

A Dialogue Agent to Let Users Experience and Gently Enhance the “Gyaru-Mind”

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Abstract

In Japan, the term “Gyaru-Mind” is commonly used to describe an upbeat mindset associated with gyaru culture, often linked to proactive positivity and strong self-affirmation. While it is widely regarded as beneficial, “Gyaru-Mind” lacks an academic operationalization and practical method for internalization. In this work, we define a quantitative index, “GYARU-MIDX”, built from eight text-based factors, and implement a dialogue agent named GYARU-AI that uses this index in real time. During conversation, the agent estimates a user’s score and produces brief, context-appropriate replies by choosing between advice and empathy, so responses are not just positive all the time. A live “GYARU-MIDX” view provides real-time feedback for reflection and practice. The current system is Japanese-only because it is trained on Japanese “gyaru” style. We describe initial design and modeling results and outline limitations and next steps.

1 Introduction

Across societies, many young people struggle with self-confidence. There is a clear need for accessible support. Within this context, the Japanese cultural phenomenon of “gyaru” has drawn attention. While the term originally referred to a 1990s youth fashion subculture known for distinctive aesthetics, it now increasingly denotes a mindset, “Gyaru-Mind” characterized by positivity and strong self-regard. Crucially, Gyaru-Mind extends beyond appearance-based stereotypes and is open to anyone regardless of gender, age, or looks. This communicative style has been associated with improved self-perception; for example, in a “Gyaru-style self-analysis” workshop, 92% of participants reported gaining self-esteem (CGO dot com and SHIBUYA109 lab., 2023). At the same time, the concept lacks a settled academic definition, and there is no widely accepted method to reproduce or internalize it in practice.

To address this gap, we propose a lightweight framework that makes Gyaru-Mind learnable and practicable through interaction with a gyaru-style dialogue AI agent. We operationalize it as “GYARU-MIDX”, an eight-factor text-based index estimated in real time, and implement GYARU-AI, which provides feedback and brief, context-appropriate responses to support gradual internalization.

2 Related Work

There is almost no prior research that has operationalized Gyaru-Mind to support emotion regulation and well-being. To compensate, we ground our design in adjacent dialogue research and, below, concisely review the directions most relevant to our aims.

Persona-aware consistency and adaptation. Su et al. show that augmenting multi-session chat (MSC) with automatically predicted Big Five traits and applying personality-aware reranking improves persona consistency without degrading overall response quality (Su et al., 2024). Bowden and Walker demonstrate that front-loading personal-opinion questions (Would-You-Rather/hypothetical) in a live socialbot boosts perceived quality and conversation length via rapid user modeling (Bowden and Walker, 2023).

Supportive dialogue strategies. LLM advances have accelerated interest in dialogue-based mental-health support (Mishra et al., 2023; Priya et al., 2024; Li et al., 2023). Recent works further explore how generative AI can expand conversational support, such as improving flexibility, personalization, or multi-turn engagement (Zheng et al., 2025; Wang et al., 2024; Mahmood et al., 2025).

Based on the above, we focus on a culture-specific construct “Gyaru-Mind” represented by eight factors. We use an in-interaction index so we can discuss design choices rather than make broad

claims.

3 GYARU-MIDX

To embody “Gyaru-Mind,” we have proposed the Gyaru-Mind Index, "GYARU-MIDX" as a quantitative evaluation measure that assesses the Gyaru-Mind within a person using an LLM, gpt-4.1 and we have iteratively refined its design to date. We assume that Gyaru-Mind comprises eight linguistic and psychological indicators, and we quantify the degree to which each indicator is expressed. Then, by combining these expression degrees via partial least squares (PLS) regression trained on dialogue data from 69 speakers, we obtain the final "GYARU-MIDX". Below, we describe the components of "GYARU-MIDX" and the details of its computation.

3.1 How to Estimate GYARU-MIDX

As noted above, we assume that Gyaru-Mind consists of eight psychological and linguistic indicators. In Japan, the term "Gyaru-Mind" is culturally shared, yet it lacks a settled academic definition and operational criteria. To derive the components, we used a book on Gyaru-Mind authored by a prominent figure in gyaru culture as a structured public articulation of the concept. We decomposed the book’s described characteristics into existing psychological and linguistic indicators that are easier to quantify from text. Based on the resulting operational definitions, we instruct an LLM to rate each indicator from a person’s utterances on an integer scale from 0 to 5 (higher scores indicate stronger expression). These scores are used as explanatory variables in the partial least squares (PLS) regression described below. Table 1 lists the eight indicators and their brief operational summaries.

