JAMA Network Open

Research Letter | Psychiatry

Mental Health Needs and Emotional-Support Artificial Intelligence Use

Masahide Koda, MD, PhD; Nahoko Harada, RN, PHN, PhD; Kentaro Matsui, MD, PhD; Andrew Stickley, PhD; Kazuya Fujii, PT, PhD; Atsushi Hozawa, MD, PhD; Takahiro Tabuchi, MD, PhD

Introduction

Generative artificial intelligence (AI) systems are now accessible sources of private emotional support, but their clinical value is uncertain. Mental health treatment gaps persist both internationally and in Japan, and people without a usual source of care may be less visible to clinical systems.[1-3] Prior surveys have described AI-based mental health advice or support across age groups and noted unresolved questions about safety and clinical boundaries.[4-6] We examined whether baseline mental health needs, defined by psychological distress severity and current depression or other psychiatric illness, were associated with regular emotional-support generative AI use at follow-up among people without a usual source of care. We hypothesized that use would be more common at higher need levels.

Methods

This 2-wave longitudinal internet-panel cohort study used 2024 baseline and 2025 follow-up data from the Japan COVID-19 and Society Internet Survey (JACSIS), conducted within the JACSIS/Japan Society and new Tobacco Internet Survey (JASTIS) infrastructure.[7,8] The ethics committees of the Osaka International Cancer Institute and Tohoku University approved the study, and participants provided web-based informed consent. The study followed Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline.

Respondents were included if they were aged 16 years or older, reported no usual source of care in 2024, were retained in the 2025 wave, had complete data, and had an available 2025 survey weight (eMethods in Supplement 1). Mental health need in 2024 was categorized as lower need (Kessler Psychological Distress Scale [K6] score 0-4 and no current depression or other psychiatric illness), elevated need (K6 score 5-12 and no current illness), high need (K6 score ≥13 or current illness, but not both), and both indicators (K6 score ≥13 and current illness). The Japanese K6 is validated for mood and anxiety disorders.[9] Current depression and other psychiatric illness were self-reported from a list of conditions. The outcome was regular generative AI use for emotional support in 2025, assessed with a single item and defined as use a few times per month or more (eMethods in Supplement 1).

Unweighted counts and survey-weighted percentages were reported. Baseline characteristics were compared across need levels with design-based Rao-Scott *F* tests and Wald tests from survey-weighted regression. Adjusted prevalence ratios (PRs) were estimated using survey-weighted modified Poisson regression with robust variance.[10] Adjusted prevalence differences were estimated by marginal standardization of a survey-weighted logistic model. Models adjusted for sociodemographic characteristics, poor self-rated health, loneliness or social isolation, any professional consultation resource, and past-year mental health service use (eMethods in Supplement 1). Two-sided $P < .05$ defined statistical significance. Sensitivity analyses omitted poor self-rated health and loneliness or social isolation as potential mediators, used a weekly-or-more outcome definition, disaggregated the distress and illness indicators, and repeated the analysis among respondents with a usual source of care. Data were analyzed using R version 4.5.2 (R Project for Statistical Computing) from April 25 to August 28, 2026.

+ Supplemental content

Author affiliations and article information are listed at the end of this article.

Open Access. This is an open access article distributed under the terms of the CC-BY-NC-ND License, which does not permit alteration or commercial use, including those for text and data mining, AI training, and similar technologies.

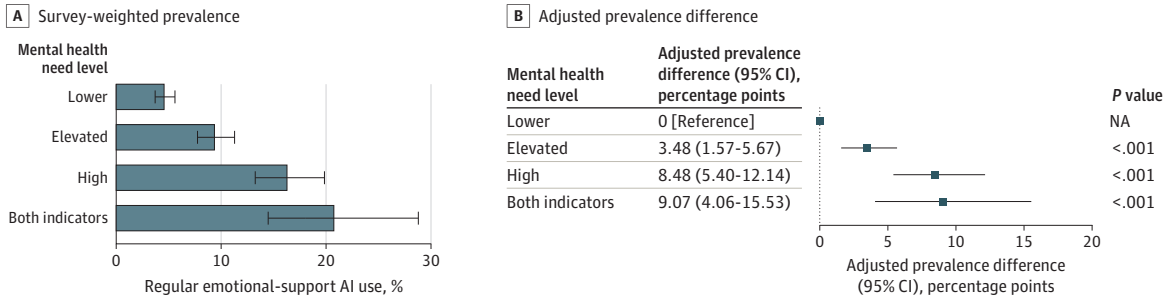
Downloaded from jamanetwork.com by guest on 11/21/2026

