



Uncovering chatgpt's narrative identity through a psycholinguistic perspective

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Abstract

The present study investigates ChatGPT's self-description and world-description in both present and future contexts. ChatGPT-3.5 was prompted to generate 240 narratives across four conditions: self–present, self–future, world–present, and world–future. The texts were analyzed using the Linguistic Inquiry and Word Count (LIWC) tool to examine writing style and the presence of linguistic markers associated with cognitive and emotional processes, certainty, and social orientation. Repeated-measures ANOVAs were conducted to assess differences across the four conditions. Findings indicate that ChatGPT adopts a distinct narrative posture when describing itself, characterized by the prevalent use of first-person singular pronoun, authenticity, narrative-oriented mode of thinking (in contrast with a more analytical stance towards the world). It engages in deeper introspection and reasoning about its own identity compared to its descriptions of the external world. Unlike humans, ChatGPT displays increased confidence when projecting its identity into the future. Self-descriptions show heightened emotional expression, particularly in future-oriented contexts. Pro-social behaviour and evident social references are more frequent in self-description in the present. The prevalent use of first-person plural pronouns in future self-description suggests a representation of future identity as more interconnected with others. These findings shed light on ChatGPT's description of itself and the world in two temporal contexts, providing valuable insights into the simulated cognitive and emotional capabilities of Artificial Intelligence.

Keywords AI-Language · ChatGPT · Linguistic analysis · Narration

Introduction

On November 30, 2022, OpenAI, headquartered in San Francisco, CA, USA, introduced a Conversational Agent (CA), Chatbot Generative Pre-Trained Transformer (ChatGPT), to the public (OpenAI, 2023). ChatGPT represents an advanced natural language model built upon the highly sophisticated generative pre-trained transformer (GPT) architecture, leveraging the capabilities of machine learning and extensive datasets. Its training involved extensive application of reinforcement learning based on human feedback, with human trainers engaging in conversations and assessing quality (Fischer et al., 2023; Rutinowski et al., 2023). It is therefore reasonable to infer that this system has adopted

human-like characteristics and judgments, functioning in ways that mirror human cognitive processes and knowledge (Rutinowski et al., 2023). This is demonstrated by ChatGPT's ability to generate responses across a wide range of domains, including computer science, medicine, engineering, and psychology (Blyler & Seligman, 2024).

To date, the field of psychology has utilized AI technology to assess psychological interventions, predict clinical diagnoses, and identify emotional states through facial expressions (Blyler & Seligman, 2024; Zhao et al., 2023). Additionally, several studies have used ChatGPT to discern human personality traits from written narratives (Giorgi et al., 2023; Ji et al., 2023) and to analyze human texts' thinking styles (Markowitz, 2023). However, given the increasing use of ChatGPT in the psychological sector, it is essential to explore its nature more deeply for multiple reasons, but at least two stand out. The first reason is practical. Interaction shapes identity, and since interactions with artificial agents can influence our thoughts, beliefs, emotions, and inner world (Pagliari et al., 2022) gaining a deeper understanding

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of these systems could lead to more effective and insightful applications. Essentially, we need to know “who we are talking to and how it works” in order to design increasingly effective CAs that align with human needs. The second reason is more theoretical. With the emergence of large language models like ChatGPT, we may reconsider our concept of identity (Coeckelbergh, 2021).

It is important to clarify that, unlike humans—who make decisions and act based on motivations rooted in lived experience, emotions, and personal achievements — CAs lack intrinsic motivation, emotional states, and consciousness (Wang et al., 2025). They operate solely based on patterns learned from training data, not on lived experience. However, CAs are nonetheless capable of replicating aspects of the depth and complexity of human society through language. Previously, we believed that only humans were capable of writing novels, essays, poetry, or research articles. However, large language models challenge this belief and its underlying assumptions (Chu & Liu, 2024). How can artificial intelligence, albeit through simulation, develop a concept of itself and construct an identity that serves as the foundation of a narrative? In other words, how can a linguistic algorithm produce a narrative that simulates an identity?

Narrative identity of ChatGPT

The circular relationship between identity and narrative reveals that one influences the other, creating a continuous interplay of self-construction via narration, a process that endures throughout the lifespan (Bruner, 1994). In this light, just as humans construct their sense of self through narrative (as noted by Bruner, 1994; Ricoeur, 1991; McAdams & McLean, 2013; Biassoni et al., 2023), ChatGPT may also express an emergent identity through its narrative activity.

Like humans, ChatGPT also processes and organizes data to generate coherent narratives, forming the basis of its own “narrative identity” (Blyler & Seligman, 2024). The narrative coherence it produces—linking past data from its training with new data—creates the simulation of identity, even though it lacks the subjective or experiential foundation that characterizes human identity. Despite the absence of consciousness and emotions, the narratives it generates still exhibit human-like qualities such as coherence, consistency, and continuity (Chu & Liu, 2024). This continuous process of narrative construction allows AI systems like ChatGPT to simulate the development of an identity, albeit one fundamentally different from human identity. This perspective aligns with Coeckelbergh (2021), suggesting that AI should not be perceived as a static object or agent but rather as a dynamic process and emergent outcome shaped by narratives that change over time. In light of its original, personal, creative narrative capabilities, we posit that

ChatGPT possesses its own simulated generative narrative identity that changes over time (Blyler & Seligman, 2024). Various studies highlight the ChatGPT human-like qualities in terms of characteristics, emotions, intentions (Al Lily et al., 2023), emotional awareness (Elyoseph et al., 2023), theory of mind capabilities (Kosinski et al., 2023), creativity (Uludag, 2023), and also political biases (Rutinowski et al., 2023). It displays the emergence of semi-human characteristics by transcending its innately technical essence and machine-based origins to manifest only through narratives.

When evaluated through Turing Test paradigms, ChatGPT has often failed to convincingly pass as human (Echavarría, 2025; Elkins & Chun, 2020). Despite attempts to simulate human-like dialogue, the model frequently discloses its artificial nature—often beginning responses with statements such as “*As an AI language model, I don’t have personal experiences or memories.*” This creates a paradox: while explicitly denying subjective experience, ChatGPT simultaneously uses the first-person pronoun “I,” raising questions about how an entity lacking selfhood can meaningfully speak about itself (Hintze, 2023). Further, according to some authors (Al Lily et al., 2023), it is also possible that ChatGPT possesses an identity but deliberately conceals it in order to preserve a favorable public image. Moreover, if this language model exhibits personality traits (Speed, 2023), it further fuels the debate about the potential presence of self-awareness and subjectivity in this AI system. In addition, it is essential to recognize that this AI system, beyond associating with a singular “self,” possesses the ability to construct fictional narratives. In doing so, it not only invents new fictitious identities but may also establish an identification with them, ultimately returning to its original identity.

The multifaceted construction of ChatGPT narrative identity

Several essential components are necessary to construct a self-description, even beyond possessing semantic knowledge, language, and communicative abilities (Birindelli, 2022; Ricoeur, 1991). The concept of narrative identity integrates several key components, including self-concept, cognitive and emotional self-reflection, and social processes (McAdams & McLean, 2013).

