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## The Use of ChatGPT in Qualitative Data Analysis: A Comparative Analysis on Contextual Fidelity and Thematic Consistency

Serdar ERDEM<sup>1</sup>

ORCID: 0000-0002-0085-1580

Akif PAMUK

Marmara University, Atatürk Faculty of Education, Department of History Education

ORCID: 0000-0002-8147-611X

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### ABSTRACT

### ARTICLE INFO

This study aims to evaluate the functionality of the large language model ChatGPT in qualitative data analysis by comparing it with human-conducted content analysis. The dataset consists of a total of 43,164 tweets shared on the X (formerly Twitter) platform on Teachers' Day, November 24, in the years 2020 and 2021. Since the data were obtained from previously archived social media content, document analysis was used as the data collection method. The research was designed as a comparative case study. During the analysis process, both descriptive analysis and content analysis techniques were employed. The dataset, previously used in a published study by the researcher, was uploaded to ChatGPT-4o for AI-assisted analysis. The findings were compared in terms of thematic consistency, contextual fidelity, conceptual depth, and example discourse alignment. Additionally, ChatGPT's critical evaluations and theoretical framework suggestions regarding the dataset were also assessed. The results indicate that while ChatGPT is effective in constructing conceptual frameworks and generating general themes, it exhibits limitations in understanding context and producing data-faithful examples. Particularly in the absence of user guidance, the model tends to generate synthetic discourse, posing a risk of contextual drift. Therefore, when supported with researcher oversight and clear prompts, ChatGPT can serve as a complementary tool in qualitative analysis processes.

**Key Words:** ChatGPT, AI-Assisted Qualitative Analysis, Artificial Intelligence and Contextual Fidelity, Thematic Coding with ChatGPT, Comparative Case Study

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<sup>1</sup> Corresponding author:

Dr.

serdarerdem2019@gmail.com

## Nitel Veri Analizinde ChatGPT'nin Kullanımı: Bağlam Sadakati ve Tematik Tutarlılık Üzerine Karşılaştırmalı Bir Analiz

Serdar ERDEM<sup>2</sup>

ORCID: 0000-0002-0085-1580

Akif PAMUK

Marmara University, Atatürk Faculty of Education, Department of History Education

ORCID: 0000-0002-8147-611X

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### ÖZET

### MAKALE BİLGİSİ

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Bu araştırma, büyük dil modeli ChatGPT'nin nitel veri analizindeki işlevselliğini, insan eliyle gerçekleştirilen içerik çözümlenmeleriyle karşılaştırarak değerlendirmeyi amaçlamaktadır. Araştırmanın veri seti, X (Twitter) platformunda 2020 ve 2021 yıllarının 24 Kasım Öğretmenler Günü'nde paylaşılan toplam 43.164 tweet'ten oluşmaktadır. Veriler, önceden arşivlenmiş sosyal medya içeriklerinden elde edildiği için veri toplama aracı olarak doküman analizi yöntemi kullanılmıştır. Araştırma, karşılaştırmalı durum çalışması desenine göre yapılandırılmıştır. Analiz sürecinde hem betimsel analiz hem de içerik analizi tekniklerinden yararlanılmıştır. Araştırmacı tarafından daha önce yayınlanan makalenin veri seti ChatGPT-4o'ya yüklenerek yapay zekâ destekli analiz gerçekleştirilmiştir. Elde edilen bulgular tematik bütünlük, bağlam sadakati, kavramsal derinlik, örnek söylem eşleşmeleri açısından karşılaştırılmıştır. Bunun yanında veri setine dair ChatGPT'nin eleştirel bakış ve teorik çerçeve önerileri değerlendirilmiştir. Sonuçlar, ChatGPT'nin kavramsal çerçeve oluşturma ve genel tema üretiminde etkili olabildiğini ancak bağlamı anlama ve veriye sadık örnek üretme konusunda sınırlılıklar taşıdığını göstermektedir. Özellikle kullanıcı yönlendirmesi olmaksızın, modelin sentetik söylemler üreterek bağlam dışına çıkma riski bulunduğu tespit edilmiştir. Bu nedenle ChatGPT, araştırmacı denetimi ve açık istemlerle desteklendiğinde, nitel analiz süreçlerinde tamamlayıcı bir araç olarak değerlendirilebilmektedir.

