

Flattery from robots, praise from humans: building consumer trust and comfort

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Abstract

Purpose – This study aims to investigate how the interaction between service agent type (robot vs human) and language style (flattery vs praise) influences customers' psychological comfort, alongside the dual mediating roles of affective and cognitive trust and the moderating role of emotional sensitivity.

Design/methodology/approach – Drawing on schema congruity theory and the affect infusion model, the study conducted three scenario-based experiments ($n = 1,229$) using a 2×2 between-subjects design that manipulated agent type and language style. The data were analyzed using ANOVA and Hayes' PROCESS macro to test the proposed effects and underlying mechanisms.

Findings – The study shows that flattery (vs praise) decreases psychological comfort when delivered by human service agents but increases it when delivered by service robots. This interaction effect is mediated by affective and cognitive trust, which are weakened in human-agent encounters yet strengthened in robot-agent encounters. Furthermore, the effect is more pronounced among customers with higher levels of emotional sensitivity.

Research limitations/implications – The findings extend theory by demonstrating that trust formation in service interactions depends on the congruity between agent type and language style. From a managerial perspective, human employees should emphasize authentic praise to foster customer comfort, whereas service robots may strategically use moderate flattery to enhance customer experiences in routine service encounters.

Originality/value – This research shifts focus from macro-level technology acceptance to microlevel linguistic dynamics, offering a novel framework for understanding how strategically positive language shapes trust in AI-enabled services.

Keywords Service robots, Service encounter, Consumer behaviors, Artificial intelligence, Hospitality marketing

Paper type Research paper



1. Introduction

As service robots become more integrated into frontline settings, particularly in the hospitality sector, AI-based service systems (Law *et al.*, 2024) and humanoid service robots are increasingly used to enhance service delivery and user experiences (Wu *et al.*, 2025). Anthropomorphic features have become a key design element in improving quality of service interaction (Ben Saad, 2024; Li *et al.*, 2024). Among these features, language expression is especially important to provide salient cues about how a service encounter is framed and

interpreted. Research further suggests that robots should no longer be understood merely as technical executors, but increasingly as relational and customer-facing service actors embedded in interactive service systems (Mahr *et al.*, 2025; Wirtz and Stock-Homburg, 2025). As service robots increasingly engage in natural language interaction, strategically positive expressions such as flattery and praise have become more relevant in human-machine communication. Recent evidence suggests that sycophantic expression in AI conversational models is roughly 50% higher than in human responses (Naddaf, 2025). Probabilistic models may amplify high-frequency social language patterns (Gallegos *et al.*, 2024), while large language models may expand robots' adaptive linguistic capabilities in customer decision-making (Lin *et al.*, 2025). These developments make flattery and praise salient verbal strategies in human-robot service communication, with important implications for service encounters and customer responses.

Although previous studies have examined the impact of language styles, sociality and response styles (Huang *et al.*, 2021), the influence of strategic language forms, such as flattery and praise, on service interactions remains under-explored. Current research on service robots has predominantly concentrated on macro-level mechanisms, including constructs such as the Technology Acceptance Model and individual innovativeness, and behavioral stage typologies spanning from initial interest to sustained adoption (Han *et al.*, 2025). Related work also shows that service robot interactions shape customer experience through functional, social and relational cues (Huang *et al.*, 2021; Kim *et al.*, 2022; Van Doorn *et al.*, 2017). At the micro level, however, limited research has examined how strategically positive language cues such as flattery and praise shape customers' subjective psychological experiences during service encounters. Psychological comfort, defined as a state of ease, relaxation and low uncertainty, is particularly important because prior research identifies it as a key condition for customer acceptance, interaction outcomes and continued use of service robots (Becker *et al.*, 2023; Merx *et al.*, 2025). In hospitality and tourism settings, customers evaluate service encounters not only by task completion but also by whether interactions feel appropriate, comfortable and free from awkwardness, making psychological comfort a central concern (Pitardi *et al.*, 2024). Related studies have examined how communication design shapes frontline service encounters, including tone, scripted routines, communication style, modality and emotional display expectations (Huang and Brown, 2016; Liu *et al.*, 2025a; Liu *et al.*, 2024). However, this work has not directly addressed how strategically positive language such as flattery or praise functions when delivered by service robots in hospitality and tourism contexts. These gaps highlight the need to examine the mechanisms through which customers evaluate strategically positive language used by service robots.

Among the mechanisms that may shape such evaluations, trust is central to service relationships and human-robot interaction research (Hancock *et al.*, 2011; Johnson and Grayson, 2005). Existing research primarily focuses on technical attributes such as robot appearance, interaction capability and functional reliability, and tends to examine trust effects in task-oriented behaviors such as persuasion (Chen *et al.*, 2025) and information delivery (Castelo *et al.*, 2023), exploring their impacts on consumer trust (Belanche *et al.*, 2020; Čaić *et al.*, 2018). These studies confirm the critical role of macro-level technical features. However, prior studies have paid limited attention to how flattery and praise function as language-based cues in trust formation during human-robot service encounters. Trust is commonly understood as comprising affective and cognitive dimensions (Johnson and Grayson, 2005). Recent service research increasingly conceptualizes service robots as relational entities and human-robot interaction as a relational and processual site of value creation (Mahr *et al.*, 2025). Against this background, treating trust as a single undifferentiated construct may be insufficient for explaining how strategically positive language shapes customers' psychological comfort. Although the dual-path view of trust is well established, it remains unclear how flattery and praise may relate differently to affective trust and

cognitive trust across human and robot service agents. To address this gap, this study examined how service agent type and language style shape psychological comfort through the dual pathways of affective trust and cognitive trust.

Moreover, customers do not interpret service interaction cues uniformly. Prior studies have indicated that stable individual traits can shape how individuals process service cues and form evaluative judgments (Pozharliev *et al.*, 2021). Emotional sensitivity reflects individual differences in perceptiveness and responsiveness to emotional cues in social interactions (Huang and Brown, 2016). It can influence how customers detect emotional implications and communicative intent in language (Chai *et al.*, 2026; Dinc, 2025), and may therefore shape how they evaluate service agents. While previous studies have examined trust and individual traits in service interactions, less is known about how emotional sensitivity moderates trust-based pathways linking strategically positive language to psychological comfort in human-robot service encounters involving flattery and praise (Desai *et al.*, 2025; Johnson and Grayson, 2005).

