

# AI Feedback and workplace social support: a study of gig workers in Japan

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		<input type="checkbox"/> Protocol
<b>Registration date</b> 08/05/2026	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
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		<input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Artificial intelligence (AI) tools are increasingly being used at work to give feedback to employees about their performance. When people receive feedback from a human—such as a manager or coworker—they often experience it as a form of social support, like emotional encouragement or helpful advice. However, we do not yet know whether AI feedback can also be experienced as social support, or what type of support it provides. This study aims to find out whether positive AI feedback (which highlights what someone is doing well) and negative AI feedback (which points out areas to improve) are experienced differently as social support by workers.

### Who can participate?

Adults aged 18 or older who are working as gig workers in Japan—people who do short-term, flexible work tasks such as food delivery, manual work, event staffing, or care assistance—can participate. Participants must be registered on Lancers, a Japanese crowdsourcing platform, and currently engaged in gig work at least once per week.

### What does the study involve?

Participants are randomly assigned by computer to one of two groups. Both groups have conversations with an AI chatbot (based on GPT-4o) about their gig work. The two groups receive different styles of feedback from the AI:

The positive feedback group receives feedback that highlights their strengths, achievements, and what they are doing well.

The negative feedback group receives feedback that points out weaknesses and areas where they could improve.

Each participant has two conversation sessions with the chatbot, one week apart. After each session, participants answer questions about how they experienced the feedback (for example, whether they felt understood, advised, or supported). One week after the second session, they answer the same questions again. Each conversation lasts about 15 minutes.

Each participant's involvement lasts about three weeks (from screening to the final follow-up survey).

What are the possible benefits and risks of participating?

Participants may benefit from reflecting on their work and receiving thoughtful feedback from an AI chatbot. There are no expected physical risks. Some participants in the negative feedback group might feel mildly uncomfortable when receiving feedback about areas to improve, but this type of feedback is similar to ordinary workplace feedback and is not intended to be harmful. Participants can stop the study at any time without penalty.

Where is the study run from?

The study is run from the Institute for the Future of Human Society at Kyoto University, Japan. All participation takes place online, so participants can take part from anywhere in Japan.

When is the study starting and how long is it expected to run for?

Participant recruitment took place in May 2025. Data collection was completed in May 2025.

Who is funding the study?

The Yoshiko Shinohara Memorial Foundation, Japan.

Who is the main contact?

Dr Yasushi Watanabe (Institute for the Future of Human Society, Kyoto University), yasushi.watanabe.77@gmail.com

## Contact information

### Type(s)

Scientific, Public, Principal investigator

### Contact name

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## Additional identifiers

## Study information

Scientific Title

# How AI feedback shapes workplace social support perception: a randomized controlled trial in Japan

## Study objectives

This study examined whether AI feedback valence shapes the type of social support workers perceive from AI chatbots. The principal hypotheses were:

1. Positive feedback from AI will be perceived as carrying emotional support more strongly than negative feedback.
2. Negative feedback from AI will be perceived as carrying informational support more strongly than positive feedback.

## Ethics approval required

Ethics approval required

## Ethics approval(s)

approved 30/04/2017, Ethics Committee of the Psychological Science Unit, Kyoto University (46 Shimoadachi-cho, Sakyo-ku, Kyoto, 606-8501, Japan; +81 075-753-9670; kokoro@mail2.adm.kyoto-u.ac.jp), ref: 6-P-1

## Primary study design

Interventional

## Allocation

Randomized controlled trial

## Masking

Blinded (masking used)

## Control

Active

## Assignment

Parallel

## Purpose

Basic science

## Study type(s)

## Health condition(s) or problem(s) studied

Occupational mental health and social support in the gig economy workforce

## Interventions

Participants were randomly assigned (1:1 ratio) to one of two conditions, with stratification by age group, sex, and type of gig work. Allocation was determined by a computer-generated random sequence in R.

Positive feedback condition: Participants interacted with a GPT-4o-based AI chatbot configured via system prompt to focus on the participant's strengths, achievements, and what they were

doing well during their gig work. The chatbot was instructed not to point out weaknesses or areas for improvement.

Negative feedback condition: Participants interacted with a GPT-4o-based AI chatbot configured via system prompt to focus on knowledge, abilities, and experiences the participant should develop, identifying weaknesses and encouraging improvement. The chatbot was instructed not to praise the participant or offer positive remarks.

Both conditions used identical interfaces and procedures, differing only in the system prompts that determined feedback valence. Each participant completed two conversation sessions (Session 1 [T1] and Session 2 [T2]), one week apart, with each session lasting approximately 15 minutes. Outcomes were assessed immediately after each session and at a one-week follow-up after T2 (Post). Total follow-up duration per participant was approximately three weeks.

Participants were blinded to conditions and were not informed of the existence of the other experimental condition. The experimenter was not involved in feedback session delivery; all interactions proceeded autonomously between the AI and participants.

Full system prompts in both Japanese and English are publicly available on the Open Science Framework.

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

1. Perceived emotional support from AI measured using a 2-item emotional support subscale of the Brief Workplace Social Support Scale, rated on a 5-point Likert scale (1 = almost never, 5 = very much). Sample item: "understands and acknowledges you." at immediately after Session 1 (T1), immediately after Session 2 (T2), and one week after Session 2 (Post)
2. Perceived informational support from AI measured using a 2-item informational support subscale of the Brief Workplace Social Support Scale, rated on a 5-point Likert scale (1 = almost never, 5 = very much). Sample item: "gives advice for solving problems." at immediately after Session 1 (T1), immediately after Session 2 (T2), and one week after Session 2 (Post)
3. Perceived instrumental support from AI measured using a 2-item instrumental support subscale of the Brief Workplace Social Support Scale, rated on a 5-point Likert scale (1 = almost never, 5 = very much). Sample item: "works through things with you." at immediately after Session 1 (T1), immediately after Session 2 (T2), and one week after Session 2 (Post)

## **Key secondary outcome(s)**

### **Completion date**

26/05/2025

## **Eligibility**

### **Key inclusion criteria**

1. Adults registered as workers on the Lancers crowdsourcing platform in Japan
2. Currently engaged in gig work at least once per week
3. Able to read, understand, and respond to survey items in Japanese

4. Provided informed consent for participation, including consent for data use in academic publications and for interactions with AI chatbots

5. Successfully completed the screening survey including attention check items

### **Healthy volunteers allowed**

Yes

### **Age group**

Adult

### **Lower age limit**

18 years

### **Upper age limit**

64 years

### **Sex**

All

### **Total final enrolment**

109

### **Key exclusion criteria**

1. Provided duplicate responses to the screening survey
2. Completed the screening survey in substantially shorter time than reasonably expected (suggesting careless responding)
3. Showed high rates of missing data on the screening survey
4. Failed attention check items embedded in the screening survey

### **Date of first enrolment**

02/05/2025

### **Date of final enrolment**

12/05/2025

## **Locations**

### **Countries of recruitment**

Japan

## **Sponsor information**

### **Organisation**

Kyoto University

### **ROR**

<https://ror.org/02kpeqv85>

## **Funder(s)**

**Funder type**

**Funder Name**

Yoshiko Shinohara Memorial Foundation

## **Results and Publications**

**Individual participant data (IPD) sharing plan**

**IPD sharing plan summary**

Not expected to be made available