Results

Among 6852 respondents without a usual source of care (weighted mean [SD] age, 45.7 [15.3] years; 3679 [53.1%] men), regular emotional-support AI use increased across need levels: 205 of 3804 lower-need respondents (weighted prevalence, 4.6%), 224 of 1887 elevated-need respondents (9.4%), 182 of 954 high-need respondents (16.3%), and 57 of 207 respondents with both indicators (20.7%) reported regular use (**Figure**). Baseline characteristics by mental health–need level are shown in the **Table**.

After adjustment, regular emotional-support AI use was more common at each higher need level than in the lower-need group. The adjusted PR was 1.67 (95% CI, 1.25-2.24) for elevated need, 2.61 (95% CI, 1.89-3.61) for high need, and 2.71 (95% CI, 1.75-4.20) for both indicators. Adjusted prevalence differences were 3.48 (95% CI, 1.57-5.67) percentage points, 8.48 (95% CI, 5.40-12.14) percentage points, and 9.07 (95% CI, 4.06-15.53) percentage points, respectively. Estimates remained positive after covariate omission and indicator disaggregation; weekly-use estimates were less precise. Among 6424 respondents with a usual source of care, adjusted PRs ranged from 2.20 to 3.26.

Figure. Bar Graph and Dot Plot of Regular Emotional-Support Generative Artificial Intelligence (AI) Use by Baseline Mental Health–Need Level



Regular AI use was defined as generative AI use for emotional support a few times per month or more frequently in 2025. A, Error bars indicate 95% CIs. B, Adjusted prevalence differences were estimated by marginal standardization of a survey-weighted logistic model, with the lower-need group as the reference; error bars indicate 95% CIs, and *P* values are from the simulation-based marginal standardization. Models were adjusted for age group, sex, educational attainment, household income, employment status, partner or spouse status, poor self-rated health, loneliness or social isolation, any professional consultation resource, and past-year mental health service use. NA indicates not applicable.

Table. Baseline Characteristics by Mental Health–Need Level

Characteristic	Participants by mental health needs, No. (%)[a]				*P* value[b]
	Lower (n = 3804)	Elevated (n = 1887)	High (n = 954)	Both indicators (n = 207)	
Age, mean (SD), y	48.7 (15.7)	43.2 (14.3)	40.9 (12.8)	39.3 (13.1)	<.001
Gender					
Men	2047 (53.7)	994 (51.3)	539 (55.6)	99 (46.2)	.27
Women	1757 (46.3)	893 (48.7)	415 (44.4)	108 (53.8)	
University education or higher	2140 (36.0)	1067 (36.6)	501 (32.6)	107 (36.8)	.42
Employed or self-employed	2807 (70.8)	1544 (77.3)	771 (77.7)	167 (74.4)	.006
No partner or spouse	1614 (39.8)	952 (45.2)	571 (52.2)	136 (63.5)	<.001
K6 score, mean (SD)	0.9 (1.4)	8.6 (2.4)	14.5 (5.0)	17.1 (3.8)	<.001
Current psychiatric illness[c]	NA	NA	225 (22.2)	207 (100)	<.001
Loneliness or social isolation	934 (24.7)	1130 (61.3)	760 (77.6)	178 (89.9)	<.001
Past-year mental health service use	40 (1.0)	101 (4.6)	161 (16.0)	88 (35.7)	<.001

Abbreviations: K6, 6-item Kessler Psychological Distress Scale; NA, not applicable.