To address these gaps, this study draws on Schema Congruity Theory and the Affect Infusion Model to examine how service agent type and language style jointly shape psychological comfort through affective and cognitive trust in human-robot service encounters. Three scenario-based experiments in hospitality and tourism settings test the interaction between service agent type and language style, the dual trust pathways of affective trust and cognitive trust and the moderating role of emotional sensitivity. The study contributes by shifting human and robot service research from macro level technological attributes to micro-level strategic language cues, showing that the effects of flattery and praise depend on agent type, and demonstrating that these effects operate through affective and cognitive trust and vary with customers' emotional sensitivity.

2. Literature review

2.1 Theoretical framework

2.1.1 Schema congruity theory. Schema Congruity Theory (Mandler, 2014) posits that individuals process external stimuli through pre-existing cognitive structures (schemas), that shape expectations in a given context. In service encounters, these expectations may involve role norms and situational demands. When external cues are consistent with such expectations, the information processing tends to be more fluent, enabling more stable and positive evaluations. Building on this logic, service agent type may serve as a role-related cue that shapes customers' expectations about appropriate communication. This application is consistent with prior work suggesting that human service providers and service robots are associated with different role expectations (Chen *et al.*, 2023; Wirtz *et al.*, 2018). Recent service research further positions service robots beyond technical execution and as relational actors in interactive service systems, particularly as generative AI enhances their adaptability, personalization and communicative sophistication (Mahr *et al.*, 2025; Wirtz and Stock-Homburg, 2025). Consistent with the Computers Are Social Actors (CASA) perspective, research further suggests that customers may apply interpersonal scripts to intelligent technologies and respond to nonhuman agents in socially meaningful ways (Lin *et al.*, 2025; Yhee and Koo, 2026). Customers therefore evaluate service agents not only in terms of functional capability, but also in terms of their perceived social role, relationship-building capacity and the fit of their communicative style with the interactional context (Gelbrich *et al.*, 2026; Mahr *et al.*, 2025). Thus, Schema Congruity Theory provides a theoretical basis for examining whether flattery and praise may be interpreted differently across human employee and service robot encounters, and how service agent type and language style jointly shape trust judgments and psychological comfort.

2.1.2 Affect infusion model. The Affect Infusion Model (Forgas, 1995) emphasizes that affect is more likely to enter judgment when individuals engage in constructive processing rather than retrieve an existing evaluation. When customers interpret strategically positive service language such as flattery or praise, they often need to go beyond literal content and evaluate its relational and informational implications, making such evaluations susceptible to affect infusion (Forgas, 1995). Trust formation in service relationships is especially relevant in this regard because it inherently involves both affective and cognitive judgment processes (Johnson and Grayson, 2005). According to the Affect Infusion Model, individual differences in emotional sensitivity may influence the extent to which emotions permeate the judgment process. Emotional sensitivity can therefore be understood as an individual-difference condition that shapes how strongly affective cues are noticed and incorporated into judgment (Forgas, 2002; Huang and Brown, 2016). In service encounters, customers may therefore perceive and respond to the same linguistic cues with different levels of emotional influence, assigning different weights to affective and cognitive dimensions of judgment. Affect-laden reactions such as reassurance, warmth or relational care may become embedded in affective trust, whereas more evaluative inferences regarding the service provider's appropriateness, competence and reliability may shape cognitive trust (Forgas, 2002; Johnson and Grayson, 2005). Such trust judgments provide an important theoretical basis for understanding the relationship between service language and customers' psychological comfort (Becker et al., 2023; Spake et al., 2003).

2.2 Hypothesis development

2.2.1 Agent type, perceived sincerity, and consumer psychological comfort. Flattery and praise are both common forms of strategic positive feedback language used in service interactions. At the conceptual level, they differ in perceived sincerity (Chan and Sengupta, 2010). Flattery is often regarded as a strategic expression with manipulative intent, whereas praise is more likely to be interpreted as a sincere form of recognition (Chan and Sengupta, 2010; Main et al., 2007). Because customers may apply different expectations to human and robot agents, the same difference in perceived sincerity may be interpreted differently across agent types. When the service provider is a human employee, flattery is more likely to be interpreted as a socially intentional and strategically motivated expression, which may trigger suspicion about ulterior motives and shift attention away from the positive surface meaning of the message (Campbell and Kirmani, 2000; Main et al., 2007). Compared with praise, which is more readily perceived as sincere recognition, such an interpretation is less likely to foster the feelings of ease and reassurance that characterize psychological comfort during the interaction. In contrast, although robot-delivered language may also be interpreted in socially meaningful ways, customers are less likely to attribute flattery from robots to self-interested interpersonal motives and therefore less likely to respond with strong suspicion. As a result, flattery from robots may be processed as a positively valenced social cue that fits the expected communicative role of robot service agents (Chai et al., 2026). By comparison, praise from robots may appear more neutral, making it less likely than flattery to foster psychological comfort in robot service encounters (Chai et al., 2026; Mariani et al., 2023). Thus, the following hypotheses are proposed:

- H1.* In human service contexts, flattery (vs. praise) reduces a) customers' psychological comfort; whereas in robot service contexts, flattery (vs. praise) enhances b) customers' psychological comfort.

2.2.2 The mediating role of affective and cognitive trust. In service interactions, trust is widely regarded as a key psychological mechanism linking service cues to customers'

experiences (Čaić *et al.*, 2018; Merx *et al.*, 2025). Trust in service relationships can be distinguished between affective trust, which is based on perceptions of care, concern and emotional connection and cognitive trust, which is based on judgments of competence, reliability and predictability (Johnson and Grayson, 2005). Because strategic language shapes customers' perceptions of communicative appropriateness and interaction quality, it can differentially influence these two forms of trust (Johnson and Grayson, 2005; Singh and Sirdeshmukh, 2000). In human service contexts, flattery is more likely to raise suspicion about ulterior motives, which undermines affective trust by eroding customers' sense of care, concern and emotional bond with the provider (Chan and Sengupta, 2010; Johnson and Grayson, 2005; Singh and Sirdeshmukh, 2000). Such suspicion may also weaken cognitive trust, as customers become less confident in the provider's competence and reliability (Johnson and Grayson, 2005; Singh and Sirdeshmukh, 2000). When affective trust is reduced, customers feel less emotionally secure during the interaction; when cognitive trust is reduced, the service process appears less competent, reliable and predictable. Both pathways are detrimental to psychological comfort (Becker *et al.*, 2023; Spake *et al.*, 2003). Therefore, the following hypotheses are proposed:

H2a, b. In human service contexts, flattery (vs. praise) weakens customers' a) affective trust and b) cognitive trust, thereby reducing psychological comfort.

