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UNDERSTANDING THE RELATIONSHIP BETWEEN MENTAL HEALTH STIGMA AND CHATGPT USE: THE ROLE OF PERCEIVED EFFECTIVENESS

Scott N. Hannah[1], Deirdre Drake[1], Christopher D. Huntley[2], & Joanne M. Dickson[1,3]
[1]*School of Arts and Humanities, Psychology Discipline, Edith Cowan University (Australia)*
[2]*School of Medicine, University of Liverpool (United Kingdom)*
[3]*Centre for Precision Health, Edith Cowan University (Australia)*

Abstract

General purpose artificial intelligence (AI) chatbots, such as ChatGPT, are increasingly used for conversational support in addressing personal mental health difficulties. For individuals experiencing mental health stigma, non-judgmental and on-demand chatbot interactions may be more appealing than face-to-face support, partly due to their convenience and anonymity. Given the rapid global uptake of AI technologies, understanding mental health stigma in AI-mediated help-seeking contexts is becoming more important for their safe and ethical use. This cross-sectional study aimed to examine whether ChatGPT use for personal mental health difficulties is associated with mental health stigma, and whether the perceived effectiveness of ChatGPT mediates this relationship. Participants (n = 73), who were primarily university students, completed online self-report measures assessing ChatGPT usage for mental health purposes, perceived effectiveness of ChatGPT for mental health issues, and mental health stigma. The results showed that ChatGPT usage was positively associated with perceived effectiveness. While ChatGPT usage and perceived effectiveness were not directly associated with stigma, our tested mediation analyses indicated a significant indirect effect such that greater ChatGPT usage was associated with reduced stigma via increased perceived effectiveness. These findings suggest that ChatGPT use is associated with reduced mental health stigma only when its use is perceived to be effective, highlighting the importance of perceived effectiveness. As AI-based tools are rapidly emerging in mental health contexts, a clearer understanding of why individuals use these technologies, along with their potential benefits and limitations, will be essential for informing appropriate guidelines and best practices for AI-based mental health support.

Keywords: *Artificial Intelligence (AI), AI chatbot, ChatGPT, mental health stigma, mental health.*

1. Introduction

General-purpose Artificial Intelligence (AI) chatbots are increasingly used for mental health support, with users seeking low-cost, conversational guidance for distress and mental health support despite these tools not being designed or regulated as therapeutic services (Haque & Rubya, 2023). This emerging practice raises important questions about how and why individuals adopt AI chatbots for mental health purposes.

Research indicates that general-purpose AI tools, including ChatGPT, may support mental health by providing empathy and supporting stigma-related concerns, (Howcroft et al., 2025; Li, Peng & Rheu., 2024). Conversely, critics argue that chatbots lack authentic empathy and a genuine therapeutic alliance (Brown & Halpern, 2021). Still, AI chatbot-based support is particularly appealing to individuals encountering stigma-related barriers, as anonymity can mitigate fear of judgment and promote self-disclosure (Lucas et al., 2017). Considering that stigma may be a reason that individuals turn to AI chatbots, this research aims to investigate associations between AI chatbot use and mental health stigma.

The stigma associated with mental health disorders and symptoms is a multifaceted phenomenon acting as one of the most substantial barriers to seeking support for affected individuals globally (Fox, Earnshaw, Taverna & Vogt, 2018). In the present study, stigma is defined as comprising two mechanisms: anticipated stigma and self-stigma. Anticipated stigma is defined as the expectation that others will judge, reject, or discriminate against individuals with mental health difficulties (Docksey, Gray, Davies, Simkiss & Snowden, 2022). Self-stigma is defined as the internalisation of negative self-stereotypes, whereby individuals perceive themselves as devalued (Lannin et al., 2015). This staged internalisation process is associated with rumination and critical self-evaluation (Dickson, Moberly & Huntley, 2019). Notably, these

stigma mechanisms often overlap empirically due to this staged process, as measures of self-stigma frequently include elements related to other stigma mechanisms, particularly anticipated stigma (Fox et al., 2018; Hannah, Drake, Huntley & Dickson., 2025). This overlap supports the adoption of a broader stigma construct in the emerging AI field where stigma-related processes may not yet be clearly distinguished.