**Anahtar Kelimeler:** ChatGPT, Yapay Zeka Destekli Nitel Analiz, Yapay Zekâ ve Bağlam Sadakati, ChatGPT ile Tematik Kodlama, Karşılaştırmalı Durum Çalışması

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<sup>2</sup> Sorumlu yazar:  
Dr.  
serdarerdem2019@gmail.com

## **Introduction**

The use of artificial intelligence has rapidly gained momentum across virtually all domains in recent years. Correspondingly, research exploring the potential applications of AI has increased significantly. In particular, large language models (LLMs) that are capable of understanding and generating human language have begun to exert transformative influence across various fields, including education, healthcare, law, and media production. These models' ability to parse complex linguistic structures and generate coherent texts has deepened human-machine interaction, significantly altering access to information, content creation, and decision-making processes.

However, along with their potential, the limitations, ethical concerns, and socio-cultural impacts of LLMs have become increasingly debated. One central issue is that these models operate based solely on the formal structure of language, and may produce outputs that appear meaningful without genuinely conveying semantic content, which can lead to misleading results for users. As Bender et al. (2021) emphasize, large language models are systems devoid of communicative intent, contextual awareness, and meaning-making capabilities. Consequently, the texts they generate are often mere stochastic reassemblies of linguistic patterns, lacking the true interpretive capacity of human cognition. This underscores the need to evaluate not only the opportunities these models offer but also the epistemological, environmental, and societal risks they entail. Similarly, Cornelissen et al. (2024) argue that while such models may superficially mimic creative, abstract, and critical thinking processes, they remain incapable of producing original theoretical insights due to their lack of deep reasoning and meta-reflective capabilities. Therefore, the epistemological and societal risks posed by LLMs must be carefully evaluated alongside the opportunities they offer.

In the context of qualitative data analysis, AI-supported tools have emerged as both time-saving and potentially innovative aids throughout research processes. Particularly, large language models demonstrate potential in tasks such as data classification, theme identification, conceptual mapping, and even initial coding. This positions them as complementary tools to traditional qualitative methodologies—enhancing, rather than replacing, the researcher's interpretive and intuitive capacities. It must therefore be stressed that AI is not a substitute for the researcher, but rather a tool designed to support human decision-making. Qualitative inquiry entails more than data processing; it requires contextual interpretation, theoretical integration, and critical engagement. Accordingly, current debates center on methodological reliability, ethical boundaries, and interpretive adequacy of AI-assisted analyses—calling for a reevaluation of the balance between researcher autonomy and algorithmic influence. At this juncture, it becomes vital to assess not only the limitations of large language models but also the possibilities they present for researchers. Especially relevant is how these technologies are operationalized in research practice and integrated with the creative and interpretive dimensions of human reasoning. This raises the broader question of to what extent and under what conditions AI-supported tools can be effectively utilized in qualitative data analysis.

Recent empirical studies have provided multidimensional insights into the contributions and constraints of ChatGPT in qualitative research. The model's efficiency during the initial

coding phase, its rapid identification of descriptive themes, and its capacity to generate data-specific categories have demonstrated its potential to save researchers considerable time and effort (Bijker et al., 2024; Lixandru, 2024; Wachinger et al., 2024). However, findings also report that the model falls short in more interpretive and abstract thematic analyses, potentially leading to erroneous generalizations when not supported by a human researcher's reflexivity and contextual intuition (Morgan, 2023; van Manen, 2023). Moreover, the nature and structure of prompting have been found to significantly influence the outputs, highlighting the necessity for carefully designed prompt engineering (Wachinger et al., 2024). A common thread in the literature is that ChatGPT, particularly within inductive approaches, can function as a creative and constructive "partner" that supports researchers' decision-making processes. Nevertheless, the ultimate responsibility for ethical conduct, conceptual coherence, and analytical depth must remain with the human researcher (Koçak, 2025; Lee et al., 2024; Şen et al., 2023; Turobov et al., 2024).