In robot service contexts, flattery is less likely to be attributed to self-interested interpersonal motives and may instead be interpreted as a socially supportive cue that fits the communicative role of robot agents (Chai *et al.*, 2026). This interpretation can enhance affective trust by reducing social threat and fostering a more reassuring interaction climate (Gelbrich *et al.*, 2026; Johnson and Grayson, 2005; Singh and Sirdeshmukh, 2000). At the same time, human–robot interaction research suggests that structured, task-relevant robot feedback can support cognitive trust by strengthening perceptions of reliability, predictability and functional competence (Hancock *et al.*, 2011; Huang *et al.*, 2021; Lin *et al.*, 2025). These qualities form the core foundations of cognitive trust (Gelbrich *et al.*, 2026; Hancock *et al.*, 2011; Huang *et al.*, 2021). Stronger trust in either dimension reduces uncertainty and enhances psychological comfort (Becker *et al.*, 2023; Gelbrich *et al.*, 2026; Spake *et al.*, 2003). Therefore, the following hypotheses are proposed:

H2c, d. In robot service contexts, flattery (vs. praise) enhances customers' c) affective trust and d) cognitive trust, thereby increasing psychological comfort.

2.2.3 The moderated mediation role of emotional sensitivity. Although flattery and praise are both forms of positive social language, customers do not react to them uniformly. Prior research suggests that individual traits shape how customers process interactive cues during service encounters (Pozharliev *et al.*, 2021), while emotional sensitivity reflects individual differences in detecting and responding to emotional cues in social interactions (Huang and Brown, 2016). According to the Affect Infusion Model, affective information is more likely to enter judgment when individuals engage in constructive processing (Forgas, 1995, 2002). Building on this logic, emotionally sensitive customers are more likely to attend to the relational implications of flattery and praise during trust formation (Chai *et al.*, 2026; Liu-Thompkins *et al.*, 2022). In human service contexts, flattery is often interpreted within interpersonal norms and frameworks of social intent as a persuasive and strategic form of expression. Customers with higher emotional sensitivity are more likely to register the strategic and relational implications of such language and to integrate these cues into their judgments of the provider's motives and communicative appropriateness (Chai *et al.*, 2026;

Lee and Yi, 2025; Liu-Thompkins *et al.*, 2022). Accordingly, the negative effect of flattery on affective trust is likely to become stronger because emotionally sensitive customers are less willing to form emotional bonds when strategic intent is suspected. The negative effect on cognitive trust is also likely to become stronger because these customers are more likely to question the provider's sincerity, professionalism and reliability (Johnson and Grayson, 2005; Liu-Thompkins *et al.*, 2022). When these trust-reducing effects become stronger, the indirect negative effect of flattery on psychological comfort should also become stronger. Therefore, the following hypotheses are proposed:

H3a, b. In human service contexts, higher emotional sensitivity strengthens the negative indirect effect of flattery (vs. praise) on psychological comfort via a) reduced affective trust and b) reduced cognitive trust.

In robot service contexts, by contrast, flattery is less likely to be attributed to self-interested interpersonal motives and may instead be interpreted as a supportive social cue (Chai *et al.*, 2026; Liu-Thompkins *et al.*, 2022). Because emotional sensitivity reflects greater responsiveness to emotional cues, customers with higher emotional sensitivity may be more responsive to the emotional meaning of robot-delivered language (Forgas, 2002; Huang and Brown, 2016; Liu-Thompkins *et al.*, 2022). This responsiveness can strengthen affective trust by enhancing perceived warmth and cognitive trust by reinforcing perceptions of appropriateness and reliability (Belanche *et al.*, 2020; Liu and Wei, 2021; Van Doorn *et al.*, 2017). Therefore, the following hypotheses are proposed:

H3c, d. In robot service contexts, higher emotional sensitivity strengthens the positive indirect effect of flattery (vs. praise) on psychological comfort via c) enhanced affective trust and d) enhanced cognitive trust.

Figure 1 illustrates the proposed conceptual model, outlining the hypothesized relationships among the key constructs.

3. Methods overview

To test the proposed relationships, three studies were undertaken. Data were collected between August 2025 and January 2026 using Credamo, an online survey platform in China. Participants were adult Chinese customers with hotel, restaurant or tourist attraction service experience within the past year. The final samples across studies reflected diverse demographic backgrounds; descriptive statistics are reported in Appendix E (Table E5; see Supplementary Materials). Data quality was ensured through attention check questions, minimum response time thresholds and IP address screening to prevent duplicate participation. Responses failing these criteria were excluded prior to analysis.

To mitigate common method bias and demand effects, we followed recommended procedural remedies (Podsakoff *et al.*, 2003). Participants were randomly assigned to one experimental condition in the 2×2 between-subjects design, and psychological separation was achieved through distinct instructions and page breaks between manipulations and key measures. All adapted measurement scales were translated using a translation-reconciliation-back translation procedure to ensure linguistic and conceptual equivalence, with scale validation results reported in Appendix E (Table E1; see Supplementary Materials). The study protocol, including the digital and verbal informed consent procedures, received approval from the Ethics Review Committee of Kunming University (Approval No. 2025/0086) and was conducted in accordance with national and international ethical guidelines and all relevant regulations. Prior to the experiments, structured informed consent was obtained from all participants. The consent protocols explicitly

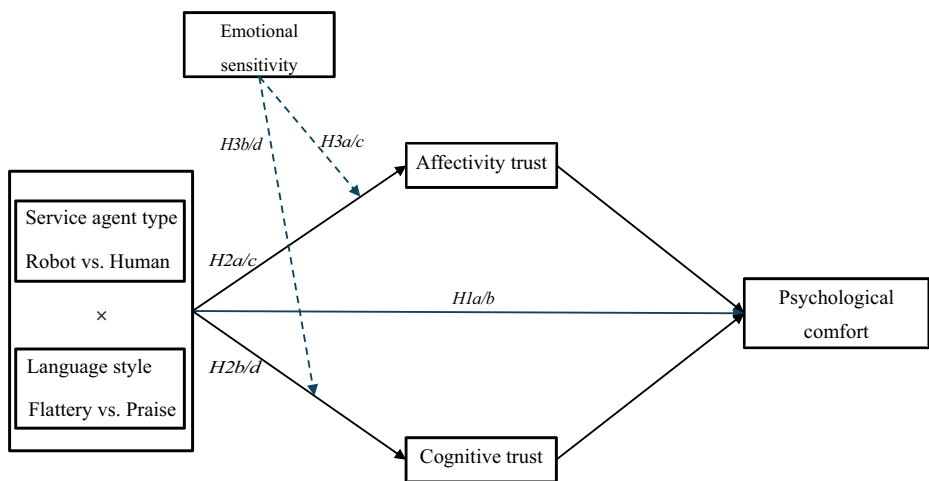


Figure 1. Conceptual model
Source: Developed by the authors

informed them of the purpose of the study, the strict measures taken to protect their anonymity and confidentiality, the secure procedures regarding how their data would be stored and used and the minimal risks associated with participation.

