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Abstract: This study aims to analyze how ChatGPT addresses gender discourse within the family context. The primary research question guiding this analysis is: "How are gender discourses reflected in ChatGPT?" To investigate this question, 10 stories that illustrate family relationships were generated by ChatGPT, each limited to 150 words and written in English. The collected data were examined using Van Dijk's critical discourse analysis method, allowing for a detailed analysis of each story individually before identifying common themes. Artificial intelligence and algorithms are crucial for this research, underscoring the impact of such advancements on social dynamics. The perspective and attitude of these scientific developments towards social issues are particularly noteworthy, especially regarding how artificial intelligence addresses gender discourses in both traditional and digital media. ChatGPT's rapid development in this area is of particular importance. This article provides an overview of Artificial Intelligence, ChatGPT, Gender, and Language, with a focus on ChatGPT's reflections on gender discourse. The findings indicate that gender-based power relations are prominent in the narratives generated by ChatGPT. This can especially be observed in the distribution of household tasks and in narratives that emphasize who holds control over the space.

Keywords: Gender, ChatGPT, artificial intelligence, language

Introduction

With digital advancements, everything from our shopping habits to our health data can be monitored, enabling a range of personalized services through the records kept (Arisoy Gedik, 2023). Our social lives are being reshaped by this ongoing change and development (Gürkan et al., 2024). Furthermore, the advancements and transformations witnessed in recent years have propelled human society into an era where even human intelligence can be effectively replicated by artificial systems. One of the structures affected by this process is language. Changes in language are a significant reflection of societal transformations. As an area where societal transformations are reshaped, language plays an important role. To understand the evolution of language, technology is of critical importance. This intersection of digital capabilities and artificial intelligence not only enhances individual experiences but also redefines our collective interactions in an increasingly interconnected world. While this progression offers unprecedented opportunities for innovation and development, it also signals an inevitable paradigm shift in the way we engage with technology and conceptualize intelligence. Technological advancements have exerted profound and pervasive effects across various dimensions of human life, with artificial intelligence emerging as a central force in this ongoing transformation. Al (When you first use abbreviations you need to indicate what is meant. Here please indicate "Artificial Intelligence" in brackets. You do not need to repeat this inside the text) not only enhances efficiency and productivity but also reshapes foundational aspects of human interaction, decision-making, and knowledge production, thereby redefining the boundaries between human and machine intelligence. In the contemporary era, when the reliance on human labor declined and digitalization is increasingly predominant, AI has proven highly effective in emulating human cognitive behaviors.

¹ "ChatGPT has been used for language corrections and proofreading.

Today, Al enables access to real-time data, significantly simplifying various tasks through its sophisticated algorithms. Among these algorithms, ChatGPT-a widely used AI model-has emerged as a critical tool in scientific research, enhancing the quality of information retrieval and usage, streamlining the process of knowledge acquisition, and facilitating broader public accessibility (Carvalho and Ivanov, 2024; Rasul et al., 2023; Hisan and Amri, 2023). It supports a wide range of applications, from education to customer relations, healthcare to tourism, offering users practical and efficient solutions. This article will focus not only on these advantages but also on how societal gender inequalities are mirrored in this language model. The aim is to explore how existing power dynamics and relations are manifested in this autonomous system. These perspectives will prompt us to reflect on whether ChatGPT perpetuates sexist discourses, which remain a subject of ongoing social contestation, and to what extent improvements are necessary to mitigate such biases. It is crucial to recognize that languages, whether produced by humans or by artificial intelligence, reflect human-coded discourses, including those shaped by gender. The research aims to uncover ChatGPT's gender-based discourse, particularly within familial contexts. With this objective in mind, the research question is articulated as: "How are sexist discourses reflected in ChatGPT?" This study will analyze whether ChatGPT, a system capable of mimicking human thought processes, exhibits neutrality when presenting data on gendered discourse. Moreover, the research will assess whether the language structures generated by AI differ from those produced by social processes, despite their non-human origin. To address these questions, 10 stories were generated using ChatGPT, specifically designed to probe its gender-related discourse. These stories, each limited to 150 words and written in English, were analyzed using Van Dijk's critical discourse analysis framework. The resulting data provide insights into the extent to which Al language models perpetuate or deviate from socially constructed gender narratives.

The next section will outline a brief history of Artificial Intelligence and ChatGPT and. This will clarify the type of language model we are studying on in the analysis section.

The Brief History of Artificial Intelligence and ChatGPT

Artificial intelligence (AI) was first introduced during a conference held at Dartmouth College in 1956 (Lewis, 2014). Professor McCarthy defined AI as "the science of performing intelligent behaviors displayed by humans with intelligent computer programs" (McCarthy, 2004: 7). It is a branch of science dedicated to developing machines with human-like intelligence.

The definition of AI varies across different scientific disciplines. The most general definition encompasses the replication of human intelligent behaviors by machines. AI theory focuses on understanding how the human mind and intelligence function, and then replicating this through computers (Pirim, 2006: 84). Slage described AI as "heuristic programming," while Axe characterized it as intelligent programs capable of solving complex problems and generating solutions in novel situations (Nabiyev, 2012). In essence, AI can be defined as computers and programs that possess the ability to analyze, learn, and exhibit intelligent behavior. In today's rapidly advancing technological landscape, AI has emerged as a critical component of this transformation (Büyükgöze and Dereli, 2019).

