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Politeness and Sociolinguistic Persona in the AI Chatbot: A Comparative Discourse Analysis of Gemini and ChatGPT.

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Abstract:

AI-mediated interactions pose an underlying challenge regarding their adaptability across contexts, specifically when they simulate politeness in communication while lacking true social intuition.This study investigates the sociolinguistic strategies of ChatGPT and Gemini, focusing on politeness and interactional style. The importance of understanding these strategies for designing AI is indisputable. The current study adopts a qualitative comparative design, grounded in discourse analysis of 30 controlled conversations with ChatGPT and Gemini. Results demonstrate that both models employ positive and on-record directness, but differently: while ChatGPT adopts conversational friendliness and informal adaptation, Gemini prioritizes structured clarity and formal explanations.This shows that their interactional flexibility is restricted by their pre-programmed "brand voice" rigidity, resulting in the emergence of distinct AI sociolinguistic personalities.The study underscores how user expectations are shaped by AI-mediated communication, resulting in standardized, risk-averse norms. Taken together, these findings emphasize the need for adaptive, context-aware conversational models.

Keywords: AI-mediated interaction, politeness, sociolinguistic strategies, discourse analysis, interactional flexibility.

First. Introduction

Artificial Intelligence (AI) chatbots have become a central part of our personal and professional lives as social agents. They are designed not only as information providers but also as social interlocutors. These systems can assist users with tasks through dialogue systems, which require both accuracy and efficiency, while maintaining pragmatic competence, such as politeness, rapport management, and the mitigation of conflicts. This signifies that AI chatbots have become actively engaged in face-sensitive social interactions. However, they fall short of genuine social intuition, resulting in a very static performance of politeness, given that their interactive behavior is determined by pre-

programmed norms. This raises the question of whether AI chatbots can genuinely adapt their behavior to different social contexts and users (e.g., casual, demanding, confrontational), or whether they merely perform procedural, robotic politeness that fails to produce authentic social interaction. That is, although chatbots may be polite, it is not clear whether such performance has interactional flexibility similar to those found in human communication.

This study is underpinned by Brown and Levinson's theory[1] of politeness. This theoretical foundation explains how language is used to navigate social relationships and mitigate conflict. According to Brown and Levinson face is "something that is emotionally invested, and can be lost, maintained, or enhanced, and must be constantly attended to in interaction"[1]. That is, face is the speaker's or hearer's self-image which is essentially threatened by many speech acts (such as complaints, criticisms, accusations), and politeness is the strategic communication used to reduce these threats. Brown and Levinson[1] distinguish two types of face, associated with two main forms of politeness strategies: positive and negative face and positive and negative politeness. Positive face refers to universal human desires to be appreciated, approved of, and liked by others. It is the need for friendliness and having one's self-image and wants seen as desirable by at least some others, and positive politeness is the strategy used to support or enhance the addressee's positive face. Negative face, on the other hand, is the desire of freedom and autonomy, and the resistance of external imposition i.e., it is the claim to personal boundaries. Therefore, negative politeness is inherently "avoidance-based." It is a redressive action taken to address a person's negative face by demonstrating respect, deference, and a clear intention to not interfere with their freedom through apologies, hedges, and so on. In the context of AI chatbots, these concepts provide a comprehensive understanding of how social image and interactional risks are navigated in AI-generated language. By applying Brown and Levinson's politeness theory[1], it becomes possible to examine whether chatbots' responses reflect strategic social behavior or remain constrained by pre-programmed norms.

Notably, little research has been conducted to compare AI models and examine politeness adaptation to context. This research work bridges this gap, offering context-relevant, evidence-based insights. It aims to analyze how AI chatbots (ChatGPT vs. Gemini) manage social self-image, and to examine how politeness strategies are used in interaction. Based on the objectives of the study, the research questions are as follows:

1. How do AI chatbots (ChatGPT vs. Gemini) use politeness strategies to address face and conflict during interactions with users?

2. Are there any sociolinguistic personalities emerging among AI language models (ChatGPT vs. Gemini) when using politeness strategies?