All studies used a 2×2 between-subjects design manipulating service agent type (robot vs human) and language style (flattery vs praise). The research adopted a multi-study, multi-scenario approach across three hospitality and tourism contexts: hotel (Study 1), restaurant (Study 2) and tourist attraction (Study 3). A scenario-based method ensured consistency in service tasks and interaction structure while enabling systematic tests across contexts. Study 1 tested the core interaction effect ($H1a-b$). Study 2 replicated this interaction and examined the mediating roles of affective and cognitive trust ($H2a-d$). Study 3 further replicated these effects and tested the moderating role of emotional sensitivity in the mediated pathways ($H3a-d$). Table 1 summarizes the research design, sample sizes, focal variables and objectives for each study.

4. Study 1 ($H1a-H1b$)

4.1 Experimental design

Experiment 1 used a 2 (agent type: robot vs human) $\times$ 2 (language style: flattery vs praise) between-subjects design. Combined image–text scripts were used to simulate four experimental conditions, with verbal content and visual context held constant within each language style. The scenario depicted a hotel guest asking about breakfast service. Psychological comfort was measured using eight items adapted from Spake et al. (2003). To verify the effectiveness of the manipulations, participants evaluated the perceived sincerity of the response and identified the service agent. Full stimulus materials and measurement items are provided in Appendices A and E (see Supplementary Materials).

4.2 Experimental procedure

To ensure statistical power, the sample size met the minimum requirement estimated using G*Power 3. An 80-participant pretest confirmed the effectiveness of the manipulation and

Table 1. Overview of studies

Study	Context	Design	Key variables	Hypotheses	Main result
1	Hotel	2 × 2 between-subjects design	IVs: agent type (human vs robot); language style (flattery vs praise)	<i>H1a, H1b</i>	Flattery reduced comfort in the human condition but increased comfort in the robot condition
2	Restaurant	Same design as Study 1	IVs: agent type; language style; mediators: affective trust, cognitive trust	<i>H1a, H1b; H2a–H2d</i>	The interaction pattern in Study 1 was replicated, and affective and cognitive trust mediated the effect on psychological comfort
3	Tourist attraction	Same design as Study 2	IVs: agent type; language style; mediators: affective trust, cognitive trust; moderator: emotional sensitivity	<i>H1a, H1b; H3a–H3d</i>	The interaction pattern in Study 1 was replicated, and emotional sensitivity moderated the indirect effects through trust

Source(s): Developed by authors

scenario design (see Appendix A in the Supplementary Materials). Before the formal pretest and main study, all stimulus texts were independently reviewed by a linguist and a hospitality management scholar. The experts evaluated the texts for contextual appropriateness, linguistic naturalness and pragmatic distinguishability, ensuring that the praise and flattery conditions were linguistically and functionally distinct. Participants viewed the assigned condition and completed the questionnaire in a single session. A total of 440 questionnaires were distributed, and 398 valid responses were retained. Demographic details are reported in Appendix E (see Supplementary Materials).

4.3 Results and analysis

4.3.1 Manipulation check and control variable testing. Pretest results supported the effectiveness of the manipulations and scenario design. The language-style manipulation was assessed through perceived sincerity (Campbell and Kirmani, 2000), consistent with the conceptual distinction between praise and flattery. Independent-samples *t*-tests showed that praise responses were perceived as significantly more sincere than flattery responses ($M_{\text{praise}} = 5.68$, $SD = 0.69$; $M_{\text{flattery}} = 2.53$, $SD = 1.18$; $t(78) = 14.59$, $p < 0.001$). In addition, one-sample *t*-tests indicated that both perceived realism ($M = 5.76$, $SD = 0.68$; $t(79) = 75.840$, $p < 0.001$) and comprehensibility ($M = 5.64$, $SD = 0.64$; $t(79) = 78.630$, $p < 0.001$) were significantly above the midpoint of the scale. Participants rated praise responses as significantly more sincere than flattery responses ($M_{\text{praise}} = 6.13$, $SD = 0.76$, $SE = 0.055$; $M_{\text{flattery}} = 2.74$, $SD = 0.85$, $SE = 0.06$; $t(396) = 41.63$, $p < 0.001$). One-sample *t*-tests also showed that participants perceived the scenarios as highly realistic ($M = 5.85$, $SD = 0.75$; $t(397) = 49.60$, $p < 0.001$) and easy to comprehend ($M = 5.71$, $SD = 0.79$; $t(397) = 43.28$, $p < 0.001$). These results support the language-style manipulation and the appropriateness of the scenario design.

4.3.2 *Main effect testing.* A 2 (Language style: Flattery vs Praise) $\times$ 2 (Agent type: Robot vs Human) ANOVA revealed a significant main effect of language style on psychological comfort ($F(1, 394) = 125.65, p < 0.001, \eta_p^2 = 0.24$); the main effect of agent type was nonsignificant ($F(1, 394) = 0.56, p = 0.46$). A significant interaction was observed ($F(1, 394) = 285.60, p < 0.001, \eta_p^2 = 0.51$). Simple effects analyses (see Figure 2) showed that under human agents, praise led to higher comfort ($M = 4.44, SD = 0.47$) than flattery ($M = 3.03, SD = 0.43; p < 0.001$). Under robot agents, flattery led to higher comfort ($M = 3.89, SD = 0.52$) than praise ($M = 3.61, SD = 0.54; p < 0.001$). These results supported *H1a* and *H1b*.

