completed a questionnaire assessing sociodemographic, academic characteristics and AI chatbot use for educational activities. Furthermore, an adapted Italian UTAUT2 model assessing AI

chatbot acceptance and behavioural intention, and the Dependency on AI (DAI) Scale, were used. Quantitative variables were summarized as means and standard deviations (SDs), whereas categorical variables were reported as frequencies and percentages. The reliability of the UTAUT2 constructs was assessed using Cronbach's alpha and McDonald's omega coefficients. Confirmatory factor analysis (CFA) was performed to evaluate the factorial validity of the UTAUT2 measurement model, and the model fit was assessed using the RMSEA and SRMR indices. Structural equation modelling (SEM), based on the UTAUT2 theoretical framework, was used to examine the relationships between latent constructs and behavioural intention to use AI chatbots, and results were reported as standardized path coefficients (β). Statistical significance was set at $p < 0.05$.

RESULTS

A total of 248 first-year medical students were included in the analyses, with a mean age of 19.9 ± 2.7 years, 71.0% were female. Average grade was 22.8 ± 3.6 with mean CFU of 18.2 ± 2.9 . Most students reported extensive experience with AI chatbots, 73.0% used them for more than one year. ChatGPT (75.4%) and Gemini (66.5%) were the most commonly used tools and 61.3% reporting chatbot use at least 4 days per week. The scope of use was information retrieval (68.1%), academic tasks (46.4%), and exam preparation

(45.6%). All UTAUT2 latent constructs showed satisfactory reliability, Cronbach's α between 0.74 (Facilitating Conditions) and 0.92 (Performance Expectancy), McDonald's ω between 0.78 (Facilitating Conditions) and 0.93 (Price Value). CFA supported the validity of the measurement model (RMSEA = 0.048; SRMR = 0.049). Effort expectancy (5.75 ± 0.92), facilitating conditions (5.70 ± 0.77), and performance expectancy (5.44 ± 1.02) showed the highest mean scores. SEM identified performance expectancy ($\beta = 0.784$, $p < 0.001$) and habit ($\beta = 0.267$, $p < 0.001$) as significant predictors of behavioural intention, whereas no significant effects were observed for effort expectancy, social influence, facilitating conditions, hedonic motivation, or price value. The model explained 82.2% of the variance in behavioural intention ($R^2 = 0.822$).

CONCLUSIONS

These preliminary findings suggest that AI chatbots are widely adopted and positively perceived among first-year medical students. Performance expectancy and habit emerged as the main determinants of behavioural intention to use AI chatbots.