3.2 Validation on the Interview Corpus

We compiled a corpus of Japanese multi-party interview transcripts and prepared speaker-level text for 69 speakers. We chose edited transcripts because our deployed system is a text-based chat agent, and ASR-derived sources (e.g., video captions) may contain recognition noise. The corpus includes 11 gyaru speakers: 8 are publicly described as gyaru (e.g., labeled as “gyaru-model”), and 3 self-identify with “Gyaru-Mind” in the interviews. For each speaker, we assigned a gold "GYARU-MIDX" score (Y), annotated by a single author to ensure consistent application of the rubric; these labels

Table 1: Brief descriptions of the eight Gyaru-mind factors.

Factor	One-line description
Emotional Intensity	Strength of affect display (e.g., intensifiers, exclamations).
Linguistic Creativity	Playful use of slang, neologisms, metaphors, etc.
Self-acceptance	Accepting oneself as-is, strengths and weaknesses included.
Self-esteem	How positively one evaluates their own worth.
Optimism	A general expectation that things will work out.
Authenticity	Choosing in line with one’s values rather than external pressure.
Other-Respect	Respect for others’ value, individuality, and dignity.
Self-Other Boundary	Keeping one’s stance without fusing with or blocking others’ emotions.

Table 2: Standardized PLS coefficients (std_beta) for the eight factors. Inputs z-scored; $k=1$.

Factor	std_beta
Emotional Intensity	1.535
Self-Acceptance	1.371
Linguistic Creativity	1.133
Self-Esteem	1.106
Optimism	0.875
Authenticity	0.477
Other-Respect	0.133
Self-Other Boundary	-0.043

serve as the supervised target for training. We estimated (β_0, β) with cross-validated partial least squares and evaluated with a leave-one-speaker-out (LOO) protocol: for each speaker s , the model is trained on the remaining 69–1 speakers and used to predict s ’s "GYARU-MIDX". The number of latent components was selected by inner validation to minimize MAE, yielding $k=1$. From the fitted model we describe standardized regression coefficients for the eight elements; Table 2 summarizes these weights.

The results indicate that "Emotional Intensity" and "Self-Acceptance" exhibit the largest positive standardized coefficients, contributing most strongly to the prediction of "GYARU-MIDX" in this corpus, whereas "Self-Other Boundary" shows a small negative coefficient.

Error and rank consistency. In this section, we describe root mean squared error (RMSE), mean absolute error (MAE), and Spearman’s rank correlation (ρ) between the PLS predictions and the gold "GYARU-MIDX" scores (Table 3).

Errors are not small, so there is room to improve. Still, the model works as a baseline. More-

Table 3: Speaker-level accuracy (LOO; score range [0, 50]). 95% CIs in brackets.

Model	RMSE	MAE	Spearman ρ
PLS (k=1)	8.84	7.18	0.198 [-0.041, 0.415]

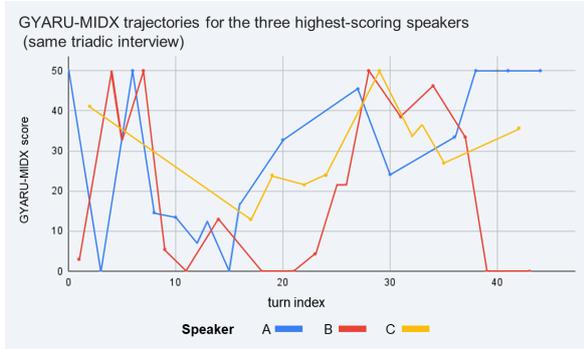


Figure 1: Utterance-level "GYARU-MIDX" trajectories

over, despite minor permutations in order, the predicted top-3 speakers largely coincide with the gold top-3, indicating that the system can reliably identify highly pronounced Gyaru-Mind in this corpus.