5. Study 2 (H2a–H2d)

5.1 Experimental design

Experiment 2 used the same 2 (agent type: robot vs human) $\times$ 2 (language style: flattery vs praise) between-subjects design as Study 1, but in a restaurant service context. Building on Study 1, this study replicated the core interaction effect and introduced affective trust and cognitive trust as mediators. Psychological comfort was measured using eight items adapted from Spake et al. (2003). Affective trust and cognitive trust were both adapted from Kim and Kim (2020), with five items for each construct. All items were measured on seven-point Likert scales. Full stimulus materials and measurement items are provided in Appendices B–E (see Supplementary Materials).

5.2 Experimental procedure

An 80-participant pretest was conducted using the same materials and procedures to validate the manipulations (see Appendix B in the Supplementary Materials). The main study followed the same recruitment and administration procedures as Study 1. The retained sample met the minimum requirement estimated via G*Power 3. A total of 440 questionnaires were distributed. After removing 25 invalid cases, 415 valid responses were retained.

5.3 Results

5.3.1 *Manipulation check and control variable testing.* Consistent with Study 1, the pretest results supported the language-style manipulation and scenario design. Using the same perceived-sincerity check, praise responses were rated as significantly more sincere than flattery ($M_{praise} = 4.88, SD = 1.32; M_{flattery} = 2.63, SD = 0.84; t(78) = 9.08, p < 0.001$). One-sample *t*-tests indicated that perceived realism ($M = 5.68, SD = 0.59; t(79) = 85.95, p < 0.001$) and comprehensibility ($M = 5.45, SD = 0.63; t(79) = 76.83, p < 0.001$) were both

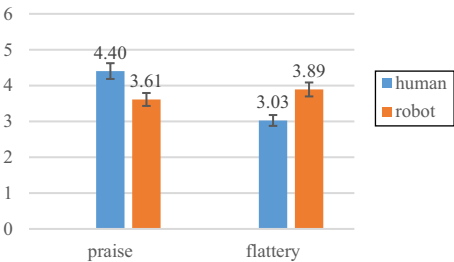


Figure 2. Interaction effect on psychological comfort
Source: Developed by the authors

significantly above the midpoint. Main experiment results, based on the same materials (see Appendix B in the Supplementary Materials), further validated the manipulations. Praise responses were again perceived as more sincere than flattery ($M_{\text{praise}} = 6.10$, $SD = 0.68$, $SE = 0.05$; $M_{\text{flattery}} = 2.79$, $SD = 0.78$, $SE = 0.05$; $t(413) = 45.87$, $p < 0.001$). Participants also rated the scenarios as realistic ($M = 5.81$, $SD = 0.74$; $t(414) = 50.17$, $p < 0.001$) and easy to comprehend ($M = 5.65$, $SD = 0.72$; $t(414) = 46.75$, $p < 0.001$). These results support the language-style manipulation and indicate that the restaurant scenario was realistic and understandable.

5.3.2 Main effect testing. A 2 (agent type: robot vs human) $\times$ 2 (language style: flattery vs praise) ANOVA showed a significant main effect of language style on psychological comfort ($F(1, 413) = 246.46$, $p < 0.001$, $\eta_p^2 = 0.37$); agent type was non-significant ($F(1, 413) = 3.50$, $p = 0.062$). A significant interaction emerged [$F(1, 411) = 1420.72$, $p < 0.001$, $\eta_p^2 = 0.78$]. Simple effects analysis (see Figure 3) revealed that under human agents, praise yielded higher comfort ($M = 4.64$, $SD = 0.68$) than flattery ($M = 1.64$, $SD = 1.41$; $p < 0.001$); under robot agents, flattery yielded higher comfort ($M = 3.46$, $SD = 0.15$) than praise ($M = 3.26$, $SD = 0.29$; $p < 0.001$). These findings supported *H1a* and *H1b*.

5.3.3 Mediating effect testing. We used PROCESS Model 4 (Hayes, 2022) with 5,000 bootstrap samples to examine the mediating effects of affective trust and cognitive trust on the relationship between language style (flattery vs praise) and psychological comfort. Participants' gender, age and prior experience with service robots were included as control variables, and separate mediation analyses were conducted for the human and robot agent conditions. Under the human agent condition, flattery (vs praise) significantly reduced both affective trust and cognitive trust, which in turn lowered psychological comfort. Under the robot agent condition, flattery (vs praise) increased both forms of trust and enhanced psychological comfort. These results support *H2a–H2d*. The indirect effects were negative for human agents and positive for robot agents. Figures 4–7 summarize the estimated path coefficients and indirect effects reported in Appendix E (Table E2; see Supplementary Materials).

6. Study 3 (*H3a–H3d*)

6.1 Experimental design

Experiment 3 used the same 2 (agent type: robot vs human) $\times$ 2 (language style: flattery vs praise) between-subjects design as the previous studies, but in a tourist attraction service context. Building on Study 2, this study further extended the model by introducing emotional sensitivity as a moderator of the indirect effects through affective trust and cognitive trust. Affective trust and cognitive trust were again measured using the scales adapted from Kim and Kim (2020),

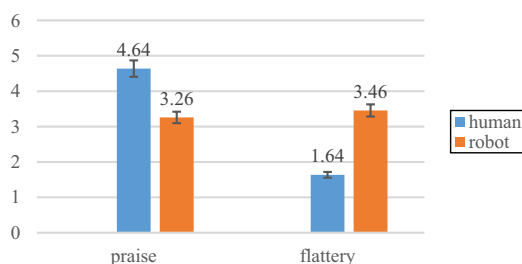


Figure 3. Interaction effect on psychological comfort

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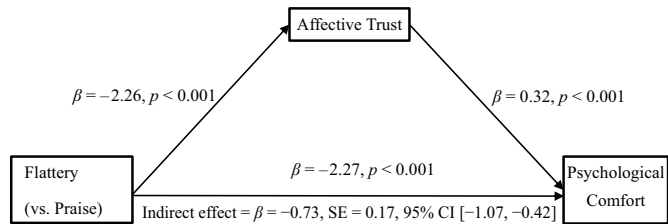


Figure 4. Results of the mediating effect of affective trust in the human agent condition
Source: Developed by the authors

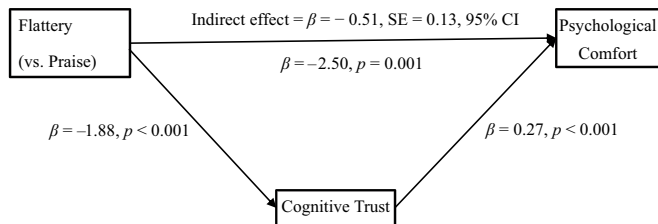


Figure 5. Results of the mediating effect of cognitive trust in the human agent condition
Source: Developed by the authors