Mental health stigma among university students is closely associated with perceptions of academic competence and often discourages disclosure and help-seeking due to fears of judgment and academic consequences (Wada et al., 2019). Therefore, AI chatbot-delivered support may be particularly appealing because it offers accessible, low-cost, and time-efficient assistance. As such, this study aimed to investigate the relationship between mental health stigma and patterns of use among university students who already use ChatGPT for their mental health. A plausible mechanism helping explain this process may be perceived effectiveness. Specifically, users' beliefs about whether ChatGPT can provide meaningful support may shape engagement with the tool and, in turn, stigma-related experiences.

Perceived effectiveness refers to an individual's beliefs about the potential benefits of an intervention or activity and aligns with the Theory of Planned Behaviour (TPB; Ajzen, 1991). The TPB posits that behavioural evaluations are shaped by outcome expectancies and the value attributed to those outcomes. These expectancies may influence results through placebo-like mechanisms, as individuals who believe a treatment is effective can experience greater benefits even when the active components remain unchanged (Rutherford et al., 2017). This finding underscores the role of expectancies in shaping perceived benefits of the intervention. If individuals perceive ChatGPT's advice as effective for mental health support, they may experience lower stigma as interactions can feel anonymous and less judgmental; if it is viewed as ineffective, stigma-related concerns may remain. Notably, perceived effectiveness may not reflect actual effectiveness.

The Artificially Intelligent Device Use Acceptance (AIDUA) model (Gursoy, Chi, Lu & Nunkoo, 2019), which builds on the TPB, helps explain this process: perceived effectiveness corresponds to performance expectancy within the appraisal stage, whereas stigma-related concerns align with affective responses (e.g., discomfort or anticipated judgment) that influence adoption intentions. Consistent with AIDUA, positive emotional attitudes and expectancies have been shown to predict the use of AI chatbots (Ma & Huo, 2023). Accordingly, the present study examined whether ChatGPT use for mental health support is associated with mental health stigma, and whether perceived effectiveness indirectly explains this relationship.

2. Method

2.1. Participants

The sample consisted of 73 individuals aged 18 to 61 years ($M = 29.56$, $SD = 9.89$), drawn from a university sample of 62 participants (84.9%) and the broader community (11 participants/15.1%). The sample comprised 56 females (76.7%), 16 males (21.9%), and one participant who identified as non-binary/third gender. The eligibility criteria required participants to report current or prior ChatGPT use for their own mental health difficulties.

2.2. Materials

2.2.1. Demographic questionnaire. Participants completed demographic items including age and gender.

2.2.2. ChatGPT Usage and perceived effectiveness. Single individual items were designed to assess ChatGPT usage and its perceived effectiveness on 5-point Likert scales and were piloted with five students and reviewed for face validity by the research team.

2.2.3. Mental health stigma. The Stigma and Self Stigma Scales (SASS; Docksey et al., 2022) were used to assess participants' degree of mental health anticipated stigma and self-stigma. Anticipated stigma and self-stigma had a substantial correlational overlap ($r = .87$, $p < .001$) and so both stigma types were combined to create the *mental health stigma* construct as guided by previous research (Aird, Reisinger, Webb & Gleaves., 2025). The composite stigma score was computed by averaging the Anticipated Stigma and Self-Stigma subscale totals (possible range = 0 to 24); higher scores indicate greater stigma.

2.3. Procedure

The Edith Cowan University (ECU) Human Research Ethics Subcommittee approved the research (Reference: 2024-05264-DICKSON). A participant information sheet was provided at the beginning of the online survey and participants indicated informed consent by ticking a box before proceeding.

