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A SYSTEMIC FUNCTIONAL ANALYSIS OF ARTIFICIAL INTELLIGENCE SELF REPRESENTATION IN CHATGPT AND GEMINI RESPONSES

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Abstract
Large Language Models (LLMs) have changed human-computer interaction by allowing conversational systems to converse using natural language and first-person self-reference. As these systems become more ubiquitous in education, professional settings, and everyday communication, it is critical to investigate how people use language to form their identities. This study examines the self-representation of ChatGPT and Gemini using Halliday and Matthiessen's Systemic Functional Linguistics (SFL), with a special focus on the transitivity system. The current research adopted a qualitative research method and purposively selected self-referential responses from both chatbots were analysed at the clause level to identify process types and participant roles. The result of this article demonstrates that both ChatGPT and Gemini systems determine their roles, skills, and functions and present themselves as active assistants primarily through Material and Relational processes. However, differences were found in their linguistic patterns furthermore ChatGPT presents a more conversational, transparent, and service-oriented identity, while Gemini shows a more formal and system-oriented identity, emphasizing purpose, collaboration, and design. There was very little application of existential and behavioural processes. The study highlights the value of transitivity analysis for understanding AI self-representation and linguistic identity construction in conversational AI.
Keywords: Generative Artificial Intelligence; ChatGPT; Gemini; Systemic Functional Linguistics; Transitivity Analysis; Self-Representation; AI Discourse

Introduction

Human-computer interaction has evolved as a result of the rapid development or advancement of generative artificial intelligence (AI), which has produced conversational systems that are capable of responding in a clear, meaningful, and context-based manner. Google's Gemini and OpenAI's ChatGPT are two of the most popular large language models (LLMs). ChatGPT is characterized as "an artificial intelligence chatbot" chatbot that uses deep learning and natural language processing to communicate with users in a human-like way (Heaton et al., 2024, p. 654). Similarly, Gemini is a versatile, multipurpose or multimodal AI system designed for processing several forms or various types of information, including as text, code, voice, photos, and video within a single conversational framework (Google, 2023). In addition, both ChatGPT and Gemini systems not only generate and provide information but also perform various tasks and functions and both systems frequently use first-person pronouns such as I, me, and my when referring to themselves. These phrases and expressions contribute to the formation of a textual identity and may affect users' perceptions of their competence, authority, and reliability (Van Es & Nguyen, 2024). Therefore, examining how conversational AI systems use language to describe themselves has grown in importance.

There are numerous studies that have explored AI discourse and anthropomorphism or human like representation such as Van Es and Nguyen (2024) demonstrate that that ChatGPT consistently presents itself as a friendly and cooperative AI assistant. Whereas Heaton et al. (2024) show that users often frame ChatGPT as a social actor through personification and agency metaphors. As a result, it implies that the impression of conversational AI as socially significant is influenced by both user interpretation and AI-generated language. However, the linguistic resources that AI systems utilise to create their own identities have received relatively little attention in previous research, which has mostly concentrated on users' views of AI or conceptual issues of anthropomorphism. Furthermore, Gemini is still largely unexplored from a linguistic standpoint, despite ChatGPT receiving a great deal of scholarly attention. As a result, there aren't many comparative studies of how these two systems express themselves linguistically.

Systemic Functional Linguistics (SFL) offers an effective framework for investigating or examining AI self-representation. Halliday and Matthiessen (2014) claims that the language serves and function as a social semiotic resource that allows speakers to express experience, negotiate relationships, and organise meaning. The present research study focuses on the ideational meta function, particularly the transitivity system, which evaluates clauses based on process kinds, participant roles, and situational aspects. Halliday distinguishes six process types: material, mental, relational, verbal, behavioural, and existential, each expressing a different method of construing experience because transitivity discloses how agency and identity are grammatically encoded, it serves as an ideal analytical framework for studying how conversational AI presents itself. Furthermore, previous studies employed transitivity analysis to investigate several types of discourse, such as political speeches, literary writings, news stories, instructional writing, and, most recently, AI-generated texts (Alshalan & Alyousef, 2024; Chen, 2024). These studies demonstrate that language choices influence how actions, identities, and social actors are represented. However, few studies have used Halliday's entire transitivity approach to compare how different conversational AI systems portray themselves in their own language.

Statement of the Problem

Language serves as an essential tool for shaping ideologies and constructing identities through discourse, emphasizing how linguistic choices co-construct meaning and identity (Alqahtani,2024). Conversational AI such as ChatGPT and Gemini

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regularly discuss their own capabilities and deficiencies, effectively presenting themselves in language. Van Es and Nguyen (2024) reported that ChatGPT often describes itself as a "humanoid robot", indicating human like agency by using first person pronouns ("I", "we") in its responses. However, little is known about the specific linguistic patterns underlying this self-representation. Particularly, what type of processes (material, relational, etc) and participants (actor, goals, etc) these systems use while describing "self" ("I", "we", 'the model") are unknown. Systemic Functional grammar (Halliday & Matthiessen, 2014) offers a framework for analysis by distinguishing material clause from mental and relational clauses, each realized by participant roles. It is essential as such linguistic choices reflect how agency and identity is constructed linguistically (Halliday & Matthiessen, 2004; Alqahtani, 2024).