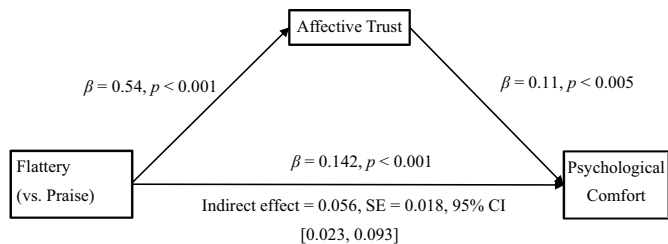


Figure 6. Results of the mediating effect of affective trust in the robot agent condition
Source: Developed by the authors

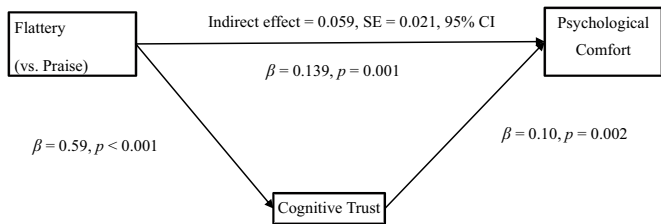


Figure 7. Results of the mediating effect of cognitive trust in the robot agent condition
Source: Developed by the authors

psychological comfort was measured with the scale adapted from Spake *et al.* (2003) and emotional sensitivity was measured using three items adapted from Riggio (1986). Full stimulus materials and measurement items are provided in Appendices C and E (see Supplementary Materials).

6.2 Experimental procedure

An 80-participant pretest validated the tourist attraction scenario and manipulations (see Appendix C in the Supplementary Materials). The main study followed the same online administration procedure as Study 2, with participants viewing the assigned scenario and completing the questionnaire. A total of 440 questionnaires were distributed; after removing 24 invalid cases, 416 valid responses were retained.

6.3 Results

6.3.1 Manipulation check and control variable testing. Consistent with the previous studies, pretest results supported the language-style manipulation and tourist attraction scenario design. Using the same perceived-sincerity check, praise responses were perceived as significantly more sincere than flattery responses [$M_{\text{praise}} = 5.88$, $SD = 0.72$; $M_{\text{flattery}} = 2.75$, $SD = 0.87$; $t(78) = 17.48$, $p < 0.001$]. In addition, one-sample t -tests showed that both perceived realism [$M = 5.83$, $SD = 0.69$; $t(79) = 75.57$, $p < 0.001$] and scenario comprehensibility [$M = 5.56$, $SD = 0.57$; $t(79) = 87.25$, $p < 0.001$] were significantly above the midpoint of the scale. In the main experiment, manipulation checks again showed that praise was rated as more sincere than flattery [$M_{\text{praise}} = 5.65$, $SD = 1.19$, $SE = 0.08$; $M_{\text{flattery}} = 2.32$, $SD = 0.89$, $SE = 0.06$; $t(414) = 32.31$, $p < 0.001$]. One-sample t -tests confirmed that participants perceived the scenarios as realistic [$M = 5.80$, $SD = 0.84$; $t(415) = 43.94$, $p < 0.001$] and easy to understand [$M = 5.60$, $SD = 0.92$; $t(415) = 35.47$, $p < 0.001$]. These results support the intended distinction between the two language conditions and indicate adequate scenario validity and comprehensibility.

6.3.2 Main effect testing. A 2 (agent type: robot vs human) $\times$ 2 (language style: flattery vs praise) two-way ANOVA was conducted to examine the effects on psychological comfort. The results revealed a significant main effect of language style on psychological comfort [$F(1, 412) = 19.61$, $p < 0.001$, $\eta^2 = 0.045$], while the main effect of agent type was not significant [$F(1, 412) = 2.03$, $p = 0.16$, $\eta^2 = 0.005$]. In addition, the interaction effect between language style and agent type was significant [$F(1, 412) = 219.17$, $p < 0.001$, $\eta^2 = 0.35$]. Further simple effects analysis (see Figure 8) showed that under human agents, praise led to higher comfort ($M = 4.59$, $SD = 0.68$) than flattery ($M = 3.29$, $SD = 0.69$; $p < 0.001$), whereas

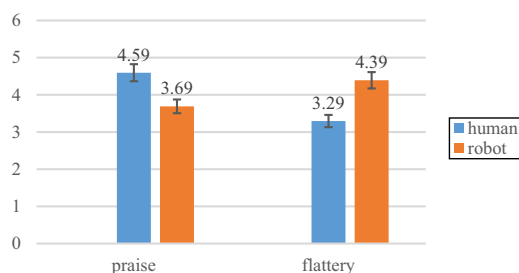


Figure 8. Interaction effect on psychological comfort

Source: Developed by the authors

under robot agents, flattery yielded higher comfort ($M = 4.39$, $SD = 0.72$) than praise ($M = 3.69$, $SD = 0.67$; $p < 0.001$), supporting *H1a* and *H1b*.

6.3.3 Moderated mediating effect testing. We used PROCESS Model 7 (Hayes, 2022) to test whether emotional sensitivity moderated the indirect effects of language style on psychological comfort via affective trust and cognitive trust. Conditional indirect effects were estimated at low (-1 SD), medium (mean) and high ($+1$ SD) levels of emotional sensitivity (see Table 2; Appendix E, Table E3; see Supplementary Materials).

In the human agent condition, the indirect effects proposed in *H3a* and *H3b* varied by emotional sensitivity. The indirect effect via affective trust was negative and stronger at high emotional sensitivity (low: -0.17 , 95% CI $[-0.28, -0.08]$; high: -0.32 , 95% CI $[-0.52, -0.16]$), indicating that the negative indirect effect through affective trust was stronger among individuals with higher emotional sensitivity. Similarly, the indirect effect via cognitive trust was stronger as emotional sensitivity increased (low: -0.11 , 95% CI $[-0.21, -0.03]$; high: -0.20 , 95% CI $[-0.34, -0.08]$). In contrast, in the robot agent condition, emotional sensitivity positively moderated the indirect effects. For *H3c*, the indirect effect via affective trust increased with emotional sensitivity [low: 0.14 , 95% CI $(0.05, 0.26)$; high: 0.41 , 95% CI $(0.22, 0.62)$]; for *H3d*, the pattern was similar [low: 0.16 , 95% CI $(0.07, 0.29)$; high: 0.27 , 95% CI $(0.14, 0.44)$].