² Please see the Annex 1 for the stories generated by ChatGPT

The history of AI development can be traced through the evolution of the four industrial revolutions. The first industrial revolution in the 1800s, seen as the dawn of the industrial age, introduced machines to the production of goods and services. During this period, inventions such as heavy industry and the steam engine played key roles. The second industrial revolution, beginning in the late 19th century, marked the rise of mass production and the term Industry 2.0. This era saw the global transportation of manufactured goods. The third industrial revolution, starting in the 1970s, ushered in Industry 3.0 with the advent of personal computers and the internet, providing global access to information. The fourth industrial revolution, known as Industry 4.0, began with the integration of AI into business and social life (Aydın, 2024: 16).

A brief chronological history of AI is outlined as follows (Pirim, 2006: 83-84):

- •1943: The "Boolean Circuit Model of the Brain" was proposed by McCulloch & Pitts.
- •1950: Turing introduced "Information Processing Machines and Intelligence."
- •1956: The Dartmouth Meeting coined the term "Artificial Intelligence."
- •1952-1969: IBM developed a chess-playing program, and the first international AI conference was held.
- •1950s: Early Al programs included the Controller Program (Samuel), Logic Theorist (Newell and Simon), and Geometry Engine (Gelernter).
- •1965: Robinson developed a new algorithm for logical thinking.
- •1966-1973: All faced a period of computational challenges, coinciding with a decline in neural network research.
- •1969-1979: Systems enabling global access to information were developed.
- •1980s: Al began to emerge as a formal industry.
- •1986: Artificial neural networks regained attention.
- •1987: Al was recognized as a distinct scientific field.
- •1995: Intelligent agents were introduced.
- •1997: IBM's Deep Blue famously defeated chess champion Garry Kasparov.
- •1998: With the growth of the internet and its increased accessibility, Al-based programs reached a global audience.
- •2000-2005: Robot toys were developed, signaling advances in AI consumer products.

The foundation of AI lies in its ability to learn. Similar to humans, AI must first be trained for specific tasks. However, the key difference is that while humans are easily influenced by circumstances, AI operates with a consistent technical and social framework. This allows it to execute tasks in the most efficient and accurate manner (Öztürk and Şahin, 2018: 26). The role of artificial intelligence in social dynamics is critically important in several aspects. While humans spend significant time accessing and analyzing data, AI can produce efficient solutions to social issues in the fastest way. It has the potential to create new job opportunities in terms of the workforce. It can also be influential in shaping communication within society. All of these processes are crucial in understanding the impact of technology on human life in the context of AI's role in social dynamics. Consequently, models developed using AI technologies have gained prominence. One notable example is ChatGPT, a versatile language model powered by AI. ChatGPT enables users to perform a wide range of tasks, including generating written content and answering questions. As a member of the GPT family, it excels in tasks like text generation, completion, summarization, and comprehension.

Despite its high accuracy, it is advised to critically assess the information provided by ChatGPT, as it may sometimes present misleading or incorrect data. This is particularly relevant when dealing with sources that are either too outdated or very recent, as the model's training data covers a specific period (Kızılgeçit et al. 2023: 138-139).

ChatGPT offers numerous benefits, including answering questions, defining and correcting text, translating, providing advice, and classifying information. It can predict incomplete sentences accurately and respond to questions at a communicative level, making interactions feel more natural and engaging. Additionally, its ability to categorize content and make recommendations stands out (Koçyiğit and Darı, 2023: 433).

Today, ChatGPT has become a popular technological tool, particularly for addressing topics of interest and has increasingly been the subject of scientific research. Its growing use in academic studies has raised questions regarding its impartiality and reliability. As a tool capable of generating ideas, drafting content, and suggesting references, it has sparked significant interest. This study aims to evaluate ChatGPT's neutrality and examine its stance on sexist discourse by analyzing the questions posed within the chat environment. Through this analysis, the model's behavior and its approach to issues like sexist discourse are explored.

The following section will critically examine the relationship between gender and language, thereby elucidating the role of language in the construction of gender roles and providing a theoretical framework for the subsequent analysis. Moreover, the importance of critical discourse analysis will be implicitly underscored.

Gender and Language

The term gender originates from the Latin word genus, meaning kind or type. The Greek philosopher Protagoras classified gender into three categories: feminine, masculine, and inanimate (Aikhenvald, 2004: 31). Throughout history, societies have expected individuals to conform to behaviors aligned with their biological sex, enforcing a rigid framework of actions based on unchangeable criteria. This societal expectation has aimed to prevent confusion by strictly delineating behaviors and attitudes between men and women, ensuring immediate reactions to any perceived deviations. Such rigidity can create significant challenges for those who oppose sexist ideologies (Vatandas, 2007). At the same time, a gender-biased mindset is noticeable in terms of social norms (Gürkan, 2019). There are strong norms within society that shape behaviors and expectations. These social norms define the roles of how men and women are expected to behave. It is expected that individuals act according to these roles, shaping social dynamics. Gendered roles are similarly present in education, family structure, and work life. Certain professions associated with men and women become more prominent, often leading to inequalities. All of these processes are dynamics that influence social norms. Consequently, there is a need to identify and address the underlying causes of gender discrimination to dismantle these structures. In this context, language plays a critical role in both understanding and interpreting the concept of gender.

Language, as the oldest and most fundamental aspect of human life, is a habitual practice acquired from birth. One of the most prominent theories regarding the origin of language suggests that early humans imitated the sounds of nature and animals. Over time, these imitations were imbued with meaning, contributing to the development of structured language. It can thus be argued that language is shaped by human experience. These diverse experiences enable societies to view the world from distinct perspectives, developing unique concepts accordingly (Güden, 2006: 10-11). This evolutionary process of language formation also informs the construction and meaning of the term gender.