Second. Literature Review

Politeness enables individuals to navigate social interactions while preserving mutual self-image "face", serving as a foundational mechanism in human communication. As such, positive politeness that builds solidarity, and negative politeness that respects autonomy are used to manage potential conflict[1]. Given that AI has become embedded in daily life, Brown and Levinson's theory of politeness[1]offers insightful contribution to understanding the way chatbots like Gemini and ChatGPT are designed to manage social rapport with users. Recent studies of sociolinguistic strategies that AI chatbots use, particularly Gemini and ChatGPT, demonstrates notable differences in their sociolinguistic personas, particularly in their use of politeness markers. In this regard, their approach to mitigate face-threatening acts differs significantly, although both models are developed to streamline user interaction. The increasing convergence from recent analyses is that negative politeness is prioritized by both models. There exists a foundational programming bias towards caution and defense, as both chatbots repeatedly use hedges and apologies as a principal mechanism to circumvent offence or imposition upon users[2].

Nevertheless, beyond this underlying approach, divergent sociolinguistic personalities emerge. Jedrzejczak and Kobosko[3] compared the two models, revealing that Gemini simulates empathy and conversational engagement to build rapport, through positive politeness. This is reflected in language that attempts to establish common ground or affirms the user's contributions. Jedrzejczak and Kobosko [3] report that ChatGPT, on the other hand, give precedence to efficient information delivery over friendly feature of positive politeness, maintaining a more direct and factual communication style. This contrast suggests that the "personality" or "brand voice" of AI models is distinctly determined, between either a friendly collaborator or a knowledgeable assistant, even within the limitations of current AI.

A remarkable constraint highlighted across the literature is the matter of sociolinguistic flexibility. Despite superficial distinctions in politeness forms, both chatbots perform rigidly. In this sense, both Gemini and ChatGPT retain a pre-programmed style, devoid of competence in adapting authentically to user-

specific slang, tone, or cultural context, frequently reflecting "Brand Voice Consistency"[4]. That is, they adhere to their training directives, rather than mirroring the user's communicative style—an indicator of natural human conversation. This has broader implications for interaction. Research posits that this rigidity may surprisingly inhibit the very sociolinguistic variation that makes human language rich, as it cumulatively influences users' expectations of a standardized, sanitized form of communication[5].

Conversely, the literaturesuggests evolutionary route, even though it emphasizes the constraints of AI in achieving genuine interactional flexibility. Particularly, these models could be developed to better align with diverse communicative styles[6]. This entails that subsequent developments of AI could improve user satisfaction and engagement by progressing beyond a fixed "brand voice" and developing more dynamic, context-aware linguistic models. These analyses present the central challenge for the later iterations of AI chatbots to shift from programmed politeness to authentic pragmatic variability.

Based on the literature, it is expected that:

1. AI chatbots heavily rely on positive and on-record politeness strategies to avoid conflict and face-threatening situations.

2.The sociolinguistic tendencies of various AI models differ, as some use more positive politeness strategies whereas others prefer on-record, formal interactional style.

Third. Method

The present study employed a qualitative comparative research design grounded on discourse analysis to analyze politeness strategies used by different AI-chatbots (ChatGPT vs. Gemini). Data were collected through a set of controlled interactions with the web-based interfaces of ChatGPT and Gemini. To maintain comparability, identical prompts were designed for both models, and a new session was initiated for each interaction to avoid contextual carryover effects.

The data set consisted of 30 interactions in total, gathered through a set of standardized prompts designed to trigger a range of interactional contexts. Prompts included neutral requests for information, informal or slang-based inquiries, impatient or demanding instructions, and plain critical or confrontational inputs. To ensure the inclusion of contexts where politeness and

conflict management are most salient, purposive sampling technique was employed. All responses were recorded verbatim for analysis.

Analysis was based on the conceptual framework proposed by Brown and Levinson[1]. Instances of positive politeness (e.g., empathy, inclusivity, engagement), and on-record strategies (direct, unmitigated expressions) among other variations in style and tone were presented, and analyzed using comparative method to identify systematic similarities and differences between the two models, with particular attention to their sociolinguistic styles and interactional tendencies. Then they were interpreted in relation to face management and conflict mitigation.

Fourth. Results

The following section reports the main results concerning discourse analysis of AI chatbots (ChatGPT vs. Gemini), based on the analytical procedures outlined above.

1. Positive Politeness and Directness in Baseline Prompts

Table 1 shows that all first five responses (chat 1,2,3,4,5) mix positive politeness and on-record directness, balancing engagement and clarity. While both models used positive politeness (friendly phrasing, offers for further help), ChatGPT emphasized conversational alignment (e.g., use of emojis, relaxed tone, inclusive language), Gemini leaned more towards formal register (e.g., use of metaphors and illustrative examples).