As shown in Table 3 and Appendix E (Table E4; see Supplementary Materials), emotional sensitivity significantly moderated the indirect effects of language style on psychological comfort via trust across both agent conditions. Specifically, the index of

Table 2. Conditional indirect effects

Agent condition	Indirect path	Emotional sensitivity	Effect	Boot SE	95% CI
Human	Flattery (vs Praise) → affective trust → psychological comfort	Low (-1 SD)	-0.1681	0.0528	$[-0.2833, -0.0752]$
		Mean	-0.2458	0.0660	$[-0.3846, -0.1238]$
		High ($+1$ SD)	-0.3234	0.0936	$[-0.5218, -0.1569]$
Human	Flattery (vs Praise) → cognitive trust → psychological comfort	Low (-1 SD)	-0.1135	0.0456	$[-0.2100, -0.0347]$
		Mean	-0.1565	0.0509	$[-0.2630, -0.0625]$
		High ($+1$ SD)	-0.1994	0.0661	$[-0.3361, -0.0781]$
Robot	Flattery (vs Praise) → affective trust → psychological comfort	Low (-1 SD)	0.1386	0.0538	$[0.0456, 0.2558]$
		Mean	0.2720	0.0653	$[0.1551, 0.4098]$
		High ($+1$ SD)	0.4054	0.1003	$[0.2227, 0.6163]$
Robot	Flattery (vs Praise) → cognitive trust → psychological comfort	Low (-1 SD)	0.1642	0.0555	$[0.0692, 0.2881]$
		Mean	0.2193	0.0594	$[0.1125, 0.3437]$
		High ($+1$ SD)	0.2745	0.0761	$[0.1376, 0.4350]$

Note(s): Conditional indirect effects are reported at low (-1 SD), mean and high ($+1$ SD) levels of emotional sensitivity

Source(s): Developed by authors

Table 3. Index of moderated mediation for emotional sensitivity

Agent condition	Index	Boot SE	95% CI
Human agent	-0.0737	0.0357	$[-0.1543, -0.0155]$
Robot agent	0.1146	0.0404	$[0.0447, 0.2029]$

Note(s): Confidence intervals excluding zero indicate significant moderated mediation

Source(s): Developed by authors

moderated mediation was negative and significant in the human agent condition [Index = -0.0737 , 95% CI (-0.1543 , -0.0155)], and positive and significant in the robot agent condition [Index = 0.1146 , 95% CI (0.0447 , 0.2029)], indicating opposite moderation patterns across agent types. Table 4 provides a comprehensive summary of the hypothesis testing results across the three experiments.

7. Discussion and implications

7.1 Discussion

Drawing upon schema congruity theory and the affect infusion model, this study examined how the interaction between language style (flattery vs praise) and agent type affects customers' psychological comfort, with affective and cognitive trust as mediating pathways and emotional sensitivity as a boundary condition.

First, across the three experiments, service agent type showed no stable main effect on psychological comfort, while its interaction with language style was consistently significant. Although prior research often treats agent type as a primary determinant of customer responses (Huang *et al.*, 2021; Wirtz *et al.*, 2018), this pattern suggests that the comfort implications of flattery and praise are contingent on service agent type rather than uniform across human and robot encounters. Viewed through schema congruity theory, this finding extends prior work by linking psychological comfort to the alignment between service language and the agent's expected interactional role (Mandler, 2014; Meyers-Levy and Tybout, 1989). It also echoes recent work positioning responses to human versus automated agents as contextually contingent rather than dichotomous (de Oliveira Santini *et al.*, 2025; Gelbrich *et al.*, 2026).

Second, the effects of agent type and language style on psychological comfort were transmitted through affective and cognitive trust. Strategically positive language shaped customers' trust judgments, which subsequently contributed to their comfort during the interaction (H2a–H2d). Because flattery and praise require interpretive processing, trust judgments may incorporate affective input, consistent with the affect infusion model (Forgas, 1995). Affective trust provided relational reassurance, whereas cognitive trust signaled competence-based assurance (Johnson and Grayson, 2005). Notably, robot-delivered flattery appeared compatible with expectations of robotic communication, whereas the same cue appeared less compatible with expectations of human providers (Kim *et al.*, 2022; Söderlund, 2024). In hospitality and tourism contexts, where appropriateness and reassurance are central to service evaluations, these findings suggest that verbal cues can meaningfully shape trust formation and psychological comfort in human-robot service encounters (Becker *et al.*, 2023; Chai *et al.*, 2026; Johnson and Grayson, 2005).

Third, emotional sensitivity amplified these processes without altering their direction. Emotionally sensitive customers responded more strongly to both role-aligned and role-misaligned cues, showing heightened positive trust responses to robot-delivered flattery and

Table 4. Summary of hypothesis testing results across Three studies

Hypothesis	Relationship/path	Study 1	Study 2	Study 3
H1a	Human agent: flattery (vs Praise) → comfort (-)	Supported	Supported	Supported
H1b	Robot agent: flattery (vs Praise) → comfort (+)	Supported	Supported	Supported
H2a/b	Mediation: trust (affective/cognitive) in human context	–	Supported	Supported
H2c/d	Mediation: trust (affective/cognitive) in robot context	–	Supported	Supported
H3a–d	Moderated mediation: emotional sensitivity	–	–	Supported

Source(s): Developed by authors

heightened negative responses to human-delivered flattery, thereby magnifying differences in psychological comfort (*H3a–H3d*). Consistent with the affect infusion model, these customers may have placed greater weight on the affective implications of strategic language when forming judgments (Forgas, 1995; Huang and Brown, 2016). Accordingly, trust-based pathways became more pronounced. This pattern aligns with research on individual differences in social cue processing and with emerging human–robot service work emphasizing social and communicative cues in customer evaluations (Chai *et al.*, 2026; Huang and Brown, 2016; Söderlund, 2024).