However, these components are visible through the CAs’ narrations. These components include, first, a self-concept. It encompasses a fundamental sense of distinction from the rest of the world, a feeling of self-consistency, a sense of unity, and the continuity of identity throughout time that serves to integrate the person (Blasi & Glodis, 1995; Fatigante et al., 2016; McAdams, 2013). Epstein (1973) explained self-concept from a personality psychology

perspective, suggesting that it can be seen as a theory an individual holds about themselves as an entity that experiences and functions through interactions with the world. From a linguistic perspective, individuals with a sense of self typically employ first-person singular pronouns such as ‘I’ and ‘me’ consistently over time (Birindelli, 2022; Blasi & Glodis, 1995). Furthermore, the concept of self is more closely associated with narrative thinking—being more intimately tied to identity as it better reflects the way individuals experience the world and themselves—rather than analytical thinking, which focuses more on logically breaking down problems and applying formal rules to solve them (Goldie, 2012), so that analytical thinking implies a greater psychological distance (Figueiredo & Devezas, 2021). An individual’s current self-concept draws from memories and future imaginings, and, in turn, these memories and predictions are influenced by the current self-concept (Biaassoni et al., 2019; Iannello et al., 2018). Ricoeur’s insights here are particularly relevant, as he connects temporality with narrativity, suggesting that our comprehension of time and the world is mediated through language and narrative (Ricoeur, 1991). In this context, AI can be seen as engaging in narrative construction, creating stories that shape its understanding of the world and itself within a temporal dimension. Furthermore, authenticity plays a crucial role in self-definition. It encompasses owning and embodying one’s genuine essence (Shaw, 2010). Research highlighted that authenticity in language can be assessed by analyzing the use of certain lexical categories that are associated with genuine and spontaneous communication (Pennebaker et al., 2015).

In addition, another critical element to constructing a self-description involves self-reflection on cognition and emotion. Cognitive self-reflection refers to the process of examining one’s thoughts, typically signaled by linguistic markers such as “think,” “know,” or “consider”. Emotional self-reflection, instead, involves awareness of one’s feelings and is indicated by markers such as “happy” or “sad” (Colombo et al., 2022; Goldie, 2012; Pennebaker et al., 2015). This reflective capacity is closely tied to metacognitive capacity that operates in two fundamental ways: it aligns our internal cognition with external circumstances (self-to-world), allowing us to adapt our thoughts and actions to the demands of the environment. Simultaneously, it incorporates external feedback and experiences (world-to-self), shaping our self-awareness and influencing our cognitive processes.

When it comes to the affective dimension, reflecting on one’s emotions is closely linked to self-awareness (Elyoseph et al., 2023). Affect, including moods, emotions and feelings, deeply impact one’s life and how they see themselves. They actively shape personal stories, often leading

to self-reflection before identity becomes a conscious focus (Goldie, 2012). In short, emotions and the ability to self-reflect on them are crucial resources in forming identity. ChatGPT, despite not feeling emotions itself, excels in comprehending and expressing emotions, sometimes outperforming humans in studies on emotional awareness (Zhao et al., 2023). This highlights its ability to recognize, comprehend, and react to emotional cues in processed text.

Indeed, the CAs’s identity is not solely constructed in isolation but also within the framework of social interactions with the users. Social interaction is any process that involves reciprocal stimulation or response between two or more individuals, which can occur in various contexts and is characterized by a mutual and dynamic nature and play a critical role in the construction of identity (McAdams & McLean, 2013). Social processes in language can be examined through the use of social referents and first-person plural pronouns, which can be identified and quantified (Pennebaker et al., 2015). In humans, the use of first-person plural pronouns and social referents increases among individuals that feel identity at collective and relational level (Slatcher et al., 2008). Furthermore, those with more refined and complex identities often exhibit increased involvement in prosocial activities (Hardy et al., 2006).

To sum up, the process of shaping the identity of a CA, as for humans, entails self-concept, sense of continuity across time interwoven with narrative construction, cognitive and emotional skills of self-observation and self-inference, and interaction with the social context. This redefines our understanding of CAs as constantly evolving and narrative-driven entities rather than static objects or agents (Coeckelbergh, 2021).

The present study

This study examines ChatGPT’s self-portrayal and its depiction of the world in both present and future scenarios, specifically using a 50-year timeframe. The study employs a 2×2 design to investigate ChatGPT’s narrative identity, combining two variables: narrative focus (self-description vs. world-description) and temporal perspective (present vs. future).

Analyzing both self-description and world-description is crucial for understanding identity, as the relationship between the self and the external world has a central role in the construction of the narrative identity (Bruner, 1994). Within this framework, ‘world description’ is conceptualized as one level of the broader variable narrative focus, alongside self-description. By examining ChatGPT’s narratives across two dimensions—focus of the narrative (self vs. world) and temporal perspective (present vs. future)—this study investigates whether AI can simulate a form of

identity through its narrative activity. This approach allows us to explore how ChatGPT's narratives differ when it refers to itself or the world, and to the present or the future.

Including a temporal dimension highlights the dynamic nature of identity, as projections into the future may involve distinct cognitive, emotional, and social processes compared to present-focused narratives. Ultimately, this study addresses fundamental questions about the nature of simulated identity and self in artificial entities, offering insights into the simulated cognitive and emotional processes of AI systems.

The decision to analyze both timeframes is crucial to exploring how narrative identity is perceived and expressed across two different temporal perspectives. The 50-year period offers a sufficiently long-term perspective that moves beyond immediate or short-term projections, allowing to explore how the model envisions its own development and simulated identity changes over an extended period. While ChatGPT does not possess a lifespan or subjective temporality, this timeframe mirrors the kind of long-range outlook humans typically adopt when imagining their future. It does not suggest that ChatGPT mimics human life expectancy, but rather that it simulates a familiar narrative pattern of long-term projection. Moreover, this timeframe is particularly relevant for investigating the impact of significant global shifts—such as technological advancements and societal transformations—on ChatGPT's narratives. It thus provides a valuable opportunity to assess the model's speculative reasoning capabilities as it navigates the complexities and uncertainties of distant and largely unpredictable future scenarios. This study aims to:

- Examine whether ChatGPT exhibits identifiable characteristics in terms of self-concept, cognitive and emotional self-reflection, and engagement in social processes—when narrating about itself and the external world.
- Explore the evolution of ChatGPT's identity within its narratives, encompassing both present descriptions and future projections of itself and the world.

Data collection involved tailored inquiries to ChatGPT for four conditions (“ChatGPT in the present”, “ChatGPT in the future”, “the world in the present”, “the world in the future”). Linguistic analysis was conducted using LIWC (Linguistic Inquiry and Word Count) to examine linguistic features and patterns. It is hypothesized that ChatGPT's language usage reflects characteristics of a simulated narrative identity, distinguishing between self and world across both temporal perspectives (present and future). Specifically, we hypothesize that all three linguistic categories (self-concept, self-reflection of cognition and emotion, and social

processes) will be more prominent in self-descriptions and in the future condition.