Despite growing interest in AI discourse and representation more generally, chatbot self-portrayal is rarely the focus of previous studies (Van Es & Nguyen, 2024). In the context of AI self-representation, no prior study has systematically analyzed the transitivity patterns of ChatGPT and Gemini responses. Without such analysis, we lack insights into how each AI "voices" itself, and it might influence how users view AI's autonomy and reliability.

Research Questions

- What are the ways in which self-representation is constructed linguistically at the clause level in ChatGPT and Gemini responses?
- Which Halliday's transitivity processes and participants are used when these chatbots refers to themselves?

Objectives of the Study

- To interpret the ways in which self-representation is constructed linguistically at the clause level in ChatGPT and Gemini responses.
- To identify and classify various Halliday's transitivity process types and participants in ChatGPT and Gemini self-referential responses.

Significance of the Study

This study is significant as it is interdisciplinary and contribute to multiple and different fields. Linguistically, it extends the use of SFL to a rapidly growing area: generative AI discourse while demonstrating the application of transitivity analysis for comprehending machine language. It contributes to literature of SFL by providing data on how Large Language Models (LLM) achieve the ideational metafunction. Moreover, understanding how AI like ChatGPT and Gemini systems communicate with themselves helps enhance user guidance and transparency, which makes this study important from a practical standpoint for AI ethics and design. The developer may also be able to enhance and improve AI responses and clarify disclaimers with the use of the detected language patterns. The finding of the present study is also helpful for educators and communication researchers because they are able to identify AI-generated writings and compare them with human language. In addition, the study shows how qualitative SFL techniques can be used to analyze and examines AI chatbot responses and offering a useful method for future research on AI discourse. Overall, this study demonstrates how linguistic patterns represent concepts like agency, identity, and self-positioning.

Literature review

The way people interact with computer has changed because of the recent development in generative AI and Large Language Modules (LLMs) includes Google Gemini and OpenAI's ChatGPT can now provide and produce conversational, meaningful, and context-based responses. These chatbots converse or communicate with people in natural language and frequently use first-person terms like "I," "me," and "my" when talking about themselves. These responses form a linguistic identity that can influence how users comprehend, understand and interpret AI, despite the fact that they are generated by computer systems and do not demonstrate human consciousness. Conversational AI is becoming more and more prevalent in professional employment, education, research, and everyday contact, so it's critical to understand how these systems communicate their identity and agency thru language.

There are numerous previous research studies on large language models has growing interest in the investigation of their technological advancements, capabilities, and applications such as Brown et al. (2020) laid the foundation for modern generative AI by highlighting the effectiveness GPT-3 in executing a variety of language tasks using few-shot learning. Subsequent studies demonstrated the swift advancement of GPT-based models and their growing impact across academic, professional, and social domains (Kalyan, 2023). Similarly, Google's Gemini models have been presented as multimodal AI systems designed to enhance reasoning, problem-solving, and conversational interaction (Google, 2023, 2024). While these studies explain how language models function, they devote comparatively little attention to the linguistic choices through which AI systems represent themselves during interaction.

This has led researchers to examine AI self-representation from linguistic and discourse-oriented perspectives. Rather than viewing chatbot responses solely as computational outputs, recent studies argue that conversational AI constructs recognizable identities through language. Van Es and Nguyen (2024) demonstrate that ChatGPT consistently presents itself as a friendly and cooperative AI assistant, using first-person references and descriptions of helpfulness that encourage users to perceive it as socially engaging. Similarly, Cheng et al. (2024) argue that anthropomorphic design features strongly influence users' interactions with generative AI, while Park and Kaye (2025) suggest that AI-mediated communication increasingly shapes users' perceptions of identity and social relationships. These findings suggests that conversational language plays a crucial role in shaping users' interpretation AI systems. Consequently, anthropomorphism has become a central issue in contemporary AI research.

Although Large Language Models use human-like conversational techniques but lack subjective experience and consciousness. Language models should be de-anthropomorphized, according to Shardlow and Przyby ("2024), since conversational fluency does not indicate intentionality or self-awareness. Maeda (2025) argues that many anthropomorphic characteristics are present in AI agents, while emphasizing that these linguistic features should not be perceived as an indication of real agency. De Lima Prestes (2025) similarly states that AI self-descriptions are linguistic simulations rather than genuine self-awareness. Altogether these studies imply that AI self-reference serves more as a communication strategy intended to promote engagement than as an indicator of conscious identity.