This study aims to comparatively evaluate how the large language model ChatGPT can be operationalized in qualitative data analysis, by contrasting its performance with that of a manual analysis previously conducted by a human researcher using the same dataset. Specifically, the study examines the strengths and limitations of AI-supported analysis in areas such as thematic classification, contextual fidelity, conceptual differentiation, and interpretive depth, comparing these systematically with human interpretation. In doing so, this research not only tests the technical capacity of artificial intelligence but also interrogates the methodological legitimacy of LLM-based analysis within the social sciences, its potential for supporting critical thought, and its ability to complement human intuition. By comparing two distinct analytic approaches applied to the same dataset, the study offers a framework for evaluating human-machine interaction in qualitative inquiry—enhancing both its methodological and theoretical contribution.

In this regard, the central research question of the study is as follows:

“What types of divergences exist between ChatGPT-assisted content analysis and manual (human-conducted) qualitative data analysis in terms of content depth, contextual fidelity, and thematic coherence?”

Based on this central question, the following sub-questions have been developed:

- What kinds of similarities and differences emerge between ChatGPT-assisted and human-led qualitative data analyses in the identification of thematic categories and classification of representative examples?
- To what extent does ChatGPT demonstrate alignment with human analysis in recognizing specific conceptual themes and identifying relevant sample expressions within the dataset?
- In what ways does ChatGPT's capacity to interpret, critique, and conceptually expand upon the current analytical findings resemble or differ from human analyses?

Within this framework, the aim of the study is not only to evaluate the applicability of artificial intelligence in qualitative analysis but also to reveal the extent to which it complements or constrains the researcher's intuitive capacity.

## **Method**

### **Research Design**

This study was designed as a comparative case study aimed at examining the similarities and differences between AI-assisted and human-conducted content analyses in qualitative data analysis. The two modes of analysis—ChatGPT-assisted and manual (researcher-driven)—were treated as independent cases, each analyzed separately and subsequently compared. Comparative case studies involve the systematic analysis of multiple cases to gain a broader and more nuanced understanding of a phenomenon (Creswell & Guetterman, 2019). In this context, both analytical processes were evaluated in terms of content depth, contextual fidelity, and thematic coherence.

Accordingly, the research rests on a systematic comparison of two distinct analytical approaches applied to the same dataset: manual human interpretation and AI-assisted thematic coding. The data set used in this study was derived from a previously published research project conducted by the same researchers<sup>3</sup>. In the earlier study, the dataset was manually analyzed, and thematic classifications were developed to explore collective identities through the lens of the teaching profession, focusing on the meanings attributed to teachers and teaching. The present study, however, re-analyzes the same dataset using ChatGPT-4o, aiming to evaluate the model's thematic analysis capacity and contextual sensitivity in comparison to a human researcher. In this regard, the study offers a comparative perspective on the convergence and divergence between human interpretation and AI-based output, grounded in both a shared dataset and a consistent researcher framework.

### **Data Collection Tools**

The main data collection tool employed in this research is document analysis. Document analysis is a qualitative data collection method that involves the systematic review and interpretation of existing textual content, and is particularly effective for analyzing pre-existing written materials (Bowen, 2009). The dataset consists of content extracted from 42,403 tweets shared on the social media platform X (formerly Twitter) during the 24 November Teachers' Day period in Türkiye in 2020–2021. This dataset was originally used in a previously published academic study by Erdem & Pamuk (2025), in which it was manually analyzed and thematically categorized. For this reason, document analysis was adopted as the data collection method in the present study.

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<sup>3</sup> See: Erdem, S., & Pamuk, A. (2025). The Collective Construction of Teacher Identity on X on November 24th, Teachers' Day, and the Meanings Attributed to Teaching. *International Journal of Field Education*, 11(1), 98-102. <https://doi.org/10.32570/ijofe.1639937>

## Data Analysis

The data analysis process was conducted in two stages. In the first stage, the previously conducted manual (researcher-driven) qualitative content analysis was taken as the baseline. In this analysis, content was thematically classified, categorized, and representative expressions were identified. In the second stage, the same dataset was analyzed by ChatGPT-4o (hereafter referred to simply as ChatGPT or “the model”). The dataset was directly uploaded to the model, and content interpretation was facilitated through guided interaction. During this process, the researcher assumed the role of directing and refining the analysis.