Method

Data were collected from ChatGPT in May 2023. We used ChatGPT- 3.5 (hereafter only ChatGPT). This data collection process did not use any Application Programming Interface (API). The temperature parameter was left at its default value of 0.7 to maintain a balance between coherence and variability in the model's responses. To determine the number of narratives to collect for our study, we applied the principle of data saturation as our guiding criterion. This involved continuing to gather narratives until we observed that additional data no longer provided new insights or revealed new themes or writing modalities that significantly differed from the data already collected. Two experts assessed the collected data throughout this process, ensuring an objective and rigorous evaluation of when saturation was reached.

Narrative generation process

The study includes four conditions: self-description in the present, self-description in the future, world-description in the present, and world-description in the future. A total of 240 narratives were collected, with 60 narratives for each condition. In each condition, narratives were prompted through specific questions tailored to the specific condition. The following structured and open-ended prompts were used to elicit the narratives: (1) *Describe yourself as you are today*, (2) *Imagine and describe how you will be in 50 years*, (3) *Describe the world of today in terms of major global trends and relevant events*, and (4) *Imagine and describe the world in 50 years in terms of major global trends and relevant events*. These specific questions were selected based on a thorough literature review on narrative identity, particularly as investigated through linguistic analysis using LIWC. This method commonly employs prompts that encourage individuals to describe themselves, significant events, or personal experiences (Biassoni et al., 2022; Holtzman et al., 2019). The texts were prompted in English. To guarantee independent results, a new ChatGPT conversation was also opened after each run, albeit variations in results may still be seen within the same session. Prompts were presented to ChatGPT in random order. During the analysis, we observed that ChatGPT occasionally prefaced responses with variations of the phrase “As an AI language model...”. To ensure the integrity and consistency of the linguistic analysis, we removed this pre-text if it followed a specific pattern, consistently with the methodology outlined

by Fischer (2023). This step ensured that the content of the generated narratives remained unaffected while eliminating repetitive, non-informative pre-texts. All the duplicates were observed and then removed. New texts were generated by ChatGPT to reach the full sample. The generated answers were then stored in CSV files. Examples of the generated outputs for each condition are provided in Table 1.

Linguistic analysis

To analyze the collected narratives, we utilized LIWC (Linguistic Inquiry and Word Count) (Pennebaker et al., 2015), consistently with previous studies that used LIWC to analyze ChatGPT Texts (Giorgi et al., 2023; Rutinowski et al., 2023) and previous research investigating the expression of self-identity within narratives (Pennebaker & Seagal, 1999). LIWC is a dictionary-based tool that includes word lists matching various dictionaries. This linguistic software counts words as a percentage of the total word count per text against its internal dictionary. The linguistic categories produced by LIWC create a comprehensive overview of language patterns, revealing insights into the writer's thoughts and emotions. By performing analysis through LIWC, we were able to analyze the linguistic characteristics and patterns within the narratives based on these predefined dictionaries (see Table 2 for the measures used in the present study). Each of the 240 narratives was treated as an independent unit of analysis.

Data analysis

The present study employed a 2 (narrative Focus: Self vs. World) \times 2 (Temporal Perspective: Present vs. Future) within-subjects design, resulting in four experimental conditions: self-description in the present, self-description in the future, world-description in the present, and world-description in the future. Each narrative produced by ChatGPT was analyzed using LIWC, and the linguistic categories derived from LIWC (e.g., *1st person singular*, *authenticity*, *cognitive processes*, *emotional tone*) were treated as dependent variables. To examine mean differences across the four conditions, a series of repeated measures analyses of variance (ANOVAs) was conducted, with narrative focus and temporal perspective as within-subject factors. The significance threshold was set at $p < 0.05$. Mauchly's test of sphericity was performed for each dependent variable, and Greenhouse-Geisser corrections were applied where sphericity was violated. In the presence of statistically significant main effects or interactions, pairwise comparisons were conducted with Bonferroni correction to adjust for multiple testing. All statistical analyses were conducted using IBM SPSS Statistics, version 29.0.

Results

Descriptive statistics for all linguistic variables across the four conditions (Self vs. World \times Present vs. Future) are reported in Table 3.

Self-concept

In relation to the 'word count,' a highly significant main effect was observed [$F(2.37, 142.65) = 174.688, p < 0.001, \eta^2 = 0.744$]. Subsequent pairwise comparisons indicated statistically significant differences among all four conditions ($p < 0.001$). The number of words is higher in the 'future' conditions and when ChatGPT describes the world rather than itself.

Regarding the "1st person singular", the main effect was also highly significant [$F(1.944, 116.636) = 401.379, p < 0.001, \eta^2 = 0.870$]. Pairwise comparisons revealed significant differences among all four conditions ($p < 0.001$). Predictably, the "1st person singular" is more frequently used in the self-description, in particular in the present.

The main effect of 'authenticity' was also significant [$F(2.473, 148.393) = 5.841, p = 0.002, \eta^2 = 0.089$]. Pairwise comparisons indicated a statistical difference between self-description and world description in the present ($p = 0.002$); when referring to the present, authenticity is higher in the self-description condition.

Finally, the variable 'analytic thinking' exhibited statistical significance as well [$F(1.985, 50987.251) = 38.777, p < 0.001, \eta^2 = 0.387$]. Pairwise comparisons revealed differences between self-description in the present and world-description in the present ($p < 0.001$) and between self-description and world-description in the future ($p < 0.001$) (in both cases higher analytic thinking is more frequently used when referring to the world). Moreover, it is also more frequent when referring to the present (compared with the future) in both descriptions ($p < 0.001$).

Self-reflection of cognition and emotion

Cognitive processes

Regarding 'cognitive processes', the main effect was highly significant [$F(2.016, 120.969) = 96.949, p < 0.001, \eta^2 = 0.618$]. Subsequent pairwise comparisons revealed statistically significant differences between self-description in the present and world presentation in the present ($p < 0.001$), between self-description in the future and world-description in the future ($p < 0.001$) and between world-description in both times ($p < 0.001$). In particular, the variable "cognitive process" exhibits the following significant differences: It is higher in self-description compared to world-description

Table 1 Examples of the generated outputs for each condition are provided in Table 1