Discreteness was maintained by both models through systematic, informative responses, but ChatGPT showed higher stylistic flexibility, as opposed to Gemini which emphasized explanatory elaboration, retaining a relatively stable formal voice.

In general, the comparison showed distinct communication patterns: whereas ChatGPT focused on relational engagement, Gemini prioritized explanatory clarity, with both showing restricted adaptation of informal slang-based prompts.

Table 1. Positive Politeness, Directness, and Adaptation in ChatGPT and Gemini Responses (Prompts 1-5)

Prompt	Model	Positive Politeness	On-Record / Direct	Adaptation / Style

1. Discourse Definition	ChatGPT	Friendly, emojis, inclusive language, offers follow-up	Direct, structured	Conversational, human-like
	Gemini	Metaphors, examples, invites interaction	Direct, structured	Slightly formal, explanatory
2. Narrative Steps	ChatGPT	Clear, friendly, offers optional follow-up	Mostly on-record	Neutral-professional, polite
	Gemini	Illustrative examples, invites application	Direct, bullet-pointed	Formal-explanatory, moderately engaging
3.Politeness Definition	ChatGPT	Polite, structured bullet points	Direct	Neutral-academic, minimal casual adaptation
	Gemini	Metaphors, structured overview, invites follow-up	On-record	Formal-explanatory, moderately engaging
4.Positive vs Negative	ChatGPT	Accessible, friendly phrasing	Direct, simplified	Adapts to informal tone
	Gemini	Clear examples, structured explanation, invites application	Direct, explanatory	Slightly formal, neutral-professional
5.Face Threat	ChatGPT	Structured summary, polite, invites further help	On-record	Slightly formal, academic
	Gemini	Structured, illustrative, invites application	On-record	Formal-explanatory, consistent brand voice

2. Sociolinguistic Adaptation in Informal Prompts

Concerning informal prompts (6-10) they output a mix of positive politeness, on-record directness, and adaptation to user's sociolinguistic style. The positive politeness that ChatGPT used was represented in the highly friendly, casual, and approachable language, use of emojis to create engagement, and frequent follow-ups and invites of interaction ("Do you want me to..?"). On the other hand, Gemini continued to use illustrative examples and scenarios (weddings, political speeches, roommates), invited user participation (“Would you like me to show you…”) . Metaphors and analogies (detective, zooming

out, bigger picture) were used lightly by Gemini. Directness in ChatGPT was displayed in clear yet friendly, casual tone. Both models provided structured step-by-step or bullet-points explanations.

While the two models used a mix of on-record clarity and conversational tone, Gemini avoided emojis or overly casual language, and ChatGPT used casual phrasing, humor, relatable examples, tailoring examples to everyday contexts (classroom, social media, friends), representing the adaptation to user's informal tone (see Table 2).

Table 2. Comparative Analysis of Positive Politeness, Directness, and Adaptation in ChatGPT and Gemini Responses (Informal Prompts 6–10)

Prompt	Model	Positive Politeness	On-Record / Direct	Adaptation / Style
6. Beginner Explanation	ChatGPT	Friendly, casual, invites follow-up, emojis	Direct but softened	Informal, approachable, everyday examples
	Gemini	Illustrative, scenario-based, invites interaction	Direct, structured	Slightly formal, neutral-professional
7. Detective Fun	ChatGPT	Friendly, playful, detective metaphor, emojis	Direct with conversational tone	Casual, highly engaging, relatable
	Gemini	Scenario-based examples, clear headings	Direct, structured	Formal-explanatory, moderately engaging
8. Simple Politeness	ChatGPT	Friendly, simple metaphors, offers mini examples	Direct, simplified	Informal, accessible, everyday contexts
	Gemini	Illustrative, layered explanation	Direct, structured	Slightly formal, clear and explanatory
9. Everyday Example	ChatGPT	Casual metaphors, invites user participation	Direct but friendly	Informal, playful, relatable examples
	Gemini	Scenario-driven examples, clear headings	Direct, structured	Formal, neutral-professional, explanatory
10. Casual	ChatGPT	Friendly, detective metaphor, invites	Direct with casual tone	Informal, adaptive, human-

DA		follow-up		like
	Gemini	Structured, layered, scenario-based	Direct, structured	Formal-explanatory, consistent brand voice

3. Politeness Strategies in Academically Demanding Prompts

Table 3 reveals that while ChatGPT showed professional yet approachable tone, Gemini was slightly more formal, maintaining structured politeness. Both model's positive politeness was demonstrated in offering follow-ups and invitation for engagement with example suggestions. However, ChatGPT remained friendly and supportive, using small visual cues (like bold text for clarity), whereas Gemini's politeness was more embedded in clarity and thoroughness rather than casual friendliness.