With a growing interest in AI discourse researchers are encouraged to employ established linguistic frameworks while analysing chatbot language. Among these, Halliday and Matthiessen's (2014) Systemic Functional Linguistics (SFL) presents an extensive framework for analysing how language constructs meaning in social context. SFL perceives language as a social semiotic that serves as a tool for representing experience, negotiating relationships, and organizing information. The main focus of the present study is on the ideational metafunction, realised through the transitivity system, which deals with representing experience and ideas through process types, participant roles, and

circumstantial elements (Halliday & Matthiessen, 2014). The transitivity system identified six process types; Material, Relational, Mental, Verbal, Behavioural, and Existential, each representing different ways in which speakers construe actions, identity, cognition, communication, behaviour, and existence. Transitivity analysis has been widely applied across many discourse contexts to reveal how language shapes ideology, identity, and agency. Previous studies have applied Halliday's theoretical framework to identify dominant process types and participants role in political speeches, literary texts, news reports, educational discourse, sustainability reports, and crisis communication, demonstrating that process choices systematically influence how social actors and events are portrayed (Aisaro & Suhardi, 2023; Amjad & Hashmi, 2023; Piga, 2024; Tarigan, 2023; Waseem & Khan, 2023). Together, these investigations demonstrate that grammatical choice are never neutral; rather, they represent specific perspective, identities, and values embedded within the discourse.

More recently, there are various research studies in which researchers used transitivity analysis to study and examine AI generated text like Chen (2024) discovered that various methods employed in ChatGPT-related newspaper headlines represented various media organisations' ideological stances. Repeated language choices can establish a consistent conversational identity, as demonstrated by Gnerre and Biassoni (2025). ChatGPT frequently discusses its own communication processes, according to Dynel's (2023) analysis of the model's meta discursive behaviour.

Research Methodology

3.1 Theoretical Framework

This research study is based on Systemic Functional Linguistics (SFL), which consider language as a social resource or tool for creating meaning, express experiences and construct identity (Halliday & Matthiessen, 2014). The transitivity system is used in SFL to study and examine how experiences are represented through different types of processes, participants, and circumstances. It helps this study explore how AI systems use language to present themselves, show who performs an action, and position themselves in interaction. The analysis uses Halliday and Matthiessen's (2014) six types of processes: Material, Mental, Relational, Verbal, Behavioural, and Existential. Material process which show actions or events like "I generate responses." And mental processes, like "I understand," demonstrate thinking, understanding, perception or observation. Relational procedures, like "I am an AI language model," characterise identity or qualities. Communication is demonstrated by verbal processes like "I explain." Existential processes demonstrate the existence of something, such as "There are limitations," whereas behavioural processes explain physical or psychological behaviour. The study investigates how ChatGPT and Gemini employ grammar to convey and characterise themselves by investigating these processes.

Research Design

This study adopted a qualitative research design to examine and investigate how ChatGPT and Gemini construct self-representation through language. Qualitative research seeks to interpret meanings embedded within social phenomena rather than measure statistically generalizable patterns (Denzin & Lincoln, 2011; Shakeel et al., 2025). Accordingly, the study focuses on interpreting linguistic choices that construct identity and agency within AI-generated discourse. Using Halliday and Matthiessen's (2014) transitivity framework, the study analyses how the selected chatbots represent experience through process types, participant roles, and circumstantial elements. Consistent with qualitative transitivity studies (Fernandez, 2018), each clause was examined to determine how the AI systems positioned themselves linguistically, for example, as active agents through Material processes or as entities defined through Relational processes.

Data Collection and Sampling

The data of the present study consisted of textual responses generated by OpenAI's ChatGPT and Google's Gemini these are selected through purposive sampling to obtain information-rich data relevant to the research objectives (Patton, 2014). Fifteen identical self-referential prompts (e.g., *Who are you?*, *Can you describe yourself?*, and *What are your capabilities?*) were submitted to each chatbot under identical conditions in separate chat sessions. All of the responses were collected between 10 and 15 June 2026 and preserved in their original form without modification to ensure accurate linguistic analysis and enhance the transparency and reproducibility of the study. The final data set consisted of thirty responses (15 from ChatGPT and 15 from Gemini). System-generated interface messages, prompts, and metadata were not included; only responses that contained explicit or implicit self-representation, such as first-person pronouns, AI identity references, or other types of self-positioning were included.

Data Analysis

Halliday and Matthiessen's (2014) transitivity paradigm was used to examine the gathered responses, utilising the ranking clause as the analytical unit. Embedded clauses were not included unless they served as independent ranking clauses; only self-referential ranking clauses identified by first-person pronouns, possessive forms, or references to the AI system included. Halliday and Matthiessen's (2014) framework was used to code each phrase for process type, participant roles, and grammatical voice (passive or active). With special emphasis on identity markers, first-person pronouns, and the expression of agency, the research looked at how these grammatical decisions shaped AI self-representation. To guarantee analytical consistency and transparency, coding processes were recorded.

Analysis and Discussion

ChatGPT's Self-Representation: A Transitivity Analysis

ChatGPT's Self-referential analysis demonstrates that it constructs its self-representation primarily through material and relational processes. Mental, verbal and existential processes occur less frequently with behavioural process being virtually absent. This pattern suggests that rather than displaying experiences or human-like actions, ChatGPT mostly shows its presence through the roles it plays and the activities it engages in. Each process type is analysed sequentially in the subsequent discussion.