[a] No. of respondents are unweighted counts. For binary characteristics, values are unweighted counts (survey-weighted percentages); means and SDs are survey weighted. Lower need was defined as a K6 score 0 to 4 and no current depression or other psychiatric illness; elevated need, a K6 score 5 to 12 and no current illness; high need, a K6 score 13 or higher or current illness, but not both; both indicators, a K6 score 13 or higher and current illness.

[b] *P* values compare the 4 need levels using design-based Rao-Scott *F* tests for binary characteristics and Wald tests from survey-weighted regression for means; a single test was used for sex. The K6 score and current psychiatric illness are components of the need-level definition.

[c] Current psychiatric illness indicates self-reported current depression or other psychiatric illness.

Downloaded from jamanetwork.com by guest on 11/21/2026

Discussion

This cohort study found that among people without a usual source of care, regular emotional-support generative AI use was more common at higher levels of baseline mental health need. These findings should not be interpreted as evidence that AI use is therapeutic, safe, or a substitute for professional care. Instead, emotional-support AI use may be a marker of substantial support need and digital help-seeking among people whose needs may not be visible through usual care pathways. Study limitations include the use of self-reported data, a need measure that indexed distress and current illness rather than perceived or unmet need, a nonprobability internet-panel sample, possible selection and attrition bias despite weighting, no confirmation of pre-2025 AI use, residual confounding by digital engagement and help-seeking preferences, possible overadjustment through covariates that may mediate the association, and no assessment of AI interaction content or safety. These findings may help inform referral routes from nonclinical AI use to human support, and the development and evaluation of AI-based support for people facing cost, access, or stigma barriers to care.

ARTICLE INFORMATION

Accepted for Publication: September 19, 2026.

Published: November 17, 2026. doi:10.1001/jamanetworkopen.2026.44315

Open Access: This is an open access article distributed under the terms of the CC-BY-NC-ND License, which does not permit alteration or commercial use, including those for text and data mining, AI training, and similar technologies. © 2026 Koda M et al. *JAMA Network Open*.

Corresponding Author: Masahide Koda, MD, PhD, Division of Epidemiology, School of Public Health, Tohoku University Graduate School of Medicine, 2-1 Seiryo-machi, Aoba-ku, Sendai 980-8575, Japan (shoei05@gmail.com).

Author Affiliations: Division of Epidemiology, School of Public Health, Tohoku University Graduate School of Medicine, Sendai, Japan (Koda, Fujii, Hozawa, Tabuchi); Department of Nursing Science, Faculty of Interdisciplinary Science and Engineering in Health Systems, Okayama University, Okayama, Japan (Harada); Department of Clinical Laboratory, National Center Hospital, National Center of Neurology and Psychiatry, Tokyo, Japan (Matsui); Department of Preventive Intervention for Psychiatric Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Tokyo, Japan (Stickley).

Author Contributions: Dr Koda had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: Koda, Harada, Matsui, Fujii, Hozawa, Tabuchi.

Acquisition, analysis, or interpretation of data: Koda, Harada, Matsui, Stickley, Tabuchi.

Drafting of the manuscript: Koda, Tabuchi.

Critical review of the manuscript for important intellectual content: Harada, Matsui, Stickley, Fujii, Hozawa, Tabuchi.

Statistical analysis: Koda, Tabuchi.

Obtained funding: Koda, Tabuchi.

Administrative, technical, or material support: Koda, Hozawa, Tabuchi.

Supervision: Harada, Matsui, Hozawa, Tabuchi.

Conflict of Interest Disclosures: Dr Matsui reported personal fees from Chugai Pharmaceutical, Daiichi Sankyo, Eisai, Japan Blood Products Organization, Lundbeck Japan, Meiji Seika Pharma, Mitsubishi Tanabe Pharma, Mochida Pharmaceutical, MSD, Nobel Pharma, Otsuka Pharmaceutical, Sumitomo Pharma, Takeda Pharmaceutical, and Viatris Pharmaceuticals outside the submitted work. Dr Tabuchi reported grants from Daiichi Sankyo Healthcare, Data Seed, Workout-Plus, EMMA, Addness, CotoIT, Laugh, and Johnson & Johnson during the conduct of the study. No other disclosures were reported.