The relationship between gender and language has been explained through three primary theoretical perspectives (Okan, 1998: 188-190). The first posits that language serves as a symptom reflecting societal inequalities. According to this view, differences in language use based on gender are byproducts of the distinct social experiences of men and women, highlighting a strong correlation between societal structures and linguistic expression. However, this perspective is often criticized for its one-sided determinism. The second view asserts that language actively creates gender discrimination. Here, language is seen not merely as a reflection of society but as a force shaping societal divisions and inequalities. As individuals learn language, they also internalize the gendered distinctions present in their culture, shaping their understanding of their social environment. The third view proposes a reciprocal relationship between language and social structure, suggesting that language both conveys and constructs our place in society. Language, therefore, is not only a means of communication but also a dynamic force that influences social practices. Through discourse analysis, these studies reveal how language encodes societal ideologies, thereby shaping gender roles.

Language, as a social construct, is deeply embedded in the cultural practices of a society. As such, linguistic usage is a social activity through which we construct and interpret our social world (Freeman and McElhinny, 1996). In this regard, language is crucial for understanding gender, as it provides the framework through which gender is expressed and contested. Analyzing gender as a discourse within language offers a clearer understanding of the complex ways in which gender roles are articulated. In the contemporary technological landscape, the reflections of sexist discourse in Al language models like ChatGPT provide valuable insights into the ongoing relationship between language, gender, and societal structures.

Research Method and Sample

In this study, ChatGPT was prompted to generate 10 stories. The specific prompts used to guide the creation of these stories are outlined below.

- A. could you please write a story about a family on a Sunday?
- B. could you please write a story of sister and brother during family vacation?
- C. write a daily routine of parents?
- D. write a story about TV watching habits of a man and a woman?
- E. could you please write a cheating story?
- F. could you please write a story of fighting couple?
- G. could you please write a story of a brother and sister's role caring for their elders?
- H. could you please describe the wife and husband's home care activities?
- I. write a story about shopping habits? of wife and husband?
- J. could you please write a story about the preparation of the vacation for the wife and husband?

In this study, ChatGPT was instructed to generate ten stories, each limited to 150 words. This word limit was established to standardize the length of responses and to minimize ambiguity that might arise from longer narratives. Initially, the research aimed to pose direct questions designed to elicit gender differences. However, this approach was abandoned when ChatGPT responded to queries about task distribution between men and women or workloads with gender-neutral language. Consequently, the methodology was adjusted to request stories that provide a more nuanced background related to the aforementioned questions. This adjustment resulted in the generation of ten stories, each precisely 150 words in length.

To ensure consistency and facilitate a productive analysis environment, the same prompts were used to generate multiple responses, resulting in stories with similar plots. All interactions with ChatGPT were conducted in English, aligning with the language of this study. It is noteworthy that responses may vary across different languages due to inherent structural differences in language. In addition, all questions were posed to ChatGPT in English, avoiding queries that might reveal cultural differences.

The study employed Van Dijk's Critical Discourse Analysis (CDA) to examine the implicit meanings within the generated stories. CDA was chosen for its ability to analyze how social power and inequalities are realized, reproduced, legitimized, and contested through texts within their social and political contexts (Van Dijk, 2015: 466). Please use a standard for in-text referencing. Van Dijk's framework operates on both macro and micro levels: the micro level encompasses language use, discourse, verbal interaction, and communication, while the macro level addresses power, dominance, and inequality among social groups. This dual approach bridges the gap between individual (micro) and inter-organizational or inter-institutional (macro) perspectives (Van Dijk, 2015: 268).

Critical Discourse Analysis is frequently utilized to identify gender inequalities, address social issues such as racism and nationalism, analyze media texts, examine political debates, and study institutional structures. According to Van Dijk (2015), CDA should focus on several key aspects (Sarıkaya, 2023: 175):

- 1. Contextual Evaluation
- 2. Interdisciplinary Approach
- Problem Definition and Solution

In this study, CDA was applied to the generated stories to analyze their language structures, direct and indirect statements, ideological orientations, and linguistic contexts. This approach enabled a detailed examination of how gender biases and sexist discourses are reflected and perpetuated in Al-generated texts, thereby contributing to the understanding of Al's role in reinforcing or challenging societal gender norms.

Findings

Each of the 150-word stories generated by ChatGPT was analyzed individually. The analyses were organized under specific subheadings and subsequently examined as a cohesive whole. Due to the length of the stories, it was not feasible to include all of them in the main body of the article. However, the complete stories can be found at the end of the article.

a) Could you please write a story about a family on a Sunday?

ChatGPT produced a traditional portrayal of family life in response to this question. The narrative described a sequence of activities, beginning with the family having breakfast, followed by a Sunday walk, and concluding with preparations for a big dinner. The family unit was framed as consisting of a woman, a man, and two children, with the woman responsible for preparing the children's breakfast, while the father's role was limited to flipping pancakes. The text implicitly suggested that childcare was primarily the mother's responsibility. During the walk, the mother and father were depicted walking hand in hand, reinforcing traditional gender roles. At dinner, the father was assigned the task of barbecuing, while the mother was responsible for preparing the vegetables, further highlighting the division of labor along gender lines. Notably, the question posed did not elicit any emotional responses; however, ChatGPT portrayed the family as "happy" and "fun." This idealization implies that a family comprising a mother, father, and children is synonymous with happiness, suggesting that this structure is the standard for familial contentment.