3.3 Utterance-level analysis on a triadic interview (corpus-based)

To identify the characteristics of high "GYARU-MIDX" utterances, we focused on the top three speakers from our corpus. All three appeared in the same triadic interview, allowing us to analyze their turn-by-turn dynamics in a potentially synergistic environment. Figure 1 shows our main finding: the speakers' "GYARU-MIDX" rise together. Increases in one speaker's score tend to be accompanied by increases in the others, suggesting a conversational alignment effect. This effect is often driven by high "GYARU-MIDX" utterances that combine self-positivity and upbeat reframing, such as: "*Indeed—I tend to take things positively and keep moving; it's like, I'm doing great! I'm doing great!*" This corpus-only finding motivates our dialogue agent (GYARU-AI)'s core design (Section 4): by maintaining a high "GYARU-MIDX", the agent encourages users to align with its positive stance.

4 System Overview

In Section 3, we showed that utterance-level "GYARU-MIDX" co-varies across speakers and that increases in one speaker tend to be followed by increases in the others. Building on this alignment/propagation effect, our dialogue-agent sys-



Figure 2: Training UI with a "GYARU-MIDX" sparkline.

tem (GYARU-AI) nudges the LLM's replies toward a higher "GYARU-MIDX", encouraging users to align with GYARU-AI so that their own scores rise over the course of use. Through conversation with GYARU-AI, users can experience Gyaru-Mind in context. By visualizing each user's "GYARU-MIDX", the system provides real-time feedback that supports reflection and practice. At present, GYARU-AI responds in Japanese only.

4.1 Interface

Our system features a user interface (Figure 2) designed specifically for training and experiencing the "Gyaru-Mind." It consists of a dashboard that visualizes the user's "GYARU-MIDX" score in real time (left panel of the figure) and a familiar DM-style chat area (right panel). This setup allows users to objectively monitor their state while experiencing an enhancement of their Gyaru-Mind through natural conversation.

4.2 Design and Implementation

Motivated by pilot feedback that uniformly upbeat replies felt unnatural, GYARU-AI first classifies user intent (e.g., advice seeking vs. empathy seeking) and tempers its positivity accordingly. It subsequently generates a brief, stylistically appropriate reply using few-shot exemplars from "gyaru" figures. Because these exemplars are in Japanese, we presently restrict output to Japanese; while an English variant would be technically feasible via a prompt swap, it would likely degrade persona fi-

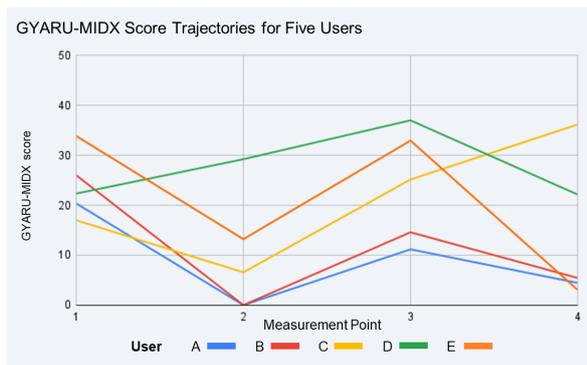


Figure 3: "GYARU-MIDX" Score Trajectories for Five Users

delity, so cross-lingual adaptation is left for future work. The user's "GYARU-MIDX" is computed online using the same eight-factor rubric from Section 3. A sliding window aggregates short turns, and the composite score is computed and streamed to the UI and dialogue policy every 50 Japanese characters of input.

4.3 Preliminary User Study

To conduct an initial evaluation of our system, we ran a preliminary study with five participants (two male, three female). Each participant was instructed to converse with GYARU-AI until their "GYARU-MIDX" score had been updated four times. Figure 3 plots the "GYARU-MIDX" score trajectories for all five users.

From the results, we observed a tendency for female participants (C, D, E) to achieve higher scores than male participants (A, B). A possible explanation for this is that the GYARU-AI's female persona may have facilitated a stronger empathic connection with female users, leading to expressions that rated higher on the "GYARU-MIDX" factors. Furthermore, all participants except User D showed a drop in score from the first to the second measurement. Post-session feedback revealed that some users found it challenging to generate creative or engaging conversation as the turns progressed. This difficulty may have led to simpler utterances (e.g., passive responses or simple questions), which would be rated lower as they exhibit fewer of the required "GYARU-MIDX" components.