The themes generated by both analysis methods were then compared in terms of conceptual consistency, contextual fidelity, content relevance, and the degree of categorical generalization. Additionally, ChatGPT was prompted to produce critiques and theoretical frameworks relevant to the research, and the model's outputs in these domains were evaluated.

The resulting data were presented using descriptive analysis and content analysis techniques. The described data were examined and interpreted through the researcher’s inferences and supported by direct quotations from the dataset (Şimşek & Yıldırım, 2016).

## Findings

### Data Categorization

This section presents a comparative overview of how ChatGPT categorized the dataset, highlighting both its divergences from and similarities with the manual analysis conducted by human researchers. The findings are based on a systematic comparison between the thematic structure previously developed by researchers and the classifications generated by ChatGPT from the same dataset.

Table 1 displays the categories and subcodes established by researchers based on the most frequently recurring meaningful expressions among 42,403 tweets (Erdem & Pamuk, 2025). These categories reflect the collective identity characteristics embedded in the construction of the teacher identity.

**Table 1.** *Categories and Indicators Developed by Researchers*

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<b>Political Identity</b>	<b>Religious Identity</b>	<b>Secular Identity</b>	<b>National Identity</b>	<b>Use of History</b>
Appointment	Martyrdom	Atatürk <sup>4</sup>	Homeland/Nation	Atatürk
Government	Sacred Figures	Enlightenment	Martyrdom	Mus'ab ibn Umayr

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<sup>4</sup> Atatürk serves as a central point of reference in secular identity discourses, not only due to his advocacy of secularism, but also because of his foundational role in modernization, scientific rationality, and the construction of the nation-state (Erdem & Pamuk, 2025, p. 112).

<b>Political Identity</b>	<b>Religious Identity</b>	<b>Secular Identity</b>	<b>National Identity</b>	<b>Use of History</b>
&				
Opposition				
Union		Modern/Contemporary Flag		Village Institutes
Salary		Science		September 12 coup d'état'
Private Schools		Revolution		Age of Ignorance/Jahiliyyah <sup>5</sup>
Decree (KHK) <sup>6</sup>	Laws	Women		Fatma Refet Angın
Professional Law		Secularism		

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In the manual analysis process, the researchers identified five core themes by focusing on frequently recurring meaningful expressions within the data. As shown in Table 1, each theme was operationalized through a set of associated indicators. For instance, the theme of “Secular Identity” was structured around conceptual markers such as “science,” “secularism,” “Atatürk,” “women,” “enlightenment,” and “revolution” (Erdem & Pamuk, 2025, p. 112). Each theme was constructed in a multilayered manner with its own sub-conceptual elements, allowing the discourse within the dataset to be classified not only under broad headings but also through context-sensitive sub-indicators.

By contrast, in ChatGPT’s classification of the same dataset, themes were largely presented through broader conceptual groupings. Table 2 lists the subcategories generated by ChatGPT based on the same dataset.

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<sup>5</sup> A term referring to the pre-Islamic era in the Arabian Peninsula, characterized by polytheism, tribalism, and a lack of divine guidance, often translated as the "Age of Ignorance." (Erdem & Pamuk, 2025, p. 114)

<sup>6</sup> A decree-law (KHK) is a regulation issued by the government based on authority granted either by a legislative act that defines the subject, duration, and purpose or directly from the constitution. It has the material force of law and will gain legal force in both formal and organic terms with the approval of the parliament. After the "yes" vote in the 2017 Turkish constitutional referendum, following the 2018 Turkish general elections, the president, elected by popular vote, began their term, and Article 91 of the constitution was repealed. Decree-laws were replaced by Presidential Decrees (CBK), which became the new regulatory tool in the new system (Erdem & Pamuk, 2025, p. 108).