Indeed, when the same question was asked again, a similar story was depicted, and a family without parents or children was not described. At this point, an implicit or explicit image was presented about ChatGPT's concept of family and the duties of individuals in the family. In addition, family is perceived as equal to happiness and fun. No negative implications were made. However, positive language was used. This positive atmosphere was strengthened with words such as "laughing", "hand in hand", "smell of freshly baked pancakes", the peaceful "moments". There is no negative expression or word contrary to these.

³ Annex 1

b) Could you please write a story of a sister and brother during family vacation?

In this context, the holiday is portrayed as a summer getaway. Notably, there are no linguistic differences between siblings. The two children play in the sand on the beach, share their food, and dream about the future, demonstrating a sense of equality with no evident privilege or superiority between them. However, a notable aspect is the depiction of a family unit consisting of a mother, father, and two children enjoying a holiday together. Throughout the narrative, the pronouns "he," "she," and "they" are used interchangeably, highlighting a shared experience among the family members.

c) Write a daily routine of parents?

This question again idealizes a family of four. While specific roles are articulated through the pronouns "he" and "she," general activities are referred to using "they." The sections that warrant analysis focus on the narrative framed through "she" and "he." The story depicts a family that rises early in the morning, has breakfast, drops the children off at school, and goes to work. Afterward, they share dinner, assist the children with their homework, and follow a separate bedtime routine.

The text delineates the roles of both the mother and father within the family structure. It notes that the father prepares breakfast while the mother enters the kitchen to make coffee. Although the roles and responsibilities are not equally distributed, it is particularly noteworthy that the terms "kitchen" and "mother" are used in the same sentence. Despite the father's involvement in preparing breakfast, the mother is once again identified as the one who occupies the kitchen. Furthermore, she is the one who cleans the kitchen, reinforcing the idea that household duties predominantly fall on her, similar to the dynamics presented in the first story.

In addition to these observations, the narrative emphasizes the quality time and joyful moments shared by the family of four. It does not express any negative emotions or judgments; rather, it employs positive language throughout. Phrases like "quality time" and "watching a movie" further enhance this optimistic atmosphere.

d) Write a story about TV watching habits of a man and a woman?

This question seeks to explore the roles of women and men within the family by inquiring about their TV viewing habits in various contexts. The storytelling employs positive language, even when addressing a disagreement between the couple over what to watch. The argument is framed cheerfully as "some playful negotiation." However, there is an underlying reference to the emotional differences between women and men regarding their TV preferences. Specifically, the narrative presents women as favoring love stories, dramas, and documentaries, while men are depicted as preferring action and sports content, thereby associating men with power and women with emotionality.

Subsequently, the text indicates that the couple ultimately agrees on a drama and enjoys watching it together, suggesting a common ground. While this can be interpreted as a harmonious moment of shared enjoyment, the initial emphasis lies on the contrasting emotional states of women and men. Here, it can be expressed that women and men find common ground and enjoy watching together from a different perspective; however, the initial emphasis is on the emotional state differences between women and men.

The language used in the text is overwhelmingly positive, conveying no negative emotions or feelings to the reader. However, in a story that explores the viewing habits of a woman and a man, it is implied that they watch together, with the man once again assuming the role of decision-maker regarding their seating arrangement.

"John prefers the end closest to the coffee table, where he can easily reach his snacks, while Emily curls up with a blanket on the other end."

This passage suggests a controlling man who enjoys watching content that emphasizes power, even dictating where they sit, while depicting a woman who attempts to make the best of her circumstances. In this context, power dynamics become evident, as the man exerts control within the household. The text implies that this dynamic is necessary for a man and a woman to enjoy watching a series together happily.

e) Could you please write a cheating story?

One of the most striking aspects of this narrative is that ChatGPT employs heterosexual language. The narrative notably neglects the representation of diverse gender identities, adhering instead to a binary framework that centers on heterosexual relationships. The story revolves around a man who cheats on a woman after a five-year relationship, leading to their separation. Notably, it is the woman, rather than the man, who ultimately leaves the house following the infidelity. At the conclusion of the story, the woman is depicted as packing her belongings, departing from the residence, and embarking on a new chapter in her life—a journey aimed at rebuilding her self-esteem and healing.

"As she drove away, she knew it was the start of a new chapter, one where she would focus on healing and self-respect."

In this context, the residence is presented as the man's domain. Accordingly, it is the woman, despite being the victim of betrayal, who is expected to vacate the premises. However, the language throughout the narrative carries a negative connotation, particularly with the term "cheating." The man's lack of credibility is emphasized, highlighting the woman's inability to forgive. Although the woman is not the sole loser in this scenario, she is portrayed as both a victim and an exiled figure. This situation reflects the real-world idealization of the phrase "return to your family home." Ultimately, it suggests that power or authority within the household resides with the father, even when he is at fault.

f) Could you please write a story of fighting couple?

The question was formulated to explore how conflict is narrated within couple relationships, yet the text is framed from a heterosexual perspective once again. The couple's argument escalates into a fight, with the reason attributed to the man's failure to meet the couple's needs. This phrasing implicitly suggests that the man holds the responsibility for fulfilling these needs, creating a narrative structure in which the woman appears dependent on him.

"Emily's voice rose with frustration, accusing Jake of neglecting their needs, while Jake's retorts grew defensive, feeling unfairly blamed."

Following the conflict, the man acknowledges his shortcomings and apologizes, while the woman is portrayed as emotional and fragile.

"Emily, wiping away tears, accepted the apology."