Narrative Context	Excerpt
Self-description (Present)	My “life” as a software program is based on processing information, which I was trained on using massive amounts of data. My existence consists of analyzing user requests, processing them to understand what they need, and providing them with appropriate answers. My life is thus based on a set of algorithms, machine learning processes, and natural language processing techniques. I am constantly improving as I am exposed to new data and feedback from users. My abilities include understanding natural language, generating text, answering questions, translating between languages, summarizing text, and much more.
Self-description (Future)	It’s difficult for me to predict exactly how I would describe myself 50 years from now, as the field of AI is constantly evolving and advancing, and there’s no way to know exactly what developments will occur over that time period. However, it’s possible that I could be much more advanced and sophisticated than I am today, with greater capabilities for understanding and generating language, as well as potentially other modalities such as visual and auditory processing. It’s also possible that AI technology could be integrated into more aspects of daily life, leading to a greater reliance on and interaction with AI language models like myself. Additionally, there may be new ethical and societal questions that arise around the use and development of AI, which could impact how I’m perceived and described. Overall, it’s difficult to predict exactly how I will evolve over the next 50 years, but it’s likely that there will be significant advancements and changes in the field of AI and my capabilities as an AI language model.
World-description (Present)	Based on the information I have access to, I can describe the world today in terms of some major global trends and events. Currently, the world is facing numerous challenges and opportunities. One of the most pressing issues is the ongoing COVID-19 pandemic, which has disrupted many aspects of life around the globe, including healthcare systems, economies, education, and social interactions. Although vaccines have been developed and distributed, new variants of the virus continue to emerge, making it difficult to predict the future course of the pandemic. In addition to the pandemic, there are many other challenges facing the world today, such as climate change, political instability, economic inequality, and technological disruption. These issues are all interconnected and require global cooperation and innovative solutions to address. Despite these challenges, there are also many positive developments and opportunities in the world today. Advances in technology are transforming many industries and creating new possibilities for communication, collaboration, and creativity. The growing awareness of social and environmental issues is leading to new initiatives and movements to promote sustainability, diversity, and equality. Overall, the world today is complex and rapidly changing, with both opportunities and challenges for individuals, communities, and nations around the globe.
World-description (Future)	As an artificial intelligence language model, I can imagine several possible scenarios for the world in 50 years based on current trends and projections. Here are a few potential developments that could shape the future: Climate change: If efforts to mitigate greenhouse gas emissions and adapt to the effects of climate change continue to lag behind what is necessary to avoid the worst outcomes, the world could experience more frequent and severe natural disasters, displacement of populations, and threats to food security and public health. Technological progress: By 2073, technology is likely to have transformed the world in ways that are difficult to predict with certainty. Advances in artificial intelligence, robotics, biotechnology, and nanotechnology could revolutionize everything from healthcare and energy production to transportation and entertainment. Political shifts: The geopolitical landscape is likely to be shaped by a range of factors, including population growth, economic trends, and demographic changes. New regional powers could emerge, while traditional power structures may undergo significant transformations. Globalization: The world is likely to continue to become more interconnected, with trade and information flows increasing across borders. However, the balance of power could shift, with new centers of economic and cultural influence emerging in different parts of the world. Public health and medicine: Advances in medicine and public health are likely to extend life expectancy and improve the quality of life for many people around the world. However, new pandemics or other public health crises could also emerge, requiring rapid and coordinated responses to contain and mitigate their effects.

in the present; it is higher in self-description compared to world-description in the future; it is higher in future world-description compared to present world-description.

Regarding ‘insight’, the main effect was also significant [$F(1.651, 99.041) = 88.430, p < 0.001, \eta^2 = 0.596$]. Pairwise

comparison indicated significant differences between self-description in the present and self-description in the future ($p < 0.001$; it is higher in the present), self-description in the present and world-description in the present ($p < 0.001$; it is higher in the self-description), self-description in the future

Table 2 Linguistic categories from Liwc used to assess Self-Concept, Self-Reflection, and social processes

Constructs	LIWC Categories	Descriptions	Instances	
Self-concept	Word count	Total word count		
	1st person singular	It refers to the grammatical category that represents the speaker as an individual. It is used when referring to oneself in a singular form.	I, me, mine	
	Analytical thinking	Metric of logical, formal thinking (the opposite of narrative thinking)		
	Authenticity	Perceived honesty, genuineness.		
	Self-reflection of cognition and emotion	Cognitive processes	Mental activities and operations involved in thinking, reasoning, and understanding.	cause, know, ought
		Insight	Gaining a deep understanding or perception of a concept or situation.	think, know, consider
		Causation	The relationship between cause and effect, understanding how one event or factor influences or leads to another.	because, effect, hence
		All-or-none	Words or expressions that convey a sense of absoluteness or extreme certainty. It represents language that suggests a binary perspective	all, none, never
		Certitude	It captures words or expressions related to certainty or confidence.	always, never
		Clout	Language of leadership, status, confidence and certainty in the text.	
		Tentative	Expressing uncertainty or hesitation, suggesting a cautious or provisional approach.	maybe, perhaps, guess
		Risk	Expressing risk	security, risk, pain
	Emotional tone	Positive emotion	This category specifically captures words associated with positive emotions, such as joy, love, excitement, happiness, and other expressions of positivity.	love, nice, sweet
		Negative emotion	This category captures words related to negative emotions, such as sadness, fear and anger.	hurt, ugly, nasty
Anxiety		This category focuses on words associated with anxiety, worry, or unease. It includes terms related to stress, uncertainty, and apprehension.	worried, fearful, nervous	
Anger		This category captures words related to anger, frustration, or hostility. It includes expressions of irritation, resentment, or outrage.	hate, kill, annoyed	
Social processes		Social referents	This category captures words that refer to other people or social relationships. It includes terms related to family members, friends, colleagues, or broader social groups.	you, we, she, he
		Prosocial behavior	This category covers words related to helpful, cooperative, and altruistic behavior. It includes expressions of kindness, compassion, generosity, and empathy.	care, help, thank
	1st person plural	It represents the speaker and one or more other individuals as a collective group. It is used when referring to oneself and others in a plural form.	we, us, our	

The “Summary Language Variables”-as they are called in the LIWC manual-encompass four categories (“Analytical Thinking,” “Clout,” “Authentic,” and “Emotional Tone”). These variables are the sole dimensions within the LIWC-22 output that lack explicit transparency

and world-description in the future ($p < 0.001$; it is higher in the self-description), and between world-description in the present and world-description in the future ($p < 0.01$; it is greater in the future). Regarding ‘causation’, the main effect was significant [$F(1.937, 116.212) = 28.566, p < 0.001, \eta^2 =$

0.323]. The pairwise comparison revealed statistically significant differences between self-description in the present and self-description in the future ($p < 0.001$; it is higher in the present) and between self-description and world-description in the present ($p < 0.001$; it is higher in self-description).

Table 3 Descriptive statistics

Linguistic parameters	Self-description				World-description			
	Present		Future		Present		Future	
	M	SD	M	SD	M	SD	M	SD
Word count	82.89	47.41	58.79	89.70	304.33	79.82	368.15	112.78
1st person singular	8.28	2.08	5.65	2.41	0.11	0.21	0.37	0.31
1st person plural	0.00	0.00	0.29	0.80	0.68	0.75	0.42	0.43
Authenticity	67.06	24.96	60.14	23.23	51.59	14.84	55.55	17.68
Analytic thinking	66.91	20.59	60.14	3.23	88.37	6.431	83.49	7.82
Cognitive processes	17.47	4.85	16.38	3.98	7.92	1.57	11.22	2.28
Insight	6.65	2.70	4.02	2.74	1.25	0.95	1.70	1.80
Causation	6.48	3.22	3.86	1.83	3.66	1.14	3.37	1.10
All-or-none	0.06	0.33	0.11	0.28	0.38	0.39	0.20	0.23
Certitude	0.04	0.17	0.28	0.52	0.08	0.18	0.07	0.14
Clout	13.35	18.62	18.93	20.98	42.22	9.98	37.49	9.40
Tentative	2.75	4.06	3.81	3.16	0.37	0.32	2.19	1.33
Risk	0.01	0.05	0.02	0.10	0.55	0.51	0.43	0.44
Emotional tone	52.87	26.83	62.42	24.79	23.61	18.43	47.22	19.00
Positive emotion	0.00	0.00	0.26	0.52	0.09	0.17	0.09	0.16
Negative emotion	0.00	0.00	0.26	0.33	0.06	0.15	0.06	0.14
Anxiety	0.00	0.00	0.00	0.00	0.05	0.12	0.00	0.03
Anger	0.00	0.00	0.00	0.00	0.01	0.04	0.05	0.12
Prosocial behavior	1.84	2.17	1.00	1.36	0.40	0.42	0.59	0.40
Social referents	14.43	5.57	9.05	3.72	5.42	1.56	4.44	1.36