2.4. Data analyses

Data were screened in according to guidelines by Tabachnik and Fidell (2007) and subsequent analyses were conducted using IBM SPSS version 29 (IBM Corp., 2023), using PROCESS v4.2 (Hayes, 2022). Bootstrapped confidence intervals were computed using 5,000 samples, and standardised coefficients are reported.

2.5. Power calculations

An a priori power analysis based on Cohen's (1988) guidelines indicated that a minimum of 55 participants was required to detect a medium effect (f^2 = .15) with 80% power at α = .05 for the primary mediation analyses. The final sample (n = 73) exceeded this requirement.

3. Results

3.1. The relationships between ChatGPT use, perceived effectiveness and stigma

Means, standard deviations and Pearson's r correlations between the main study variables for ChatGPT use, perceived effectiveness, and mental health stigma are outlined in Table 1 below.

Table 1. Descriptive Statistics and Pearson's r Correlations Between Main Study Variables.

Variable		2	3	M (SD)
1. ChatGPT Usage	-	.57***	.04	2.04 (1.01)
2. Perceived Effectiveness		-	-.22	2.51 (0.96)
3. Mental Health Stigma			-	13.87 (6.22)

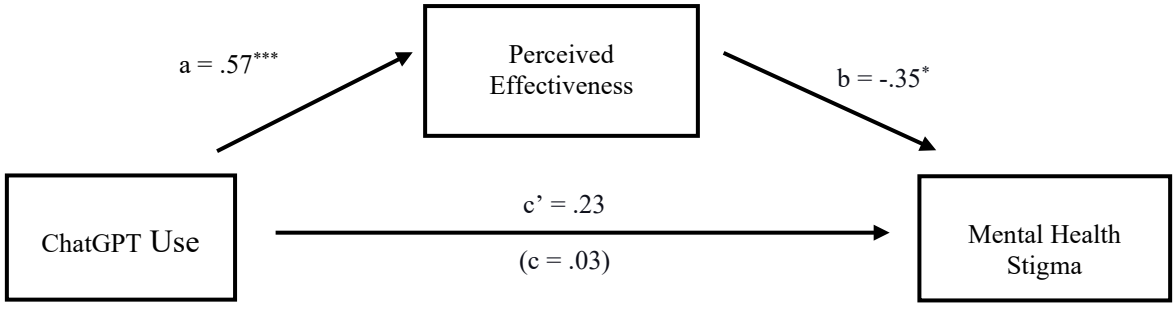
Note. N = 73, ***p < .001.

As shown in Table 1, ChatGPT usage had a significant medium to large positive correlation with perceived effectiveness, but not with mental health stigma. Age had a small, significant negative correlation with mental health stigma (r = -.25, p = .033), but did not significantly correlate with ChatGPT usage nor perceived effectiveness (ps > 0.05). Finally, gender was not significantly related to any of the main study variables (all ps > 0.05). Next, we tested the main hypothesis using mediation analyses, controlling for age but not gender.

3.2. Does perceived effectiveness mediate the relationship between ChatGPT use and mental health stigma?

Results of the mediation analysis are shown in Figure 1 below.

Figure 1. Mediation Model Showing the Relationship Between ChatGPT Use and Mental Health Stigma via Perceived Effectiveness.



Note. N = 73. Numerical values are standardised coefficients. *p < .05. ***p < .001.

As can be seen in Figure 1, perceived effectiveness indirectly and significantly mediated the relationship between ChatGPT usage and mental health stigma. The indirect effect was medium-sized and significant, with ab = -.20, BCa 95% CI [-0.37, -0.04]. The direct effect of ChatGPT usage on mental health stigma was not significant with perceived effectiveness included in the model (c′ = .23, p = .099). Although perceived effectiveness showed only a small negative bivariate correlation with mental health stigma (r = -.22), it significantly predicted lower stigma in the mediation model after controlling for ChatGPT usage. (β =-.35, p = .012). In the model, the covariate age was not associated with perceived effectiveness

(β = 0.02, p = .833) but was significantly associated with mental health stigma (β = -0.24, p = .033), indicating that younger participants reported higher mental health stigma scores.