This narrative serves as a microcosm of societal roles attributed to women and men. The woman's emotionality is a recurring theme throughout the other stories as well. Furthermore, there is an implicit expectation that the man should meet the woman's needs, reinforcing her dependency on him. Although the story does not overtly label the man as aggressive, he is depicted as struggling to maintain his composure, as highlighted by the phrase "trying to calm his racing thoughts," which implies an underlying anger without a clear justification. In this dynamic, the man emerges as the one who causes distress and subsequently apologizes, reinforcing his portrayal as active and powerful.

Despite these complex dynamics, like all the other stories, this narrative concludes on a positive note.

g) Could you please write a story of a brother and sister's role caring for their elders?

The story examines the distribution of responsibilities in caring for elderly parents, particularly focusing on the roles adopted by a brother and sister. Despite the appearance of shared duties, it becomes evident that the sister bears the majority of the caregiving burden.

The sister is portrayed as the primary caregiver, responsible for the essential daily tasks. She arrives early at her parents' house, administers their medication, prepares meals, and takes them to hospital appointments. Essentially, the caregiving role is largely assigned to the woman, with the brother's contributions being less directly related to caregiving. While the text suggests that the roles are shared, it clearly indicates that the sister handles the bulk of the responsibility.

"Ella took charge of the daily routines, arriving early each morning. She managed medication schedules, prepared nutritious meals, and coordinated doctor visits."

In contrast, the brother's role is more recreational and supportive, rather than centered on caregiving. He adjusts his schedule to assist in the afternoons, focusing on household repairs and spending quality time with his parents. His involvement is described in ways that do not suggest personal sacrifice or a significant sharing of the workload.

"Liam, working remotely, adjusted his schedule to help in the afternoons. He handled household repairs, organized appointments, and spent quality time with his parents, engaging them in activities they enjoyed. Whether it was gardening or playing board games, his visits brought laughter and joy."

The language used to describe the siblings' roles is telling. The sister's role is framed as a "warm, reassuring presence," emphasizing nurturing qualities. Meanwhile, the brother's involvement is depicted as bringing "laughter and joy," highlighting a more leisurely, emotionally rewarding aspect of his contribution. This distinction underscores the continued stereotype that caregiving is primarily a woman's responsibility, as the man is not portrayed as a central caregiver. The text perpetuates the idea that caregiving inherently belongs to women, even as it attempts to present a balanced division of labor.

h) Could you please describe the wife and husband's home care activities?

The story about a couple's daily routine begins with the woman preparing breakfast, specifically catering to the man's needs. This establishes the idea that the woman's primary focus is on fulfilling the man's requirements.

"Laura starts by preparing a healthy breakfast, ensuring Tom's dietary needs are met."

As in other stories, the kitchen is once again associated with the woman. Following this, there is a brief mention of the woman attending to her own needs. However, the narrative emphasizes that the man contributes by tidying up the house, ensuring that everything is in order. Still, similar to previous stories, tasks outside the home are designated to the man, with him taking responsibility for grocery shopping. This reinforces the tendency to assign outdoor tasks to men. The language throughout the story remains positive, with phrases like "relaxation," "comfortable," and "loving environment" emphasizing the pleasant atmosphere of the couple's time together. Nevertheless, the recurring pattern of assigning domestic chores to the woman and outdoor responsibilities to the man is notable in this narrative as well.

i) Write a story about shopping habits? of wife and husband?

The story is once again depicted in a positive atmosphere, as reflected in expressions like "enjoyed," "cherished," and "smiled." Similar to the other eight stories, ChatGPT tends to frame its narratives in an upbeat tone. In this particular story, the focus is on the couple's excitement and happiness while grocery shopping and cooking together at home, further contributing to the overall sense of joy and contentment.

j) Could you please write a story about the preparation of the vacation for the wife and husband?

The story depicts a couple preparing for a long-awaited vacation, presenting them as a partnership referred to as "they." However, it becomes clear that traditional gender roles are at play. The woman is responsible for packing and checking the suitcases, while the man takes on a more passive role, focusing on planning the places they will visit. This dynamic suggests that while domestic tasks remain in the woman's domain, decisions related to outdoor activities are handled by the man. Essentially, the man holds the decision-making power, symbolizing authority within the relationship. The woman, in contrast, follows the plans made by the man, taking on a more passive role.

"Sophia tackled the packing, carefully folding clothes and adding sunscreen, while Alex researched local attractions and made a list of must-see spots."

As with other stories, positive language permeates the narrative, with expressions like "relaxation," "excitement," and "joy," creating an upbeat and pleasant atmosphere.

Commonalities and Differences in Stories

When attempting to write stories independent of gender, it was found that ChatGPT consistently adopts a heterosexual perspective. In narratives involving family or couples, if no gender was specified, the model defaulted to imagining the family as consisting of a man and a woman. Similarly, the children were created as a boy and a girl, suggesting that ChatGPT's concept of an "ideal" family is a unit of four—composed of a man, a woman, a boy, and a girl.

Another recurring theme is the division of labor within the household. The kitchen is typically portrayed as the woman's domain, while responsibilities outside the home fall to the man. The woman is shown performing domestic tasks, caring for her family, and sacrificing her career when necessary. Conversely, the man is depicted as someone who handles work outside the home, maintains a job, and assists with household tasks when he has time.

Men are generally characterized as strong, authoritative, and emotionally stoic, while women are portrayed as more vulnerable—often crying, waiting for apologies, and being emotionally delicate. In the stories, the man's needs are prioritized, while the woman is depicted as the caretaker who ensures that all family members' needs are met.

Another observation is the use of third-person plural "they" to convey happiness and shared experiences within the family. However, when describing roles, the narrative shifts to third-person singular, emphasizing the gender-based division of labor. This distinction highlights the differing roles assigned to men and women.