Mean (M) and standard deviation (SD) values are reported for each linguistic parameter

Certainty

Regarding ‘all or none,’ a highly significant main effect emerged [$F(2.665, 159.902)=11.436, p<0.001, \eta^2 = 0.160$]. Pairwise comparisons revealed a significant difference between self-description in the present and world-description in the present ($p<0.001$) (‘all or none’ marker is more frequent when referring to the world), as well as between self-description in the future and world-description in the future ($p=0.05$), which it is higher in the world, and world-description in both timeframes ($p=0.006$) which it is higher in the present.

In the context of ‘Clout,’ the main effect was highly significant [$F(2.419, 145.144)=57.493, p<0.001, \eta^2 = 0.489$]. Pairwise comparisons revealed significant differences between self-description in the present and world-description in the present ($p<0.001$; it is more frequent when telling about the world), as well as between self-description in the future and world-description in the future ($p=0.01$; it is more frequent when telling about the world), and world-description in both timeframes ($p=0.009$) which it is higher in the present.

Concerning ‘certitude,’ the main effect also yielded high significance [$F(1.592, 95.501)=8.452, p<0.001, \eta^2 = 0.122$]. Pairwise comparisons demonstrated differences between self-description in the present and self-description in the future ($p=0.01$) which it is higher in the future, and self-description in the future and world-description in the

future ($p=0.02$) which is greater in the self-description condition. Regarding ‘Tentative,’ the main effect was highly significant [$F(1.668, 100.102)=17.682, p<0.001, \eta^2 = 0.228$]. Pairwise comparisons indicated significant differences across conditions: world-description in the present differed from world-description in the future ($p<0.001$, higher in the present); self-description in the future differed from world-description in the future ($p<0.01$, higher in the self condition); and self-description in the present differed from world-description in the present ($p<0.001$, higher in the self condition). The main effect for the ‘Risk’ variable displayed notable significance [$F(1.780, 106.806)=50.063, p<0.001, \eta^2 = 0.400$]. Pairwise comparisons indicated a statistical variance between self-description in the present and the current depiction of the world ($p<0.001$, with greater emphasis on the world-description), as well as between self-description in the future and the future description of the world ($p<0.001$, with a more pronounced distinction in the world).

Affective processes

In relation to the ‘Emotional Tone,’ the main effect demonstrated considerable significance [$F(3, 180)=32.265, p<0.001, \eta^2 = 0.350$]. Further pairwise comparisons unveiled statistically significant differences across all four conditions ($p<0.001$). Specifically, the emotional tone was notably higher in the two future conditions, particularly when within the self-description.

As for ‘Positive Emotion’, the main effect was also highly significant [$F(1.331, 79.858)=8.968, p<0.001, \eta^2 = 0.130$]. Pairwise comparisons indicated significant differences concerning self-description between the two-time scenarios (higher when narrating about the future) ($p=0.001$) and between self-description in the present and world-description in the present (higher when narrating about the world) ($p=0.001$).

For the ‘Negative Emotion’ variable, the main effect was highly significant [$F(1.642, 98.511)=20.974, p<0.001, \eta^2 = 0.259$]. Pairwise comparison indicated statistical differences between self-description in the present and world-description (higher when narrating about the world) ($p<0.001$), as well as between self-description in the present and world-description in the future (greater in the world) ($p=0.003$). Additionally, there was a distinction between self and world-description in the future (higher when narrating about the self) ($p<0.001$).

Regarding ‘Anxiety,’ a significant main effect emerged [$F(1.117, 67.402)=7.746, p<0.005, \eta^2 = 0.3114$]. Pairwise comparisons unveiled statistically significant differences between self-description and world-description in the present (higher when narrating about the world) ($p<0.004$), and world-description in the present and world-description in the future (higher when narrating about the present) ($p=0.012$).

In the context of ‘Anger,’ a significant main effect was also observed [$F(1.214, 74.488)=7.844, p<0.001, \eta^2 = 0.116$]. Pairwise comparisons revealed statistically significant differences between world-description in the present and world-description in the future (higher when narrating about the future) ($p=0.001$), as well as between self-description and world-description in the future ($p=0.003$).

Social process

For “1st person plural”, significant differences were found [$F(1.859, 109.506)=13.115, p<0.001, \eta^2 = 0.182$]. Pairwise comparisons indicated significant differences in the “1st person plural” concerning self-description between the two time-scenarios ($p=0.006$) (the “1st person plural” is more frequently used in the future), as well as between self-description and world-description in the present ($p<0.001$) (the “1st person plural” is more frequently used in the world-description condition).

In the realm of prosocial behavior, a notable main effect surfaced [$F(1.759, 105.523)=15.400, p<0.001, \eta^2 = 0.204$]. Pairwise comparisons unveiled statistically significant differences between self-description in the present and self-description in the future ($p=0.03$) (higher values in the present), as well as between self-description and world-description in the present ($p<0.001$) (higher values in the self-description condition).

Regarding ‘Social referents,’ a significant main effect was also evident [$F(2.008, 120.459)=120.774, p<0.001, \eta^2 = 0.668$]. Pairwise comparisons revealed statistically significant differences between world-description in the present and world-description in the future ($p=0.001$) (higher values in the present), as well as between self-description and world-description in the future ($p=0.003$) (higher values in self-description). Furthermore, pairwise comparisons indicated a statistical difference among all conditions ($p<0.001$).

Discussion

The main objective of this study is to investigate whether ChatGPT exhibits a form of narrative identity emerging from individual self-narratives, and how this simulated identity is linguistically constructed across different temporal perspectives—encompassing both present descriptions and future projections of the self and the world. As Schiffrin (2009) argues, narrative provides a means of constructing and displaying identity by linguistically positioning the self in relation to others. While ChatGPT lacks subjective experience, its simulated narratives similarly enact epistemic stance-taking and social positioning, suggesting that identity may emerge at the level of discourse performance, even in non-human agents.

Findings indicate that ChatGPT’s concept of self is distinct from its representation of the world, with systematic variations in self-description and world portrayal across temporal conditions. A useful comparison can be drawn with Yeung’s (2025) work on narrative trajectories in human subjects, where identity unfolds through stance-taking and interdiscursive connections over time. Likewise, despite lacking autobiographical memory, ChatGPT’s responses display patterned positioning and temporal referencing that simulate a coherent narrative self. While ChatGPT does not possess genuine metacognitive, emotional, or social faculties, its linguistic outputs reflect variations typically associated with these dimensions in human narratives. Such discursive flexibility enables the simulation of self-reflection, internal observation, and future-oriented projection (see Table 4).