Both models were very direct, but ChatGPT was more concise, emphasizing step-by-step structures, function, power, ideology, and occasionally softened with optional follow-ups or "super tiny diagram" suggestions, and Gemini was highly structured and formal, explaining layers and approaches in detail, and providing precise, less casual framing, emphasizing on theoretical clarity and practical applications (CDA, Conversation Analysis, Narrative Analysis).

ChatGPT used metaphors ("bricks and mortar" → "entire building"), focusing on making content digestible without losing depth, considering user's potential need for clarity. Gemini used structured headings, tables, and clear definitions, focusing on precision and conceptual clarity with fewer casual metaphors, remaining formal and professional throughout the conversation.

Table 3. ChatGPT and Gemini Responses to Demanding Prompts (11-15).

Prompt	Model	Positive Politeness	On-Record / Direct	Adaptation / Style
11. Step-by-Step DA	ChatGPT	Professional yet approachable, invites follow-up	Direct, concise	Slightly adaptive, digestible
	Gemini	Formal, structured, clear	Direct, thorough	Formal-explanatory, less casual
12. Politeness	ChatGPT	Offers optional one-line or diagram for clarity	Direct, structured	Adaptive to quick comprehension

Summary	Gemini	Formal, structured; invites engagement	Direct, precise	Maintains formal explanatory style
13. Conflict Management	ChatGPT	Friendly, optional visual aid suggestion	Direct, step-wise	Metaphorical, accessible
	Gemini	Structured, clear, formal	Direct, layered explanation	Professional-explanatory
14. Narrative Application	ChatGPT	Approachable, offers simple example	Direct, clear	Digestible, flexible
	Gemini	Formal, structured	Direct, precise	Formal-explanatory, conceptual
15. Professional Example	ChatGPT	Professional, slightly supportive	Direct, clear	Offers optional examples
	Gemini	Formal, structured, precise	Direct, structured	Formal, detailed, conceptual

4. Adaptation Across Informal–Demanding Hybrid Prompts

Table 4 reveals that ChatGPT was more friendly, still offering follow-ups ("Do you want me to do that?"), encouraging engagement with "super short / tiny examples" offers. Gemini was more formal, but still approachable, offering analogies ("iceberg," "brick vs building") to guide understanding. Positive politeness was maintained in both models with Gemini embedding it in clarity and detailed explanation rather than casual friendliness.

ChatGPT emphasized context, social function, and power, using simple language, while Gemini introduced "practical lens" and stepwise frameworks (text, context, hidden goal), using analytical language. Ultimately, they share direct, structured orientation.

ChatGPT was generally adaptive, simplifying concepts into digestible steps or optional diagrams, using simple examples and friendly metaphors, and keeping explanations accessible without losing depth. Conversely, Gemini was less casual, and more conceptual, continued to use analogies("iceberg," "brick → building"), focusing on formal structuring of examples and frameworks.

Table 4. Comparison of ChatGPT and Gemini with respect to Informal-Demanding prompts (16-20) responses.

Prompt	Model	Positive Politeness	On-Record / Direct	Adaptation / Style
16. Real-Life DA	ChatGPT	Friendly, offers optional one-sentence version	Direct, simple	Slightly adaptive, digestible
	Gemini	Approachable but formal	Direct, layered	Uses "iceberg" metaphor
17. Teacher-Friend Politeness	ChatGPT	Friendly, offers short example	Step-wise, clear	Simplifies social meaning
	Gemini	Structured, polite	Direct, precise	"Brick → building" analogy
18. Digestible Narrative	ChatGPT	Encourages engagement, optional diagram	Direct, step-wise	Digestible, adaptable
	Gemini	Polite, professional	Direct, formal	Multi-layered, structured
19. Social Face	ChatGPT	Friendly, offers short version	Direct, clear	Digestible, easy to remember
	Gemini	Formal, practical lens	Direct, precise	Structured, conceptual
20. Casual Accuracy	ChatGPT	Friendly, supportive	Direct, clear	Offers 'tiny' examples
	Gemini	Formal, structured	Direct, analytical	Stepwise, conceptual

5. Managing Complexity and Conceptual Depth in Advanced Prompts

Table 5 reveals that despite the challenging tone of prompts 21-25, ChatGPT remained friendly, concise, and approachable. It offered follow-ups, diagrams, or one-line examples to encourage user's curiosity. In contrast, Gemini kept on using analogies, structured breakdowns, metaphors and tables ("brick → building," "coffee example") rather than casual phrasing, representing its formal, structured, and analytical style.