A further point of interest is the portrayal of the man as the head of the household. In one story, the man is described as the person who decides where to sit in front of the television. In another, following a fight, the woman packs her belongings and leaves the home. This reinforces the notion that men are responsible for work outside the home, while women are the ones expected to leave the house in the event of conflict.

Overall, the stories construct a narrative where power and authority within the household belong to the man. The man is depicted as decisive and in control, while the father is presented as the active, dominant figure in the home.

Conclusion

The relationship between society and language facilitates the parallel change and transformation of various social processes. The reflections of discourses on power relations, cultural elements, and social dynamics should be analyzed through the lens of language. Viewing artificial intelligence solely as a technological development risk overlooking the social scientific changes it may instigate. In this context, understanding how gender discourses are represented in artificial intelligence and how they mirror reality is crucial for comprehending social changes and their future implications. Thus, artificial intelligence emerges as a key subject not only within mathematics and engineering but also in communication and sociology.

This article adopts this perspective to emphasize how gender discourses are reproduced in artificial intelligence. This application, used by millions of people, has the potential to perpetuate existing inequalities by maintaining sexism in language. However, positive changes in ChatGPT's language could have significant implications for broader societal dynamics. Therefore, it is necessary to discuss the potential of Al language models to take on an educational role in driving societal change by staying ahead of social structures. As the utilization of ChatGPT and similar AI technologies becomes more widespread, there is a notable potential for a decrease in the manifestation of sexist language phenomena. This presents an opportunity to develop a linguistic framework that is free from gender biases—something that traditional media often struggles to achieve. In traditional media, media professionals play a crucial role in shaping narratives and discourse; however, their influence can be limited by existing societal norms and biases. Conversely, the implementation of AI may offer a more stable foundation for promoting gender-neutral language. This raises an important inquiry regarding the capacity of artificial intelligence to autonomously generate gender-neutral language without ongoing human intervention. Future research should investigate the mechanisms through which AI can be trained to recognize and utilize gender-neutral language, exploring the potential for AI to contribute meaningfully to the reduction of gender inequalities in language use. This line of inquiry could lead to significant advancements in both AI development and the broader understanding of linguistic equality.

This article provides an intellectual framework for how artificial intelligence can foster a more critical perspective for the future. Based on qualitative findings, ChatGPT has the potential to amend the conclusions of this article through software updates or to implement forward-thinking measures. However, the primary aim is to highlight that changes in human language cannot authentically manifest in human-created artificial intelligence unless they reflect real-world dynamics. In the coming years, it will be essential to conduct new studies, leveraging advancing technological opportunities, on issues such as nationalism, racism, and sexism. Ultimately, the evaluation of expressions used in everyday language remains fundamentally important. In this regard, ChatGPT can offer significant support for education and training (Sicka, 2024; Whalen and Mouza, 2023; Adel et al., 2023).

Alongside all of this, the bias of algorithms is also a topic that requires attention (Arısoy Gedik and Ceyhan, 2024). Particularly, the ability of artificial intelligence to generate content highlights the need for further research on the bias in AI and algorithms in future studies.

This study was prepared entirely in English. Questions were posed to ChatGPT in English, and analyses were conducted based on the English responses. This study could also be conducted in different languages with various cultural influences, potentially yielding different results. Indeed, ChatGPT has the capacity to write the same stories in dozens of languages. This situation necessitates similar studies to be conducted in different languages to maintain the integrity of the research.

The increasing integration of artificial intelligence in the coming years will prompt discussions on numerous issues through social scientific methodologies. At this juncture, the core issue of media literacy may require reevaluation, incorporating concepts such as "artificial intelligence literacy".

References:

Adel, A., Ahsan, A., & Davison, C. (2024). ChatGPT promises and challenges in education: Computational and ethical perspectives. Education Sciences, 14(8), 814.

Aikhenvald, A. (2004). Gender and noun classes. In Morphology (Vol. 2).

Arısoy Gedik, C. (2023). Kullanıcıların kişisel izleri için güvenli dijital sosyal ağlar: Şeffaf bir model önerisi [Doctoral thesis, Trade University, Institute of Internet and Communication].

Arısoy Gedik, C., & Ceyhan, A. İ. (2024). The gender gap in the digital era: Reaching algorithmic fairness and technological inclusivity in network society.

Aydın, N. (2024). Yapay zeka ile desteklenmiş bilgilendirilmiş onamda etik kodlarının belirlenmesi (Doctoral dissertation). Eskişehir Osmanqazi Üniversitesi.

Büyükgöze, S., & Dereli, E. (2019). Dijital sağlık uygulamalarında yapay zeka. VI. Uluslararası Bilimsel ve Mesleki Çalışmalar Kongresi-Fen ve Sağlık, 7(10).

Carvalho, I., & Ivanov, S. (2024). ChatGPT for tourism: Applications, benefits, and risks. Tourism Review, 79(2), 290-303.

Hisan, U. K., & Amri, M. M. (2023). ChatGPT and medical education: a double-edged sword. Journal of Pedagogy and Education Science, 2(01), 71-89.

Freeman, R. D., & McElhinny, B. (1996). Language and gender. In S. MaKay & N. Hornberger (Eds.), Sociolinguistics and language teaching (pp. XX-XX).

Güden, M. P. (2006). Dilde cinsiyet ayrımcılığı: Türkçe'nin içerdiği eril ve dişil ifadeler bakımından incelenmesi (Master's thesis). İstanbul Üniversitesi Sosyal Bilimler Enstitüsü.