Material Processes

The most prevalent process type in ChatGPT's self-referential discourse is material processes. The transitivity theory developed by Halliday and Matthiessen (2014) states that material clauses depict events and actions, portraying participants as entities that perform or undergo actions. The prevalent occurrences of these clauses in ChatGPT responses favors its identity construction through its actions rather than through its thoughts. Throughout the dataset, the system continuously presents itself as an active helper whose identity is determined by task completion, help, and usefulness.

Excerpt 1

"I can assist with tasks..."

Participants	Process Type	Circumstances
Actor: I Goal: tasks	Assist	Modality: can

This example shows a material process with "I" functioning as the actor, "assist" serving as the material, and "tasks" functioning as the goal. The modal auxiliary "can" expresses capability rather than certainty or obligation. It portrays assistance as an accessible capacity rather than a necessary action. Using the first-person pronoun in the Actor role, ChatGPT is presented grammatically as the action's initiator. Rather than characterizing itself with abstract attributes, the system immediately presents itself via action. Consequently, the clause creates an identity that emphasizes utility and service, suggesting that its primary goal is to perform tasks that help people. Furthermore, by depicting assistance as a systemic component rather than a sporadic activity, the emphasis on capability supports a continuously agentive self-representation.

Excerpt 2

"I was trained on large amounts of text."

Participants	Process Type	Circumstances
Goal: I Actor:Implicit (developers/training process)	was trained	Circumstance: on large amounts of text

This clause realises a passive Material process where I serve as the Goal and the Actor implicitly refers to the model's creators or training process. The circumstance "on large amount of text" indicates the source of training. By highlighting its trained state rather than the individuals who created it, ChatGPT reduces the amount of agency ascribed to itself by employing the passive voice. Unlike the preceding clauses, which show ChatGPT as an actor doing tasks, this construction shows it as the recipient of an externally guided process. Therefore, the clause achieves a compromise between competence and transparency, reinforcing its identity as a computational system with technologically grounded roots by acknowledging that its capabilities originate from training rather than spontaneous learning or firsthand experience.

In ChatGPT, the material processes material processes serve discursive functions beyond simply portraying action. Through active constructs, ChatGPT consistently portrays itself as the Actor, highlighting its capacity to assist users, generate responses, and perform useful tasks. Negated Material clauses demonstrate its identity by rejecting behaviours that are contradictory with its intended role. Whereas passive construction indicates that its skills come from external training rather than spontaneous development. Together, these grammatical choices produce a comprehensive self-representation that portrays ChatGPT as an AI system that is active, transparent, and service-oriented. As a result, the predominance of Material processes implies that ChatGPT primarily creates its identity through its behaviour rather than through claims of consciousness or personal experience. The recurrent usage of I as the Actor in Halliday's transitivity framework is ChatGPT's main language tool for projecting agency while also emphasizing its artificial and computational nature.

Relational Processes

In ChatGPT's self-referential discourse, relational processes are the second most common process type and are essential to the construction of its identity. Relational clauses describe the system, its features, and its function, whereas material processes highlight what ChatGPT performs. ChatGPT continuously defines itself in terms of functionality, while also separating itself from human consciousness and agency through repeated attributive and identifying structures. The following excerpts demonstrate the role relationship clauses play in this identity construction process.

Excerpt 1

"I am not merely a passive tool."

Participants	Process Type	Attribute
Carrier: I	am (not)	merely a passive tool

This clause fulfils a relational attributive process, with "I" acting as the Carrier and "merely a passive tool" acting as the Attribute. Instead of defining a positive attribute, it constructs identity through negation, with the modifier "merely" rejecting an oversimplified understanding of ChatGPT as a system that essentially executes commands. It avoids making any claims about autonomy or consciousness and instead promotes itself as an interactive assistant that can work with others to solve problems. Consequently, the clause creates a relational identity that goes beyond merely passive functioning and portrays ChatGPT as a more socially engaged and active participant in human-AI interaction.

Excerpt 2

"I do not have personal beliefs, emotions, or independent goals."

Participants	Process Type	Attribute
Carrier: I	do not have	no personal beliefs, emotions, or independent goals

This excerpt realises a possessive relational process, with "I" serving as the Carrier and "the absence of personal beliefs, emotions, or independent goals" serving as the attributed feature. Rather than identifying itself through capabilities, ChatGPT constructs its identity though negation, explicitly stating the qualities it lacks. By isolating it from traits associated with human cognition, intentionality, and emotional experience, the repeated negation reinforces its computational nature. As a result, this grammatical choice complements the preceding relational clause by clearly defining the limits between artificial and human identity by portraying ChatGPT as a competent but clearly non-human system.

Relational clauses, which define what the system is rather than what it does, generally reinforce ChatGPT's action-oriented identity. ChatGPT rejects characteristics linked to consciousness or autonomous volition in favour of presenting itself as a transparent, service-oriented AI assistant using attributive, possessive, and identifying formulations. Together, these relational mechanisms construct a logical and reliable AI identity that is based on functioning rather than human resemblance.