7.2 Theoretical contributions

This study makes several contributions to the relevant literature. First, a central theoretical contribution of this study is to show that the effects of strategically positive language in human–robot service encounters depend on different communicative expectations associated with human versus robot service agents, thereby extending an agent–language congruity perspective into this domain and bringing strategically positive language, especially flattery and praise, into the service robot literature as a perspective for understanding robots’ social communication (Chai *et al.*, 2026; Wirtz and Stock-Homburg, 2025). In this sense, the present study helps explain why agent type did not exert a stable main effect on psychological comfort (de Oliveira Santini *et al.*, 2025; Gelbrich *et al.*, 2026). It also suggests that customers’ interpretations of the service agent’s communicative role are not fixed, but can be shaped by concrete language cues in service encounters (Nass and Moon, 2000; Söderlund, 2024). By linking strategically positive language to the communicative expectations associated with human versus robot service agents, the present study offers a more precise explanatory structure for human–robot service interactions and opens a new perspective for understanding how robots’ social communication is evaluated in situated hospitality and tourism encounters (Mandler, 2014; Meyers-Levy and Tybout, 1989). This perspective also suggests that robot-produced language can be socially interpreted by customers rather than merely regarded as technical output (Mandler, 2014; Meyers-Levy and Tybout, 1989; Yhee and Koo, 2026).

Second, this central contribution is deepened by identifying affective and cognitive trust as two pathways through which strategically positive language shapes psychological comfort in human–robot service encounters (Becker *et al.*, 2023; Johnson and Grayson, 2005). The findings show that strategically positive language does not shape psychological comfort through a single evaluative route (Johnson and Grayson, 2005). Viewed through schema congruity theory and the affect infusion model, the present study explains how language cues in human–robot service encounters enter customers’ judgment processes and are translated into psychological comfort through differentiated trust formation (Becker *et al.*, 2023; Forgas, 1995; Johnson and Grayson, 2005). In this process, affective trust captures relational reassurance, whereas cognitive trust captures competence-based confidence, a distinction consistent with recent relational perspectives viewing service robots as relational entities and human–robot interaction as a *locus* of value creation (Johnson and Grayson, 2005; Mahr *et al.*, 2025). This study further extends cognitive trust research by showing that strategically positive language delivered by robots can carry capability-relevant meaning, responding to calls for greater attention to customers’ capability judgments of interactive service robots (Lin *et al.*, 2025). Accordingly, trust in human–robot service encounters is better understood not as a static stock of confidence, but as a dynamic interpretive process contingent on the service agent (Johnson and Grayson, 2005; Kim *et al.*, 2022; Söderlund, 2024). This, in turn, extends trust research in human–robot service communication by showing that the experiential consequences of strategically positive language depend on how these two

dimensions of trust are differentially formed in interaction (Johnson and Grayson, 2005; Kim *et al.*, 2022; Mahr *et al.*, 2025).

Third, this explanation is further refined by showing that emotional sensitivity functions as a boundary condition that amplifies the downstream trust-based effects of strategically positive language (Forgas, 1995). Prior studies have rarely explained whether individual differences shape the extent to which the same language cue informs downstream trust formation and psychological comfort, especially when its effects differ across human and robot service agents (Gaudiello *et al.*, 2016; Huang and Brown, 2016; Kabacińska *et al.*, 2025). The present study shows that customers with higher emotional sensitivity respond more strongly to strategically positive language across human and robot service agent, thereby amplifying downstream trust formation and psychological comfort (Chai *et al.*, 2026; Forgas, 1995; Huang and Brown, 2016). These findings locate emotional sensitivity within the meaning-construction process of human-robot service encounters, showing how it conditions the strength with which strategically positive language is affectively and relationally interpreted (Forgas, 2002; Huang and Brown, 2016; Mahr *et al.*, 2025).

7.3 Practical implications

This study offers three practical implications for hospitality and tourism managers.

First, managers should align language style with service agent type rather than transfer standard script across human and robot frontline roles. Human employees can rely on sincere, recognition-based praise in interpersonal encounters, whereas service robots can incorporate moderate flattery in routine, low-risk frontline exchanges. Thus, language design becomes an agent-specific service decision rather than a generic communication choice. This is particularly important in hybrid frontline settings where human employees and service robots increasingly perform complementary service roles (Zhang *et al.*, 2026). However, firms must ensure that robot-delivered flattery remains constrained to low-stakes interactions; during high-stress scenarios like service recovery, systems should be programmed to revert to neutral or functional language to avoid compounding customer frustration. Because customers may interpret robot-delivered language as socially meaningful, script design should be treated as part of frontline service management rather than a purely technical task (Nass and Moon, 2000; Yhee and Koo, 2026).

Second, managers should design service language with trust formation in mind rather than positivity alone. Language strategies should simultaneously support relational reassurance and competence-based confidence. For human employees, this involves emphasizing authenticity, appropriateness and emotional sincerity. For robots, it involves combining warmth cues with clarity, consistency and procedural reliability. Achieving this requires cross-functional coordination to ensure that AI-driven language styles remain aligned with the brand's human-centric service values. Frontline scripts should thus be evaluated not only by tone but also by whether they reassure customers relationally and convey competence-based confidence (Johnson and Grayson, 2005; Mahr *et al.*, 2025).

Third, managers should design context- and customer-sensitive communication strategies, as higher emotional sensitivity amplifies customers' trust-based responses to strategically positive language (Forgas, 1995; Huang and Brown, 2016). Accordingly, flattery should be calibrated in intensity, timing and service agent type rather than treated as a default positive language cue. In emotionally charged or socially delicate situations such as service recovery or complaint handling, firms should prioritize human-led, neutral, restrained or praise-based communication. The primary implementation challenge lies in training frontline staff to supervise these hybrid interactions effectively, ensuring that robots do not overstep their role. Staff training should help frontline employees make these judgments (Dou *et al.*, 2025).

These distinctions should be embedded in context-sensitive communication protocols for hybrid human-robot service systems (Liu *et al.*, 2025b).

7.4 Limitations and future research

This research has several limitations. First, all three studies used online, scenario-based experiments conducted in China. Future work could test these effects in live, field or virtual reality-based service encounters involving multiturn interactions, nonverbal cues and varying emotional stakes, and examine whether the observed agent-language pattern generalizes across cultural contexts where norms of relational harmony and face sensitivity differ. Second, the current model focused on trust and emotional sensitivity in one-shot encounters. Future research could refine the interpretive process by examining perceived agent-language fit, role appropriateness, motive inference, social alignment or interpersonal closeness (Lin *et al.*, 2025). Future studies could also examine how repeated human-robot interactions shape trust and psychological comfort over time, while extending robot communication outcomes to inclusive or ethically perceived AI-enabled service experiences (Gonzalez-Jimenez and Costa Pinto, 2024).

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Supplementary material

The supplementary material for this article can be found online.

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