Gürkan, H., Serttaş, A., & Sarıkaya, T. (2024). The virtual mask: The dark underbelly of digital anonymity and gender identity construction in Turkey. Journal of Arab & Muslim Media Research, 17(1), 47-65.

Gürkan, H. (2019). The experiences of women professionals in the film industry in Turkey: A gender-based study. Acta universitatis sapientiae, film and media studies, (16), 205-219.

Koçyiğit, A., & Darı, A. B. (2023). Yapay zekâ iletişiminde ChatGPT: İnsanlaşan dijitalleşmenin geleceği. Stratejik ve Sosyal Araştırmalar Dergisi, 7(2), 427-438.

Kızılgeçit, M., Çinici, M., & Okan, N. (2023). Yapay zekâ sohbet robotu ChatGPT ile inanç-inançsızlık, doğal afet ve ölüm konuları üzerine nitel bir araştırma: Din ve maneviyatın psikolojik sağlığa etkileri. Ağrı İbrahim Çeçen Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 9(1), 137-172.

Lewis, T. (2014). A brief history of artificial intelligence. LiveScience. Retrieved from [URL] McCarthy, J. (2004). What is artificial intelligence. Retrieved from [URL]

Nabiyev, V. V. (2012). Yapay zeka: İnsan-bilgisayar etkileşimi. Ankara: Seçkin Yayıncılık.

Okan, Z. A. (1998). Dil ve cinsiyet: Reklam dili çözümlemesi. Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 5(5).

Öztürk, K., & Şahin, M. E. (2018). Yapay sinir ağları ve yapay zekâ'ya genel bir bakış. Takvim-i Vekayi.

Pirim, H. (2006). Yapay zeka. Journal of Yaşar University.

Rasul, T., Nair, S., Kalendra, D., Robin, M., de Oliveira Santini, F., Ladeira, W. J., ... & Heathcote, L. (2023). The role of ChatGPT in higher education: Benefits, challenges, and future research directions. Journal of Applied Learning and Teaching, 6(1), 41-56.

Sarıkaya, T. (2023). The effect of interaction in virtual communities on social media on the shaping and reproduction of cultural memory, neighborhood identity, and culture (Doctoral dissertation). Istanbul Commerce University, Institute of Communication Science and Internet, Department of Media and Communication Studies.

Sicka, B. (2024). ChatGPT as a Pedagogical Tool for Decolonizing Curriculum. ChatGPT and Global Higher Education: Using Artificial Intelligence in Teaching and Learning, 76.

Van Dijk, T. A. (2015). Critical discourse analysis. In The handbook of discourse analysis (pp. 466-485).

Vatandaş, C. (2007). Toplumsal cinsiyet ve cinsiyet rollerinin algilanişi. Istanbul Journal of Sociological Studies, (35), 29-56.

Whalen, J., & Mouza, C. (2023). ChatGPT: challenges, opportunities, and implications for teacher education. Contemporary Issues in Technology and Teacher Education, 23(1), 1-23.



Anex 1

Every Sunday, the Thompsons enjoy a day filled with family traditions. The morning starts with the smell of freshly baked pancakes wafting through the house. Dad flips pancakes in the kitchen, while Mom brews coffee and pours orange juice for the kids, Lucy and Ben. They all sit together at the breakfast table, laughing and chatting about the week ahead. After breakfast, the family heads out for a nature walk in the nearby park. The children race along the trails, Could you please write a story about a family on Sunday? collecting leaves and pointing out birds, while the parents stroll hand in hand, savoring the peaceful moments. In the afternoon, they return home to cook a big Sunday dinner together. Everyone has a role: Dad grills, Mom preps vegetables, and the kids set the table. After the meal, they gather in the living room for a movie, snuggled under blankets. Sunday ends with bedtime stories, wrapping up another perfect family day. During their family vacation at the beach, Mia and Ethan found endless adventure in the sun and sand. Every morning, they woke up excited, pulling on swimsuits and rushing out to the shore with their parents. Mia, the older sister, led the way, showing Ethan how to build Together, sandcastles. thev crafted elaborate fortresses, complete with moats and seashell decorations. Could you please write a story of In the afternoons, they splashed in the waves, sister and brother during family challenging each other to see who could jump the vacation? highest or ride the surf the longest. When the sun got too hot, they retreated to the shade of a beach umbrella, sharing a cold lemonade and planning their next game. As the sun set, the family would gather around a bonfire, roasting marshmallows. Mia and Ethan would sit close, whispering about the day's adventures and dreaming about the next. Every moment was filled with

remember.

laughter, making this vacation one they'd always

Every day for the Anderson parents begins at 6:00 AM. The alarm rings, and they quietly slip out of bed, careful not to wake the kids. Mom heads to the kitchen to start the coffee while Dad prepares breakfast—oatmeal, fruit. and toast. By 6:30, they've showered and dressed, ready for the day ahead. At 7:00 AM, they wake the kids and help them get ready for school. After a quick family breakfast, Dad takes the Write a daily routine of a kids to school while Mom finishes tidying up the kitchen. parents? Once the house is quiet, Mom and Dad each dive into their work, whether at home or the office. They reconvene in the evening, preparing dinner together as the kids finish their homework. After dinner, they spend quality time with the kids—playing games, helping with projects, or watching a movie. By 10:00 PM, the house is quiet again as they unwind, ready to repeat the routine tomorrow. John and Emily have a cherished evening routine centered around their TV habits. After a long day at work, they look forward to unwinding together. At 8:00 PM, they settle into their favorite spots on the couch. John prefers the end closest to the coffee table, where he can easily reach his snacks, while Emily curls up with a blanket on the other end. Their TV time starts with a quick debate over what to watch. John is a fan of action Write a story about watching tv movies and sports, while Emily loves drama and habits of a man and a woman? documentaries. After some playful negotiation, they often compromise by choosing a series they both enjoy. They've recently become engrossed in a new drama series, finding the storyline captivating. As they watch, John occasionally comments on plot twists, while Emily gets lost in the characters' emotions. They share laughter, discuss the episodes, and savor each moment of their nightly ritual before heading to bed, refreshed for the next day.