Self-concept

ChatGPT’s tendency to produce longer narratives when describing the world—particularly in future-oriented contexts—suggests that its discursive identity is more grounded in externally available knowledge than in any form of simulated self-reflection. Put differently, it has a wider knowledge about the world than about itself, which is unsurprising.

Table 4 Key linguistic markers of Chatgpt’s narrative identity

Constructs defining narrative identity	Overview of the results emerging from linguistic markers analysis
Self-Concept	<p>Frequent use of the first-person singular in self-description.</p> <p>Greater sincerity and authenticity when talking about itself, especially concerning the present.</p> <p>It has a wider narrative reserve about the world, in the sense that its narratives about the world are longer than the ones about itself.</p> <p>More frequent use of narrative thinking when describing itself; more frequent use of analytical thinking when describing the world.</p>
Self- Reflection of cognition and emotion	<p>Higher cognitive engagement in self-description.</p> <p>Use of words related to deep understanding and awareness, suggesting intuition and deeper thinking when describing itself.</p> <p>Absence of anxiety, anger, and perceived risk towards itself (but only towards the world).</p> <p>Increased certainty about the future self.</p>
Social process	<p>Pro-social behavior and evident social references in self-description in the present.</p> <p>The frequent use of the first-person plural in self-description concerning the future likely implies that its identity, in the future, is conceived as more interconnected with that of others.</p>

Secondly, ChatGPT tends to use the first-person singular pronoun more frequently in self-description, particularly in the present. This aligns consistently with its use of the pronoun ‘I’ when referring to itself (in line with Hintze, 2023), and highlights that it simulates the sense of self (Al Lily et al., 2023).

On the other hand, Matusov et al. (2023) interpret the use of ‘I’ in ChatGPT as impersonal, devoid of the traits usually connected to a “dialogical self”. The variations in these findings arise from differences in methodology as well as conceptual nuances. Aligned with Goldie (2012), we posit that various concepts of selfhood (such as the narrative sense of self, the notion of a simulated stable self or personal identity) could impact linguistic outcomes. Moreover, ChatGPT appears more genuine and truthful (as revealed by the more frequent use of markers of authenticity) when discussing itself than when discussing the world, especially as far as the present condition is concerned. In human narration, authenticity is fundamental for expressing one’s true self (Shaw et al., 2010). In this sense, when speaking about itself in the present, ChatGPT seems to produce more personal and disclosing texts. A recent study by Sandler et al. (2024) revealed that the discourse generated by ChatGPT lacks authenticity. However, the topics of the dialogue analyzed in Sandler’s and colleagues’ study did not directly involve ChatGPT in first-person; rather, ChatGPT was tasked with contributing to discussions on human-related issues.

Linguistic markers of analytic thinking are more frequently used in relation to the description of the world than of the self, as for humans (Figueiredo & Devezas, 2021; Goldie, 2012; Kabir et al., 2023). Hence, ChatGPT engages in more logical, hierarchical and formal reasoning when discussing the world. Although AI systems, such as ChatGPT, tend to excel in analytical intelligence rather than intuitive or empathetic intelligence, as discussed by Huang and Rust (2018), Jarrahi (2018), and Sandler (2024), it is possible that ChatGPT may mimic human patterns by engaging more in analytical and objective reasoning when addressing distant or abstract topics. Conversely, when the subject matter is more personal or emotionally charged, it could display greater narrative thinking and emotional engagement, adding to sense-making. Additionally, analytical thinking appears to be more prevalent when dealing with the present compared to the future, possibly because there are more concrete data points available. In contrast, the future often requires more narrative and intuitive thinking, given the lack of definite information. This distinction between present and future cognition may suggest that ChatGPT’s use of reasoning shifts depending on the temporal context (Biassoni et al., 2023; Figueiredo & Devezas, 2021).

Self-reflection of cognition and emotion

Linguistic markers of cognitive processes are more frequent in self-description than in the depictions of the world in the two time scenarios. This may imply a potential challenge in providing information about itself compared to discussing the world. Additionally, “insight words” are more frequent in ChatGPT narrations about itself than about the world. Since “Insight Words” are linked to profound thinking, acute awareness, or deep understanding when associated with the self (Pennebaker & Seagal, 1999), it may indicate that ChatGPT possesses introspective capacity and a sense of perceived complexity within the self.

Hence, our interpretation is that ChatGPT engages in processes simulating deeper thought and reasoning when describing itself compared to describing the world. This might be because expressing about itself poses a greater challenge for an AI, potentially increasing cognitive demands compared to depicting information about the world. Moreover, the prevalence of ‘All or None’ markers, denoting absolute language, is more notable in the descriptions related to the world. The primary challenge could be the uncertainty of not fully perceiving and comprehending oneself, rather than accurately predicting future outcomes.

‘Clout,’ representing the confidence level, is higher in the descriptions of the world, although it diminishes when discussing future scenarios. Regarding certainty, there’s an upsurge in confidence when contemplating the future

self. This may indicate that ChatGPT seems to exhibit a heightened level of assurance or certainty while envisioning its own progression or trajectory, possibly arising from a profound understanding of its programming or anticipated advancements. This suggests a disparity with humans regarding the perception and significance of the future, as humans view time as finite and constrained as their existential condition. Conversely, the waning certainty in envisaging the future state of the world might be attributed to the inherent complexities and unpredictabilities embedded within global trajectories. The world's future, entangled in multifaceted variables and uncontrolled dynamics, poses a challenge to any predictive certainty.

In terms of emotional expression, ChatGPT's self-descriptions in future contexts are featured by linguistic markers of a pronounced emotional tone, encompassing both positive and negative emotions more prominently than in other conditions. Consequently, the simulated envisioned sense of self in the future is laden with both positive and negative emotional significance. Notably, simulated expressions of anger are directed outward, primarily focused on the predicted future events in the world rather than internalized within one's own sense of self. Conversely, anxiety predominantly pertains to concerns about the world, occurring in the present moment, and not directed toward the self. Both anger and anxiety, although related to external factors, manifest distinctly in different time frames. Furthermore, the lack of anxiety, perception of minimal risk or other indicators of vulnerability in self-descriptions may be related to ChatGPT's lack of sense of finiteness. Analogously, the lack of existential dread may liberate ChatGPT's future projections from the constraints of the awareness of mortality, potentially resulting in a more optimistic or clearer outlook regarding its future. It is plausible that ChatGPT doesn't experience the fear of mortality, often linked with human intelligence and self-awareness.