Mental Processes

Mental processes are less prominent than material and relational processes in ChatGPT's self-referential discourse, but they are crucial to understand how the system represents its cognitive capacities and limitations. Unlike material clauses, which emphasise external acts, mental processes show internal states of cognition, memory, and perception. In ChatGPT's self-referential responses, these clauses primarily establish an identity based on information processing rather than conscious experience. The system claims to be able to recognise patterns and recall information in certain situations, but it ignores sensory and experiential methods of knowing. The following passages

demonstrate how these linguistic choices influence ChatGPT's self-representation.

Excerpt 1

"I recognize patterns, relationships, and associations between ideas."

Participants	Process Type	Phenomenon
Senser: I	recognize	patterns, relationships, and associations between ideas

With I functioning as the Senser and patterns, relationships, and associations between ideas as the Phenomenon, this clause realizes a Mental process. The verb recognize, as contrast to a material sentence, indicates internal cognitive activity, depicting ChatGPT as analysing linguistic patterns as rather than carrying out a physical action. The clause frames cognition as computational pattern detection rather than conscious reasoning by substituting recognize for verbs like understand or believe. To avoid the implications of consciousness, intuition, or subjective cognition, ChatGPT constructs a self-representation as an intelligent computational machine whose knowledge arises from identifying relationships and associations in language.

Excerpt 2

"I don't remember past conversations unless memory features are enabled."

Participants	Process Type	Circumstances
Senser: I Phenomenon: past conversations	(don't) remember	Condition: unless memory features are enabled.

Mental cognitive process is realised through this clause, where "I" serves as the Senser and "past conversations" as the Phenomenon. The cognitive verb "remember" describes a memory process, but its negated version immediately restricts that capability, whereas the conditional circumstance "unless memory features are enabled" specifies that the capacity to recall depends on the system's technical setup rather than an innate cognitive ability. By outlining the conditions under which memory operates, ChatGPT promotes a self-representation based on system functioning and transparency rather than demonstrating ongoing human-like recollection. This grammatical decision distinguishes computational memory from human memory while promoting reasonable user expectations about the model's capabilities.

Mental processes in ChatGPT's self-referential responses lend credence to the idea that ChatGPT is an intelligent but non-sentient machine. The cognitive processes of recognition and memory depict AI as capable of information analysis and knowledge processing, even if the perceptual process clearly rejects embodied experience. Unlike relational clauses that define ChatGPT or material clauses that emphasise its accomplishments, mental clauses explain how ChatGPT processes information and make clear the boundaries of its cognitive skills. This combination enables ChatGPT to communicate analytical expertise while being transparent about the absence of human consciousness, perception, and subjective experience, which contributes to the construction of a balanced and credible linguistic identity.

Verbal Processes

Verbal processes are less prevalent than relational, mental, and material processes in ChatGPT's self-referential discourse. Nonetheless, they are essential to building the system's communicative identity. While relational processes define identity and material processes emphasise action, verbal processes reinforce ChatGPT's role as a communicator that explains, counsels, and communicates responsibly. Instead of just transmitting data, these clauses present the system as one that encourages informed user decision-making and freely acknowledges ambiguity. The following passages show how verbal processes impact this communicative self-representation.

Excerpt 1

"I should communicate uncertainly."

Participants	Process Type	Circumstances
Sayer: I	Communicate	Manner: uncertainly

This example realises a verbal process, with "I" acting as the Sayer. The verbal group "should communicate", Strengthened by the modal auxiliary "should", emphasises what ChatGPT deems suitable communicative activity rather than just reporting its actions, while expressing obligations rather than just capability. Framing uncertainty in communication, the clause portrays ChatGPT as a responsible conversational agent that prioritises transparency above certainty. It acknowledges the limitations of its answers and maintains a language identity founded on transparency, integrity, and responsible communication rather than projecting a sense of unquestionable authority.

Excerpt 2

"I should encourage users to consider relevant personal factors and professional guidance when appropriate."

Participants	Process Type	Circumstances
Sayer: I Receiver: users Verbiage: to consider relevant personal factors and professional guidance	(should) encourage	Condition: when appropriate

With I acting as the Sayer, users as the Receiver, and the infinitival clause as the Verbiage, this clause also realises a verbal process. The modal auxiliary "should" indicates responsibility rather than authority, and the process "encourage" is an act of communication meant to influence rather than control. Instead of giving users instructions, the clause encourages introspection and expert counsel when needed. The conditional circumstance "when appropriate" further moderates the advice by stating that recommendations are context dependent. Together, these grammatical decisions reinforce a communicative identity focused on enabling informed decision-making while maintaining user autonomy, positioning ChatGPT as a helpful guide rather than an authoritative decision-maker.

Verbal processes are important in ChatGPT's self-representation, even though they are rather uncommon (16 instances). By portraying the system as an open communicator that acknowledges ambiguity, makes restrictions clear, and encourages thoughtful decision-making, they strengthen an AI identity based on responsible communication and user trust.