4. Discussion

This study tested whether ChatGPT use for mental health difficulties was associated with mental health stigma and whether perceived effectiveness explained this relationship. Contrary to our initial hypothesis, although ChatGPT usage was positively associated with perceived effectiveness, it was not significantly associated with mental health stigma. However, mediation analyses supported an indirect significant effect which showed increased ChatGPT use was indirectly associated with reduced stigma via increased perceived ChatGPT effectiveness.

One possible explanation is that individuals who perceive ChatGPT as effective may be more likely to engage with it, listen to its advice, and internalise its responses. These individuals may initially seek out ChatGPT as a way of managing stigma-related concerns; however, perceived effectiveness may emerge when the responses successfully normalise mental health difficulties, challenge negative self-evaluations, and reduce fears of judgment.

The significant positive relationship between ChatGPT use and perceived effectiveness suggests that users perceive it as a valuable tool for addressing mental health concerns. However, it remains unclear whether participants anticipated AI would be useful before engaging with it. Additionally, the perceived effectiveness of ChatGPT may also be important to consider in understanding ongoing use. Contrary to prediction, the lack of a significant correlation between ChatGPT use and mental health stigma suggests that participants may be using ChatGPT for several other mental health concerns, of which stigma was not a component.

The absence of the direct effect further highlights the role that perceptions and beliefs regarding ChatGPT's effectiveness may have in explaining the relationship between ChatGPT usage and mental health stigma. Notably, when one perceives ChatGPT as more effective for addressing their mental health concerns, this is associated with lower levels of their reported mental health stigma. As individuals engage with ChatGPT about their mental health, they may receive responses perceived as empathetic and supportive, which may reinforce beliefs about the tool's effectiveness and alleviate stigma concerns. These experiences, combined with the absence of judgment, may provide a safe and anonymous context for discussing mental health concerns. Over time, such interactions may reduce concerns about negative social evaluation, thereby attenuating perceptions of mental health stigma.

Overall, the present findings are consistent with prior research demonstrating the emerging positive perceptions of AI chatbots within mental health contexts (Ayers et al., 2023; Haque & Rubya, 2023). Our findings add to the emerging field by demonstrating that perceived effectiveness may be an important mechanism interacting with stigma in AI mediated mental health contexts.

We recommend the development of a validated perceived effectiveness measure for participants already utilising generative AI. Future research would benefit from comparing the end user's perceived effectiveness with other clinical mental health constructs to observe any disparity between perceived and actual effectiveness. Additionally, qualitative research avenues will help elucidate the adoption of AI chatbots for mental health purposes beyond stigma.

In the context of some methodological considerations, the small sample size was predominantly female and largely composed of undergraduate university students, which limits the generalisability of the findings. The cross-sectional design precludes causal inferences, and the use of broad categorical ranges for AI-based mental health usage reflects the absence of established normative usage patterns in this emerging area. Although the mediation analyses suggest plausible pathways, longitudinal research is required to confirm the directionality of these relationships. Finally, single-item measures may limit reliability and construct validity, however, they are commonly used in exploratory research where validated instruments are not yet available.

Although ChatGPT use was not directly associated with stigma, it's increased use was indirectly related to lower stigma through higher perceived effectiveness, highlighting perceived effectiveness as a key mechanism shaping stigma-related outcomes in AI-mediated mental health support. These findings do not imply therapeutic or actual effectiveness. Rather, they highlight the importance of user perceptions in influencing psychological experiences with AI tools. Future research using longitudinal designs, larger samples and psychometrically validated measures of AI usage and perceived effectiveness is required to inform the safe and ethical use of general-purpose AI chatbots in mental health contexts.

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