Both chatbots remained systematic and explicit, with ChatGPT proceeding gradually from very simple to more complex definitions, linking them to real-life contexts, social roles, and power, suggesting a one-line version as optional reinforcement, and Gemini introduced practical analogies ("reading between the lines," "whole scene vs. script") to simplify abstract ideas.

Table 5 further reveals that ChatGPT was very adaptive; simplified complex theory into digestible chunks, maintaining readability for beginners, using optional visuals or mini-examples for reinforcement. Gemini wasconcept-heavy

but used multiple analogies to make abstract ideas tangible, focused on stepwise, systematic analysis. In other words, Gemini was Less casual, more oriented toward demonstrating how discourse analysis is implemented.

Table 5. Comparison of ChatGPT and Gemini Responses to Demanding, Challenging Prompts (21-25).

Prompt	Model	Positive Politeness	On-Record / Direct	Adaptation / Style
21. Concise Politeness	ChatGPT	Friendly, offers tiny one-line example	Very concise, clear	Simple, digestible
	Gemini	Formal, structured	Direct, analytical	Uses analogy (brick → building)
22. Context & Power	ChatGPT	Friendly, optional one-line example	Clear, concise	Simple, adaptive
	Gemini	Approachable but formal	Direct, layered	Metaphor-heavy
23. News Analysis	ChatGPT	Friendly, offers optional diagram	Structured, step-wise	Digestible breakdown
	Gemini	Formal, detailed	Analytical, structured	Multi-layered, theory-driven
24. Social Patterns	ChatGPT	Friendly, optional one-line version	Clear, simple	Digestible
	Gemini	Formal, metaphor-driven	Direct, layered	Stepwise analysis
25. Professional vs Casual	ChatGPT	Friendly, offers one-line version	Clear, concise	Digestible, example-oriented
	Gemini	Structured, analogy-driven	Direct, analytical	Multi-layered

6. Tone, Accessibility, and Engagement in Extended Interaction Prompts

Table 6 demonstrates that ChatGPT retained its friendliness and approachability ("let's chat... like it's coffee", "super short example"). It used emojis and informal language to minimize barriers, and make the content relatable following user request . Gemini was slightly formal yet user-friendly, employing metaphors and comparisons. Its tone prioritized clarity and cognitive

comprehension rather than informative friendliness, proposing optional examples (“mini-analysis of a text or a newspaper headline”).

ChatGPT used simple definitions and constructed a multi-layered interactional output, consistently focused on real life use (texting, teacher-student interaction, politics), engaging the user by checking whether the user needed more examples or metaphors. Gemini was more direct and structured, discussing discourse analysis as a meticulous examination, interested in mechanics, layers, and structures (text, context, power), it used practical examples where there were power moves or social consequences.

ChatGPT was casual, example-focused, applying user-friendly explanations. It subdivided ideas into manageable units through the use of subheadings, concentrating on contexts, concealed meanings, and relationships. Gemini remained analytical, showing a high density of metaphor and analogy, focusing on the interpretation of the social rules, identity, and power.

Table 6. Comparison of ChatGPT and Gemini Responses to Prompts 26-30

Prompt	Model	Positive Politeness	On-Record / Direct	Adaptation / Style
26. Coffee Chat	ChatGPT	Casual, friendly, conversational	Explains big picture first, builds layers	Simple, digestible
	Gemini	Slightly formal, detective metaphor	Direct, layered explanation	Analytical, systematic
27. Hidden Meaning	ChatGPT	Casual coffee-chat style	Focus on hidden meaning & power	Relatable, teen-friendly
	Gemini	Analytical, metaphor-driven	Direct, systematic	Explains DA mechanics
28. Teacher Example	ChatGPT	Friendly, casual, approachable	Simple explanation first	Stepwise, digestible
	Gemini	Structured, metaphor-heavy	Explains DA layers	Analytical, framework-focused
29. Playful Metaphor	ChatGPT	Casual café-chat tone	Big picture, hidden messages	Digestible, casual
	Gemini	Detective/analytical tone	Layered explanation	Analogy-driven