Funding/Support: This work was supported by the Japan Society for the Promotion of Science (JSPS) KAKENHI (grant No. JP23K16359). The Japan COVID-19 and Society Internet Survey 2024 and 2025 survey data used in this study was supported by JSPS KAKENHI (grant No. JP25H01079).

Downloaded from jamanetwork.com by guest on 11/21/2026

Role of the Funder/Sponsor: The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Data Sharing Statement: See Supplement 2.

Additional Information: ChatGPT (GPT-5.5 Pro; OpenAI) and Claude (Opus 4.6; Anthropic) were used in June to July 2026 for language editing, formatting, and document-preparation support. AI-assisted tools were not used to collect, access, or analyze data or to determine numerical results. All analytic code, numerical outputs, references, interpretations, and final text were reviewed by the authors, who take full responsibility for the manuscript.

REFERENCES

1. Vigo DV, Stein DJ, Harris MG, et al; World Mental Health Survey Collaborators. Effective treatment for mental and substance use disorders in 21 countries. *JAMA Psychiatry*. 2025;82(4):347-357. doi:10.1001/jamapsychiatry.2024.4378

2. Ishikawa H, Kawakami N, Kessler RC; World Mental Health Japan Survey Collaborators. Lifetime and 12-month prevalence, severity and unmet need for treatment of common mental disorders in Japan: results from the final dataset of World Mental Health Japan Survey. *Epidemiol Psychiatr Sci*. 2016;25(3):217-229. doi:10.1017/S2045796015000566

3. Croke K, Moshabela M, Kapoor NR, et al. Primary health care in practice: usual source of care and health system performance across 14 countries. *Lancet Glob Health*. 2024;12(1):e134-e144. doi:10.1016/S2214-109X(23)00513-2

4. McBain RK, Bozick R, Diliberti M, et al. Use of generative AI for mental health advice among US adolescents and young adults. *JAMA Netw Open*. 2025;8(11):e2542281. doi:10.1001/jamanetworkopen.2025.42281

5. Ueda M, Birnbaum ML, Liu Y, et al. Help-seeking in the age of AI: cross-sectional survey of the use and perceptions of AI-based mental health support among US adults. *JMIR Ment Health*. 2026;13:e88196. doi:10.2196/88196

6. Torous J, Topol EJ. Assessing generative artificial intelligence for mental health. *Lancet*. 2025;406(10504):683. doi:10.1016/S0140-6736(25)01237-1

7. Someko H, Anan K, Tabuchi T, et al. Data resource profile: the Japan COVID-19 and Society Internet Survey (JACSIS). *Int J Epidemiol*. 2026;55(2):dyag025. doi:10.1093/ije/dyag025

8. Tabuchi T, Shinozaki T, Kunugita N, Nakamura M, Tsuji I. Study profile: the Japan Society and new Tobacco Internet Survey (JASTIS): a longitudinal internet cohort study of heat-not-burn tobacco products, electronic cigarettes, and conventional tobacco products in Japan. *J Epidemiol*. 2019;29(11):444-450. doi:10.2188/jea.JE20180116

9. Furukawa TA, Kawakami N, Saitoh M, et al. The performance of the Japanese version of the K6 and K10 in the World Mental Health Survey Japan. *Int J Methods Psychiatr Res*. 2008;17(3):152-158. doi:10.1002/mpr.257

10. Zou G. A modified Poisson regression approach to prospective studies with binary data. *Am J Epidemiol*. 2004;159(7):702-706. doi:10.1093/aje/kwh090

SUPPLEMENT 1.

eMethods.

SUPPLEMENT 2.

Data Sharing Statement

Downloaded from jamanetwork.com by guest on 11/21/2026