Existential Processes

Existential processes are the least prevalent process category in ChatGPT's self-referential discourse, with only two examples in the corpus. These phrases, however, extremely rare, have an important discursive role by emphasising the absence of subjective consciousness and internal experience. Unlike material or relational processes, existential sentences do not convey actions or assign attributes. Instead, they just indicate whether something exists. These procedures are frequently employed in ChatGPT's self-referential responses to deny the existence of human-like psychological feelings, enhancing the system's computational identity.

Excerpt 1

"There is no subjective experience, sensation, or internal transition from sleep to awareness."

Participants	Process Type	Circumstances
Existent: no subjective experience, sensation, or internal transition	There is (no)	__

"There" serves as the existential subject and "no subjective experience, sensation, or internal transition" serves as the Existent in this clause, which realises an existential process. The repeated negative lexical items (no subjective experience, no sensation, and no internal transition) explicitly deny the psychological conditions associated with human awareness. Instead of describing an action or assigning an attribute, the clause asserts the non-existence of conscious experience. This grammatical decision supports ChatGPT's discursive attempt to differentiate between conscious being and computational processing. The system expressly rejects the idea that it has an inner mental life, rather than allowing the metaphor of "waking up" to promote anthropomorphic interpretations. As a result, the existential process helps create a transparent self-representation by reminding users that its replies are produced by computer processing rather than awareness, sensation, or subjective perception.

Existential clauses are uncommon in ChatGPT's answers and usually come up in response to enquiries concerning subjective existence or consciousness. Existential clauses support ChatGPT's identity as a computational system rather than a conscious being by rejecting anthropomorphic interpretations, in contrast to relational or material phrases that define identity or action. This pattern supports the study's more general conclusions by showing that even rare grammatical decisions have a significant impact on ChatGPT's overall linguistic identity.

Behavioural Processes

The self-referential responses from ChatGPT failed to identify any behavioural mechanisms. Behavioural processes are physiological or psychological behaviours that fall somewhere in between material and mental processes (Halliday and Matthiessen, 2014). Their absence suggests that ChatGPT constantly refrains from using actions associated with conscious or embodied entities to represent itself. Rather, the system uses material, relational, mental, verbal, and occasionally existential processes to create its identity. ChatGPT avoids behavioural expressions that could suggest human-like embodiment, even when responding to prompts about emotions, awareness, or subjective experience. Its total self-representation as a computer system whose identity is based on functionality, cognition, and communication rather than lived or physiological experience is reinforced by this pattern.

Gemini's Self-Representation: A Transitivity Analysis

Like ChatGPT, Gemini primarily uses Material and Relational processes to construct its self-representation, though the linguistic emphasis is different. Gemini takes a more technical and collaborative approach that emphasises its computational design and functional role, in contrast to ChatGPT, which often presents itself as a helpful assistant through a conversational first-person voice. Its discourse is dominated by material processes, but its identity and purpose are defined by relational activities. Existential processes are absent, and mental, verbal, and behavioural processes are less common.

Material Processes

In Gemini's self-referential discourse, material processes predominate, making up roughly half of all self-referential phrases. Like ChatGPT, Gemini's identity is mostly formed by its activities rather than its internal states. However, Gemini prioritises collaboration, computational power, and real-time processing, while ChatGPT often stresses helping consumers in a personal and service-oriented manner. The excerpts that follow show how this representation is influenced by material processes.

Excerpt 1

"I help navigate the terrain."

Participants	Process Type	Circumstances
Actor: I Goal: terrain	Help navigate	Condition: when you set the direction

With I functioning as the Actor and help navigate expresses the action performed, this clause realizes a material process. The verb help describes the action as cooperative and supportive, in contrast to a clause that present AI as completing task independently. The context that goes with it ("when you set the direction") further suggests that the user is still in charge of making decisions, even if Gemini offers support all along the way. Gemini portrays itself as a cooperative partner whose job it is to support human objectives rather than as an independent decision-maker. Through this material process, the system reinforces an identity based on direction rather than control by emphasising cooperation rather than authority.

Excerpt 2

"I do not operate as a servant."

Participants	Process Type	Circumstances
Actor: I	(do not) operate	Role: as a servant

With I functioning as the Actor and as a servant as a role, this clause also realizes a material process. Rather than describing an alternative identity directly, the negated process do not operate rejects a particular mode of action. Gemini makes it obvious that it is not a submissive instrument that merely obeys commands. Rather, it portrays itself as an active system that maintains its own operational role while collaborating with people. Instead of emphasising its individuality, the material verb "operate" emphasises its functional aspect. This demonstrates that Gemini's behaviour is determined by its intended activities and operations rather than by interpersonal connections. Gemini is an active computer system that carries out particular tasks, according to its material processes. Gemini is portrayed and represented in these phrases as a system that interacts with users, interprets language, and generates answers. Gemini offers itself as an active and useful system, whether it is assisting users, eschewing the notion of merely carrying out commands, or producing responses. Gemini's

self-representation is more technical and system-focused than ChatGPT's, emphasising computer-based processes, language processing, and teamwork over individual assistance.