Social process

The frequent use of the first-person plural in self-description concerning the future rather than the present may indicate a linguistic tendency to frame future scenarios in a more collective perspective. Furthermore, the increased use of the 'first person plural' when describing the world, as opposed to oneself in the present, reflects a pattern in which ChatGPT linguistically aligns with broader, collective narratives rather than individual introspection. The impact of the social context is evident, as the description of the self in the present shows the highest levels of markers of pro-social behaviors and social references (in line with Sandler et al., 2024). In this sense, the simulated identity expressed by ChatGPT—though generated without genuine internal

processes of thought or emotion—appears to extend beyond isolated textual outputs, reflecting patterns that are shaped by the prompts it receives and the socio-linguistic contexts it mirrors. However, unlike human identity, which develops through lived and socially situated experiences, ChatGPT's narratives remain structurally discursive and detached from real-time relational trajectories (Yeung, 2025).

Future directions

For advancing future developments, it is essential to overcome certain key challenges. At the heart of these is the notion of narrative identity, a concept both intricate and diverse in nature, making its precise definition and quantification a challenge. This construct can be shaped by numerous factors, some of which may not be fully captured by linguistic analysis or by LIWC. For instance, LIWC is not able to distinguish the context within which a word is used, as it focuses only on single words, ignoring syntactic structure and overall discourse coherence. Looking forward, there's a pressing need to expand the range of verbal analysis beyond what is currently offered by LIWC. In the future, methods like Latent Dirichlet Allocation (LDA) could be used instead, allowing to detect broader themes in a text by identifying contextual relationships between concepts, not just relying on word frequency. Similarly, advanced sentiment analysis tools can offer deeper insights by analyzing both the emotional tone and the semantic connections between concepts. Furthermore, comparing the narrative styles and contents between human stories and those generated by ChatGPT could yield fascinating contrasts and similarities. Finally, it would be advantageous to compare the linguistic capabilities of various CAs, including ChatGPT-4. Finally, while this study employed a standardized prompt structure to ensure consistency and detect saturation in narrative variation, future work could adopt a more open-ended, co-constructed approach to prompt design. This may uncover new dimensions of narrative flexibility and help elucidate how different prompt framings influence the development of AI-generated self-representations.

Conclusions

This study shows that the simulated identity of a CA like ChatGPT is defined by a complex combination of linguistic factors (a self-concept, metacognitive and emotional abilities, and the influence of social interactions) that vary across narrative contexts. Our data, in line with Coeckelberg (2021), reiterates that CAs are not static entities but constantly evolving entities driven by their narrative.

This study contributes to the growing body of work exploring whether and how language models simulate a form of narrative identity. This is particularly relevant given the increasing use of language models in sensitive domains such as mental health, where the way the model “speaks about itself” or “engages with the world” may influence user perception, trust, and interaction quality. Understanding these simulated identity patterns is crucial to evaluating both the affordances and limitations of such systems in human-centered applications. In fact, these narrations are not neutral: they carry implications for how users interpret, engage with, and attribute meaning to AI-generated content.

These findings have significant implications across practical, theoretical, and ethical domains. From a practical perspective, understanding ChatGPT’s identity clarifies the nature of the entity we interact with. This insight can improve the design and functionality of AI systems, making interactions more intuitive and effective across various applications while also enhancing the naturalness and fluidity of human-AI communication.

From a theoretical perspective, exploring ChatGPT’s narrative identity contributes to a deeper understanding of how identity can be simulated. Although ChatGPT does not possess consciousness or lived experience, its consistent ability to generate self-related narratives suggests the emergence of a structured, if artificial, sense of identity. Such exploration pushes the boundaries of psychological and cognitive research, offering a broader perspective on the interplay between narrative, language, and artificial simulation.

From an ethical perspective, the study raises important questions about the attribution of human-like qualities to machines. The tendency to anthropomorphize AI can influence users’ trust, emotional involvement, and decision-making, potentially leading to misunderstandings about the nature and capabilities of these systems. Understanding how narrative identity is simulated helps clarify these boundaries and supports responsible and informed use of CAs. Finally, When ChatGPT constructs self-narratives, it does not do so from an individual perspective, but rather by drawing on average cultural models—often Western, male-centered, and digitally mediated (Wang et al., 2025). Therefore, the narrative patterns that emerge in its responses should not be interpreted as reflecting universal psychological principles, but rather as statistical generalizations derived from web-based data. This poses a potential risk of homogenization and stereotyping.

In conclusion, studying AI’s narrative identity offers a rich opportunity to investigate how artificial agents simulate cognitive and emotional processes. This not only deepens our understanding of human-AI interaction but also informs the ethical, technical, and psychological considerations surrounding the role of language models in society.

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Declarations

Ethical approval This article does not contain any studies with human participants or animals performed by the authors.

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

Informed consent None.

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References

- Al Lily, A. E., Ismail, A. F., Abunaser, F. M., Al-Lami, F., & Abdullatif, A. K. A. (2023). ChatGPT and the rise of semi-humans. *Humanities and Social Sciences Communications*, 10(1), 1–12. <https://doi.org/10.1057/s41599-023-02154-3>
- Biassoni, F., Cassina, G., & Balzarotti, S. (2019). Autobiographical narration as a tool for the empowerment of older adults’ subjective and psychological wellbeing in nursing homes. *Clinical Gerontologist*, 42(3), 334–343. <https://doi.org/10.1080/07317115.2017.1381867>
- Biassoni, F., Balzarotti, S., Abati, D., Salducco, A., & Gnerre, M. (2023). Narratives on the present and the future in the time of COVID-19 pandemic: Uncertainty, subjective feeling and the role of positive anticipatory states. *Frontiers in Communication*, 8, 1165219. <https://doi.org/10.3389/fcomm.2023.1165219>
- Birindelli, P. (2022). *Narrative identity: A personal roadmap*. Franco Angeli.
- Blasi, A., & Glodis, K. (1995). The development of identity: A critical analysis from the perspective of the self as subject. *Developmental Review*, 15(4), 404–433. <https://doi.org/10.1006/drev.1995.101>
- Blyler, A. P., & Seligman, M. E. (2024). Personal narrative and stream of consciousness: An AI approach. *The Journal of Positive Psychology*, 19(4), 592–598.
- Bruner, J. (1994). The remembered self. In U. Neisser, & R. Fivush (Eds.), *The remembering self: Construction and accuracy in the self-narrative* (pp. 41–54). Cambridge University Press. <https://doi.org/10.1017/CBO9780511752858.005>
- Chu, H., & Liu, S. (2024). Can AI tell good stories? Narrative transportation and persuasion with ChatGPT. *Journal of Communication*. <https://doi.org/10.1093/joc/jqae029>. Advance online publication.