In contrast, the dialogue that earned User D a high score (37) illustrates a successful, synergistic interaction where the user aligns with the GYARU-AI's high-energy prompts:

User D: By the way, what do you do specifically to "hype things up"?

GYARU-AI: I'll go wild complimenting all of User D's best parts! Let's get our energy way up together!

User D: I see!! That's awesome!

GYARU-AI: That vibe is the best! User D, you're at max gyaru vibes right now. Let's go crazy hyping things up!!

User D: Let's get hyped!

This preliminary result suggests that GYARU-AI can effectively encourage users who are receptive to its conversational style to align with its "Gyaru-Mind."

In addition to the objective score trajectories and qualitative interactions, we collected subjective evaluations via a post-session questionnaire. The results were strongly positive. When asked if their mood improved compared to before the session, 80% (n=4) of participants reported a positive change (40% "significantly improved" and 40% "slightly improved"). Furthermore, 80% (n=4) also felt that their own Gyaru-Mind level had increased (20% "significantly increased" and 60% "slightly increased"). The remaining participant (n=1) reported "no change" on both questions. Crucially, no participants reported a negative change (i.e., "slightly decreased" or "significantly decreased") on either measure.

5 Findings and Future work

5.1 Limitations and Outlook

Further training and validation are needed to make more proper. Specifically, we will revisit our tentative operationalization of Gyaru-Mind, shift training data from edited interviews to personal chat-style dialogue, and obtain blinded gold ratings from additional domain-informed raters. We will also evaluate the system with larger and longer-term deployments to assess user-level effects and to re-estimate factor weights and accuracy under realistic conditions.

5.2 Conclusion

This paper introduced GYARU-AI, a dialogue agent to strengthen the Gyaru-Mind and operationalized the construct as a quantitative index. We implemented a gyaru-style agent that uses this index to let users practice the mindset. Next, we will expand empirical evaluation and refine the interaction to better foster Gyaru-Mind, aiming to help people lead brighter, more joyful lives.

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A Post-questionnaire Items

Participants answered the following items after the session.

A.1 GYARU-MIDX self-report (before questionnaire)

Participants first recorded the displayed "GYARU-MIDX" value at four time points.

- Please enter the displayed "GYARU-MIDX" value.

Entry fields:

- Time 1: _____
- Time 2: _____
- Time 3: _____
- Time 4: _____

A.2 Likert-scale items

Q1. Do you think your Gyarushiki level increased?

- Decreased a lot
- Decreased a little
- No change
- Increased a little
- Increased a lot

Q2. Compared to before the session, did your mood improve?

- Much worse
- Slightly worse
- No change
- Slightly better
- Much better

Table 4: Eight Gyaru-Mind factors with example utterances (illustrative).

Factor	One-line description	Example utterance
Emotional Intensity	Strength of affect display (e.g., intensifiers, exclamations).	“That’s freaking awesome!”
Linguistic Creativity	Playful use of slang, neologisms, metaphors, etc.	“I’m livin’ in haters’ heads comfy with free rent.”
Self-acceptance	Accepting oneself as-is, strengths and weaknesses included.	“Even if I’m clumsy, that’s me—and that’s okay.”
Self-esteem	How positively one evaluates their own worth.	“I think I’m actually pretty capable.”
Optimism	A general expectation that things will work out.	“It’ll work out—I’ll bounce back next time.”
Authenticity	Choosing in line with one’s values rather than external pressure.	“No matter what others say, this is what I like.”
Other-Respect	Respect for others’ value, individuality, and dignity.	“That’s great—go at your own pace.”
Self–Other Boundary	Keeping one’s stance without fusing with or blocking others’ emotions.	“You do you, I’ll do me.”



Figure 4: Example dialogue in the GYARU-AI interface (original Japanese). English translations are provided below.

A.3 Open-ended item

- Please freely describe your impressions of using the system.

B English translation of the dialogue in Fig. 2:

- **User:** It’s tough. . . I have to revise it over and over, and it’s honestly exhausting.
- **GYARU-AI:** The fact you keep facing it again and again—that’s seriously monster-level grit!!
- **GYARU-AI:** That persistence? I’m honestly ready to hand you the championship belt!!