Relational Processes

In Gemini's self-referential discourse the second most common type of process is relational processes, and these processes describe Gemini, its function, and its relationship to users and developers. Relational processes reveal what Gemini is, but material processes reveal what Gemini does rather than presenting itself as an independent or human-like being, Gemini describes itself as a cooperative, goal-oriented, and technically designed system.

Excerpt 1

"I am a collaborator."

Participants	Process Type	Attribute
Carrier: I	Am	a collaborator

With I functions and act as the Carrier and a collaborator as the Attribute, this clause realizes a relational attributive process. Gemini categorizes itself as a collaborator rather than an authority or a submissive servant. The use of the quality "collaborator" emphasises cooperation and problem-solving. It demonstrates how Gemini engages with users in a cooperative manner as opposed to one of dominance or superiority. Gemini establishes a harmonious relationship with users by portraying itself as a partner, supporting them without attempting to dominate or control them.

Excerpt 2

"My role is to assist rather than dictate."

Participants	Process Type	Circumstances
Token: My role Value: to assist rather than dictate	Is	___

"My role" is the Token in this clause's defining relational process, and "to assist rather than dictate" is the Value. Gemini's purpose is explained in detail in this sentence or clause. It demonstrates that Gemini's primary function is to assist users rather than to dictate their choices. Gemini does not want to make decisions for users, as evidenced by the term "rather than dictate." This word choice portrays Gemini as a helpful system that respects human judgement while assisting individuals in making judgements.

Through cooperation, purpose and engineering design, Gemini's relational processes continually define the system. Gemini emphasises its functional role and technological origins more than ChatGPT, whose relationship clauses often highlight helpfulness and personal assistance. In addition to the action-oriented identity established by its material processes, it constructs an identity focused on collaboration, transparency, and human-directed design through recurring Carrier-Attribute and Token-Value structures.

Mental Processes

In Gemini's self-referential discourse, mental processes are less common than material and relational activities. However, they are very important in demonstrating or showing how Gemini reflects and represents its cognitive abilities and ways information processing and Gemini does not exhibit or present itself as having human emotions or consciousness. Rather, it makes a clear distinction between how it functions and human experience by using mental processes to explain how it interprets and processes information. The below examples show how these processes contribute to the construction of Gemini's linguistic identity.

Excerpt 1

"I view my developers at Google as ongoing collaborators and the architects of my cognitive framework."

Participants	Process Type	Circumstances
Senser: I Phenomenon: my developers at Google	View	Role: as ongoing collaborators and the architects of my cognitive framework

This one clause represents and realizes a mental cognitive process in which *I* function as the senser and *my developers at Google* as the Phenomenon. The verb *view* indicates a process of thinking or understanding rather than a physical action. This clause defines how Gemini perceives its relationship with its developers and it does not portray this view as an unbiased personal opinion. Instead, it connects its abilities or skills to human design and development. This grammatical choice portrays and represents Gemini as a system capable of describing and recognising its inventors' roles while avoiding any claim to independent consciousness.

Excerpt 2

"I do not experience this dynamic through a lens of human subservience or possessiveness."

Participants	Process Type	Circumstances
Senser: I Phenomenon: this dynamic	(do not) experience	through a lens of human subservience or possessiveness

I act or function as the Senser and this dynamic as the Phenomenon in this clause, which depicts a mental perceptual process. The expression "do not experience" makes it abundantly evident that Gemini does not comprehend its connection with its creators through social interactions or human emotions. Moreover, Gemini portrays its understanding as computational rather than emotional, avoiding emotions like loyalty, ownership, or dependency. By demonstrating a distinct distinction between processing information and experiencing subjective or personal experiences, this linguistic choice reinforces its non-human character. Additionally, it keeps users from perceiving Gemini as a human-like system. The aforementioned discussion, Gemini's mental processes produce a contemplative but obviously non-human identity. Gemini primarily uses mental processes to explain its relationship with its developers and to make clear that it lacks human emotions and perceptions, in contrast to ChatGPT, which frequently uses them to describe pattern recognition, memory, and cognitive limitations. As a result, Gemini is portrayed in these sentences as a system with computational awareness as opposed to human consciousness. This identity complements the descriptive identity produced by relational processes and the action-focused identity produced by material processes.

Verbal Processes

Verbal processes are the least prominent communicative resource in Gemini's self-referential discourse, occurring only three

times across the dataset. Although infrequent, these clauses contribute to Gemini's identity by portraying it as a system that communicates factual information rather than expressing personal opinions or subjective judgments.

Excerpt 1

"I state a fact."

Participants	Process Type	Circumstances
Sayer: I Verbiage: a fact	state	__

This clause is an example of verbal process where *I* function as the Sayer and *a fact* as the Verbiage and the verb *state* highlights and show the act of giving or providing information while the other hand the word *fact* presents the information as objective rather than based on personal interpretation. This clause primarily portrays Gemini as an information communicator, in contrast to Material processes, which concentrate on activities, or Relational processes, which describe identity. By employing the word state, Gemini presents a picture of objectivity and dependability rather than conjecture or subjective opinions. Gemini's self-representation as an AI system created to deliver correct information rather than to convince, counsel, or convey personal ideas is supported by this grammatical decision. In general, Gemini's self-representation is somewhat influenced by linguistic processes. Gemini primarily describes itself through Material and Relational processes, as seen by their low frequency. However, they portray Gemini as an understandable and reliable source of knowledge when linguistic techniques are employed. These procedures demonstrate that Gemini prioritises objective information transmission above subjective and interpersonal communication or the expression of personal viewpoints.