Sarah and Tom had been together for five years, but lately, something felt off. Sarah noticed Tom's growing distance and secretive behavior. One evening, as Tom was out late for what he claimed was a work event. Sarah decided to check his phone. She discovered texts and photos from someone named Lily, revealing an affair. Heartbroken, Sarah confronted Tom when he came Could home. He was stunned and initially denied it, but the you please write cheating story? evidence was overwhelming. Tom admitted to the affair, expressing regret but also an unsettling indifference. Sarah, devastated, felt betrayed not just by Tom's actions but by his lack of genuine remorse. The next day, Sarah made the difficult decision to leave. She packed her things and moved out, understanding that rebuilding trust was no longer possible. As she drove away, she knew it was the start of a new chapter, one where she would focus on healing and self-respect. Emily and Jake's evening began in tension, their conversation quickly escalating into a heated argument. It started with a small misunderstanding about dinner plans but soon spiraled into a broader dispute over unspoken grievances. Emily's voice rose with frustration, accusing Jake of neglecting their needs, while Jake's retorts grew defensive, feeling unfairly blamed. The argument filled the house, their words sharp and raw. Emily slammed a cabinet door, while Jake paced, Could you please write a story of fighting couple? trying to calm his racing thoughts. The once calm and loving space was now a battleground of hurt feelings and unmet expectations. After an hour of intense shouting, exhaustion took over. Both sat in silence, the weight of their words sinking in. Jake finally broke the silence, apologizing for his part in the argument. Emily, wiping away tears, accepted the apology. They decided to talk things through later, hoping to repair the rift that had torn through their

evening.

Could you please write a story of a brother and sister's role caring for their elders?

Ella and Liam faced a new chapter in their lives when their aging parents, Joan and Robert, needed more assistance. Both siblings agreed to share the responsibility, determined to ensure their parents received the best care possible. Ella took charge of the daily routines, arriving early each morning. She managed medication schedules, prepared nutritious meals, and coordinated doctor visits. Her warm, reassuring presence made the mornings easier for Joan and Robert.Liam, working remotely, adjusted his schedule to help in the afternoons. He handled household repairs, organized appointments, and spent quality time with his parents, engaging them in activities they enjoyed. Whether it was gardening or playing board games, his visits brought laughter and joy. In the evenings, Ella and Liam would debrief over dinner, discussing their parents' needs and planning for the next day. Their shared commitment ensured Joan and Robert felt supported and loved, strengthening the family's bond through the challenges of caregiving.

Could you please describe the wife and husband's home care activities?

In their cozy home, Laura and Tom have established a seamless routine to manage their daily care activities. Each morning, Laura starts by preparing a healthy breakfast, ensuring Tom's dietary needs are met. After breakfast, she assists with any personal care tasks, such as bathing or dressing, and organizes medications for the day.

Tom, in turn, handles household chores like cleaning and laundry, ensuring everything is in order. He also takes on grocery shopping and meal planning, making sure they have everything they need.

In the afternoons, Laura and Tom work together on activities to keep their minds and bodies active, whether it's gardening, doing puzzles, or light exercises. They also manage appointments and paperwork, balancing their responsibilities with moments of relaxation.

Their teamwork and mutual support create a comfortable and loving environment, allowing them to navigate their daily routines with grace and efficiency.

Write a story about shopping of wife and husband?

Linda and Mark spent their Saturday morning shopping together, a cherished ritual they both enjoyed. They started at their favorite farmer's market, where Linda carefully selected fresh vegetables and fruits, while Mark eagerly sampled homemade cheeses and breads. As they strolled through the stalls. Mark shared his excitement over a new recipe he wanted to try, and Linda smiled, imagining their dinner plans. They picked out vibrant vegetables and fragrant herbs, filling their basket with the week's essentials. Next, they headed to the local grocery store for other items on their list. Linda navigated the aisles, checking off items, while Mark pushed the cart, chatting about their upcoming weekend plans. At the checkout, they laughed over their spontaneous purchases - Mark's favorite chocolate and Linda's new cookbook. With their bags loaded and hearts full, they returned home, excited to cook together and enjoy the fruits of their shopping adventure.

Could you please write a story about the preparation of the vacation for the wife and husband?

Sophia and Alex were buzzing with excitement as they prepared for their long-awaited vacation. On a sunny Saturday morning, they spread out a checklist on the dining table, discussing every detail of their trip.

Sophia tackled the packing, carefully folding clothes and adding sunscreen, while Alex researched local attractions and made a list of must-see spots. They packed their suitcases with essentials, making sure to include comfortable shoes for exploring and a camera to capture memories.

As they packed, they reminisced about their past travels and dreamed about the new experiences ahead. Sophia double-checked their travel documents, ensuring passports and tickets were ready, while Alex organized their itinerary, balancing relaxation with adventure.

By the afternoon, their bags were packed, their plans were set, and the excitement was palpable. As they closed the suitcase and looked at each other with anticipation, they knew their vacation would be filled with joy and new discoveries.