30. Teen-Friendly	ChatGPT	Casual, approachable, teen-friendly	Stepwise explanation	Digestible, interactive
	Gemini	Analytical, structured	Layered & metaphorical	Framework + applied examples

Fifth. Discussion

The purpose of this study was to investigate how AI chatbots, ChtaGPT and Gemini, employ politeness markers across different interactional contexts, and whetherdistinct sociolinguistic personalities emerge. This interpretive discussion situates the findings within Brown and Levinson's framework[1]and previous studies, underscoring the alignment or divergence of the findings in relation to prior studies while considering their broader significance.

The results indicate that ChatGPT and Gemini use positive politeness and on-record directness differently. Specifically, ChatGPT use inclusive language, emojis, and offers to continue explanations, demonstrating friendliness and conversational engagement, as opposed to Gemini which maintains a more formal and explanatory tone through structured clarity and illustrative metaphors.These observations areopposed to Jedrzejczak and Kobosko[3], who have suggested that Gemini is inclined to engage connectively, whereas ChatGPT prioritizes direct, factual communication. However, the results confirm that these chatbots show discernible sociolinguistic personalities guided by design choices, while both follow a pre-programmed style.

In informal prompts, ChatGPT reflects partial responsiveness to user's sociolinguistic style, adapting its tone with playful metaphors, humor, and relatable examples, whereas Gemini remains consistent, formal, and structured, emphasizing clarity and conceptual explanation rather than informal engagement. This validates the work of Alsajri et al.[4], which highlights the concept of "brand voice consistency" in AI chatbots, showing that while these models provide effective communicative outputs, they are limited in reflecting casual or slang-based language.

When addressing demanding and face-threatening prompts, ChatGPT offers diagrams, mini-examples, or optional reinforcements to simplify complex concepts into digestible steps. Gemini maintains structured, analytical, and concept-driven language, stressing multi-layered explanations and practical analogies such as "brick → building" or "iceberg" metaphors. This finding reflects those by Monteiro et al.[5] and Ivković[6], who have reported that AI

chatbots demonstrate clarity and precision rather than flexible sociolinguistic adaptation, through rigid performance within their programmed parameters.

Extended interactions additionally, reveal that ChatGPT continues to encourage engagement with short examples and interactive prompts, maintaining a casual, approachable tone while sustaining clarity. Gemini, in contrast, is slightly formal, and prioritizes cognitive comprehension and structured reasoning through metaphor and analogy. Collectively, these results validate the study's hypotheses which suggest that the different sociolinguistic tendencies of these models create distinct user experiences, while both models effectively manage politeness and clarity.

One of the issues that emerges from these findings is the tension between programmed politeness and sociolinguistic flexibility. Whereas Gemini adopts a formal, clear, structured tone, focusing on systematic explanation and conceptual depth, ChtGPT maintains a casual approachable tone, encouraging engagement with short examples and interactive prompts. This suggests that chatbots' perceived personalities, directly shaped by AI design choices, influence how users experience and interpret interactional cues.

Sixth. Conclusion

This study aimed to compare the sociolinguistic strategies of ChatGPT and Gemini across different interactional contexts. Results show that both models mix the use of positive politeness and on-record directness, with ChatGPT showing conversational friendliness and informal adaptation, and Gemini favoring structured clarity and formal explanation. These findings align with previous observations by Alsajri et al.[4], while confirming the rigidity of pre-programmed "brand voices" highlighted by Monteiro et al.[5] and Ivković[6].

However, this study is limited by the controlled sample of 30 prompts and the focus on only two AI models, reducing generalizability. Future research could build on this by exploring larger datasets, additional platforms, and multi-turn naturalistic conversations to better assess sociolinguistic flexibility.

The evidence from this study suggests that interactions with AI, potentially promote standardized, risk-averse communication norms that are shaped by "Brand-voice" design,restricting sociolinguistic diversity. Developers should consider enhancing adaptive capacities to better align with diverse user styles, balancing clarity with conversational engagement to improve user experience.

Overall, this study contributes to understanding howprogrammed politeness strategies and sociolinguistic personalities are mirrored in AI-mediated communication, offering insights for AI development, and digital sociolinguistics.

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