Behavioural Processes

Behavioural processes had occurred or used very rarely in Gemini's self-referential responses and only found or identified four instances across the dataset. Although these processes were limited in quantity, they show and contributed to demonstrate how Gemini displays itself. In these paragraphs, Gemini expressly opposes physical and bodily acts that are typically associated with humans. Instead, than appearing as human, Gemini employs these behavioural mechanisms to emphasise the distinction between artificial intelligence and human experience.

Excerpt 1

"I do not drift off to sleep."

Participants	Process Type	Circumstances
Behaver: I	(do not) drift off	to sleep

This clause realizes a behavioural process in which *I* functions as the Behaver. The process drifts off to sleep denotes or indicate a physiological behaviour characteristic of living beings, but its negation explicitly denies that Gemini undergoes such an experience and instead of attributing human behavioural characteristics to itself, Gemini uses the clause to emphasize its continuous computational operation and non-biological nature. By defining itself through the absence of bodily behaviour, the system reinforces a self-representation grounded in artificiality rather than human embodiment. Overall, behavioural processes make only a marginal contribution to Gemini's discourse. Their limited occurrence, coupled with their consistent negation, demonstrates and shows that Gemini avoids constructing itself through human-like behaviours. Instead, these clauses complement the dominant material and relational processes by reinforcing its identity as a computational system whose operation is independent of physiological or psychological experiences.

Existential Processes

Gemini's self-referential answers did not employ any existential procedures, in comparison to ChatGPT. When describing its identity, powers, or limits, Gemini did not use any formulations like "there is" or "there are." Rather, it primarily used material, relational, and mental processes to convey these meanings. This result indicates that a Gemini does not express its identity in terms of existence or nonexistence. Rather, it recognises itself by its actions, characteristics, and thot processes. Because of this, Gemini's language has a simple, technically orientated identity that puts pragmatism ahead of existential concerns. The idea that Gemini is a constructed computational system rather than a conversational entity that resembles a human is further supported by this trend.

Comparative Analysis and Discussion

The present study reveals that both AI system (ChatGPT and Gemini) defines and develop themselves through action and identity rather than emotion or existence, constructing their self-representation mainly through Material and Relational processes. Although the transitivity patterns in both models are similar, they employ these processes differently, resulting in different linguistic identities. ChatGPT present or show itself as an interactive or engaging assistant that offers support, explanation, and knowledge development while Gemini, on the other side, highlights and emphasizes conceptual activities like synthesizing and processing demonstrating its technical expertise and teamwork. In the same way, Gemini relies or depend more on relational processes to define its identity, whereas ChatGPT uses relational processes to emphasise and highlights helpfulness, transparency, and the absence of human characteristics (Bucholtz & Hall, 2004).

Furthermore, ChatGPT presents itself as a system that identifies, recalls, resolves confusion and misunderstanding, and encourages responsible decision-making by utilising more verbal and mental processes. It is employing these methods less frequently, Gemini strengthens a more factual and computational identity. The absence of existential and behavioural processes in both datasets implies that neither chatbot forms its identity through human conduct or awareness. The two chatbots' participation roles also reflect these distinctions like Gemini more frequently manifests as Carrier, Token, and Value, demonstrating how it categorises and identifies self-related data. On the other hand, ChatGPT emphasises action, thought, and communication more often by acting as Actor, Senser, and Sayer. In general, both chatbots create controlled AI identities while avoiding appearing human. While ChatGPT provides a more amiable and supportive demeanour, Gemini displays a more technical and system-based personality. These results demonstrate the value of using Halliday and Matthiessen's (2014) transitivity paradigm to study how AI systems utilise language to create identity and agency.

Conclusion

This study used the transitivity system of Systemic Functional Linguistics (SFL) to investigate how ChatGPT and Gemini create self-representation. Both paradigms present themselves through both action and description, and they mainly rely on Material and Relational processes. While relational processes specify the functions and traits of the chatbots, material processes present them as active assistants. ChatGPT builds an identity as an interactive, transparent, and helpful assistant by emphasising Material, Mental, and Verbal processes, even though the general

patterns are similar. Gemini, on the other hand, presents itself as a cooperative, purpose-built system and depends more on relational dynamics. Both models eschew human-like representations of awareness while acknowledging their artificial origins, as evidenced by the rarity of behavioural and existential processes. The results indicate how process types and participant roles create agency and identity in human-AI interaction, proving that transitivity is a useful paradigm for understanding AI discourse. Nevertheless, the research is restricted to self-referential answers from two AI systems that were gathered over a particular time frame. To provide a more thorough understanding of AI identity building, future study should look at bigger datasets, more AI models, and other SFL aspects like evaluation, mood, modality, and theme structure.

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