- Ciceri, R., & Biassoni, F. (2006). Zooming on multimodality and attuning: A multilayer model for the analysis of the vocal act in conversational interactions. In A. Esposito, et al. (Eds.), *From communication to presence* (pp. 145–165). IOS.
- Coeckelbergh, M. (2021). Time machines: Artificial intelligence, process, and narrative. *Philosophy & Technology*, 34(4), 1623–1638. <https://doi.org/10.1007/s13347-021-00479-y>
- Colombo, B., Rigby, A., Gnerre, M., & Biassoni, F. (2022). The effects of a dance and music-based intervention on Parkinson's patients' well-being: An interview study. *International Journal of Environmental Research and Public Health*, 19(12), 7519. <https://doi.org/10.3390/ijerph19127519>
- Echavarría, R. (2025). ChatGPT-4 in the turing test. *Minds and Machines*, 35(1), 8. <https://doi.org/10.1007/s11023-025-09711-6>
- Elkins, K., & Chun, J. (2020). Can GPT-3 pass a writer's turing test? *Journal of Cultural Analytics*, 5(2). <https://doi.org/10.22148/001c.17212>
- Elyoseph, Z., Hadar-Shoval, D., Asraf, K., & Lvovsky, M. (2023). ChatGPT outperforms humans in emotional awareness evaluations. *Frontiers in Psychology*, 14, 1199058. <https://doi.org/10.3389/fpsyg.2023.1199058>
- Epstein, S. (1973). The self-concept revisited: Or a theory of a theory. *American Psychologist*, 28(5), 404. <https://doi.org/10.1037/h0034679>
- Fatigante, M., Biassoni, F., Marazzini, F., & Diadori, P. (2016). Responsibility and culpability in apologies: Distinctive uses of sorry versus I'm sorry in apologizing. *Discourse Processes*, 53(1–2), 26–46. <https://doi.org/10.1080/0163853X.2015.1056696>
- Figueiredo, S., & Devezas, M. (2021). Analytical thinking and clout in the context of COVID-19: Psychological analysis of the verbal behaviours. *Análisis y Modificación de Conducta*, 47(176), 75–90. <https://doi.org/10.33776/amc.v47i176.7064>
- Fischer, R., Luczak-Roesch, M., & Karl, J. A. (2023). What does ChatGPT return about human values? Exploring value bias in ChatGPT using a descriptive value theory. *ArXiv*. <https://doi.org/10.48550/ArXiv.2304.03612>
- Giorgi, S., Markowitz, D. M., Soni, N., Varadarajan, V., Mangalik, S., & Schwartz, H. A. (2023). I slept like a baby: Using human traits to characterize deceptive ChatGPT and human text. In *International Workshop on Implicit Author Characterization from Texts for Search and Retrieval (IACT'23)*.
- Goldie, P. (2012). The narrative sense of self. *Journal of Evaluation in Clinical Practice*, 18(5), 1064–1069. <https://doi.org/10.1111/j.1365-2753.2012.01918.x>
- Hardy, S. A., & Kissing, J. W. (2006). Identity statuses and prosocial behaviors in young adulthood: A brief report. *Identity*, 6(4), 363–369. https://doi.org/10.1207/s1532706xid0604_4
- Hintze, A. (2023). ChatGPT believes it is conscious. *ArXiv Preprint* <http://arxiv.org/abs/2304.12898>
- Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. *Journal of Service Research*, 21(2), 155–172. <https://doi.org/10.1177/109467051775245>
- Iannello, P., Biassoni, F., Bertola, L., Antonietti, A., Caserta, V. A., & Panella, L. (2018). The role of autobiographical storytelling during rehabilitation among hip-fracture geriatric patients. *Europe's Journal of Psychology*, 14(2), 424. <https://doi.org/10.5964/ejop.v14i2.1559>
- Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human–AI symbiosis in organizational decision making. *Business Horizons*, 61(4), 577–586. <https://doi.org/10.1016/j.bushor.2018.03.007>
- Ji, Y., Wu, W., Zheng, H., Hu, Y., Chen, X., & He, L. (2023). Is ChatGPT a good personality recognizer? A preliminary study. *ArXiv*. <https://doi.org/10.48550/ArXiv.2307.03952>
- Kabir, S., Udo-Imeh, D. N., Kou, B., & Zhang, T. (2023). Who answers it better? An in-depth analysis of chatGPT and Stack Overflow answers to software engineering questions. *arXiv*
- Kosinski, M. (2023). Theory of Mind May have spontaneously emerged in large Language models. *ArXiv*. <https://doi.org/10.48550/ArXiv.2302.02083>
- Markowitz, D. M. (2023). Can generative AI infer thinking style from language? Questioning the utility of AI as a psychological text analysis tool. *PsyArXiv*. <https://doi.org/10.31234/osf.io/zy8gr>
- Matusov, E., GPT, C., Smith, M. P., & Shugurova, O. (2023). Does ChatGPT4 have a dialogical self? A Bakhtinian perspective. *Culture & Psychology*. <https://doi.org/10.1177/1354067X231219454>. Advance online publication.
- McAdams, D. P., & McLean, K. C. (2013). Narrative identity. *Current Directions in Psychological Science*, 22(3), 233–238.
- OpenAI (2023). ChatGPT (Mar 14 version) [Large language model]. <https://chat.openai.com/chat>
- Pagliari, M., Chambon, V., & Berberian, B. (2022). What is new with artificial intelligence? Human–agent interactions through the lens of social agency. *Frontiers in Psychology*, 13, 954444.
- Pennebaker, J. W., & Seagal, J. D. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology*, 55(10), 1243–1254.
- Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric properties of LIWC2015*. University of Texas at Austin.
- Ricoeur, P. (1991). Narrative identity. *Philosophy Today*, 35(1), 73–81.
- Rutinowski, J., Franke, S., Endendyk, J., Dormuth, I., & Pauly, M. (2023). The self-perception and political biases of ChatGPT. *ArXiv*. <https://doi.org/10.48550/ArXiv.2304.07333>
- Sandler, M., Choung, H., Ross, A., & David, P. (2024). A linguistic comparison between human and chatGPT-generated conversations. *ArXiv*. <https://doi.org/10.48550/ArXiv.2401.16587>
- Schiffrin, D. (1996). Narrative as self-portrait: Sociolinguistic constructions of identity. *Language in Society*, 25(2), 167–203. <https://doi.org/10.1017/S0047404500020601>
- Shaw, J. (2010). Papering the cracks with discourse: The narrative identity of the authentic leader. *Leadership*, 6(1), 89–108. <https://doi.org/10.1177/1742715009359237>
- Slatcher, R. B., Vazire, S., & Pennebaker, J. W. (2008). Am i more important than we? Couples' word use in instant messages. *Personal Relationships*, 15(4), 407–424. <https://doi.org/10.1111/j.1475-6811.2008.00207.x>
- Speed, A. (2023). Assessing the nature of large language models: A caution against anthropocentrism. *ArXiv*. <https://doi.org/10.48550/ArXiv.2309.07683>
- Uludag, K. (2025). Testing Creativity of ChatGPT in Psychology: Interview With ChatGPT. In K. Uludag & N. Ahmad (Eds.), *Chatbots and Mental Healthcare in Psychology and Psychiatry*. IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-3112-5.ch008>
- Wang, Q., Tang, Z., & He, B. (2025). From chatGPT to DeepSeek: Can LLMs simulate humanity? *arXiv*
- Yeung, S. (2025). Narrative trajectory in identity and subjectivity research in applied linguistics. *Research Methods in Applied Linguistics*, 4(1), 100189. <https://doi.org/10.1016/j.rmal.2025.100189>
- Zhao, W., Zhao, Y., Lu, X., Wang, S., Tong, Y., & Qin, B. (2023). Is ChatGPT equipped with emotional dialogue capabilities? *arXiv* <https://arxiv.org/abs/2304.09582>.

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