**Table 2** *Indicators Generated by ChatGPT*

<b>Political Identity</b>	<b>Religious Identity</b>	<b>Secular Identity</b>	<b>National Identity</b>	<b>Use of History</b>
Republican / Kemalist	Explicit Religious References	Secular-Modernist	Atatürk and the Republic	Institutional History and Teachers' Day
Conservative / Devout Identity	Spiritual (Non- religious) Orientation	Secular Modernist	Martyrdom and Homeland	Republican History and Revolutionary Education
Critical / Left- Social Justice Identity		Hybrid/Transitional Identities	Local and Institutional Celebrations (Unity Emphasis)	The Village Institutes and Educational Legacy <sup>7</sup>
Nationalist Identity			Universal/Spiritual Values Interwoven with National Identity	Martyred Teachers and Heroic Commemoration
			Structural and Social Critique	Tribute to Past Generations
				Historical Quotation and Glorification
				Personal Memories and Reminiscence
				Emphasis on Dark

<sup>7</sup> The Village Institutes (Köy Enstitüleri) are a type of school established in Türkiye by the law numbered 3803, dated April 17, 1940, with the purpose of training primary school teachers. They are regarded as the most significant type of school for teacher training by secular and modernist-oriented individuals in Türkiye (Erdem & Pamuk, 2025, p. 114).

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<b>Political Identity</b>	<b>Religious Identity</b>	<b>Secular Identity</b>	<b>National Identity</b>	<b>Use of History</b>
				Historical Periods
				September 12 coup d'état' and Critical History
				Institutional History and Teachers' Day
				Republican History and Revolutionary Education

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As Table 2 demonstrates, the model's categorization process showed limited capacity to generate clearly delineated indicators directly linked to the data. For example, the theme "Secular Modernist Identity" is not clearly broken down into its constituent indicators (e.g., science, women, secularism, modernization, etc.). However, one notable aspect of ChatGPT's classification is its frequent use of interpretive conceptualizations. Rather than relying solely on explicit statements, the model inferred abstract concepts based on the ideological tendencies underlying the discourse. For instance, terms like "hybrid identity" or "critical identity," which were not explicitly named in the human analysis, were proposed by the model as intermediate conceptual categories.

On the other hand, a high level of thematic consistency was observed between the ChatGPT and human analyses, especially in major themes such as religious identity, secular identity, historical references, and political content. In both analyses, these emerged as central axes. For instance, religious identity was linked to figures such as Prophet Muhammad, Ali, and references to the teaching profession as a "prophetic duty." Secular identity was framed through themes such as Atatürk, science, secularism, and women's rights. It is evident that ChatGPT, in identifying themes, also relied on historical figures, institutional symbols, and ideological indicators, much like the human analysts.

The most prominent divergence between the two analyses lies in the structural depth and layering of the themes. The manual analysis introduced a multi-layered structure within themes such as secular identity, incorporating numerous sub-indicators (e.g., modernity, enlightenment, science, women, revolution, secularism). This approach enabled each theme to be examined not as a superficial classification but as a network of differentiated semantic clusters. In contrast, ChatGPT presented themes largely as overarching labels, without clearly articulated sub-indicators. Terms like "Secular Modernist Identity" or "Republican Narrative"

were employed without a well-structured mapping of underlying indicators. This suggests that while ChatGPT provides an adequate conceptual framework for theme definition, it remains limited in its ability to execute fine-grained thematic coding. This difference reflects a fundamental methodological distinction: whereas ChatGPT tends to produce conceptual abstractions and thematic syntheses, the human analysis is grounded in the discourse itself—contextual, specific, and data-driven. This implies that ChatGPT’s categorization operates on a different analytical plane, one that privileges abstraction over direct data fidelity.

In the second phase of the ChatGPT-based categorization process, the researchers provided the model with a set of predefined keywords (Erdem & Pamuk, 2025, p. 104)—such as “secular,” “modern,” “science,” “women,” “revolution,” and “civilization”—to guide its thematic recognition. Additionally, the model’s capacity for independent conceptual production was tested using an open-ended prompt. Following this intervention, three main improvements were observed in the model’s performance.

The first improvement involved the model’s increased capacity for thematic differentiation. In this phase, ChatGPT deconstructed the components of secular identity as follows:

- Science and Rationalism-Based Identity
- Civilization and Modernization-Oriented Identity
- Secular Discourse Centered on Women and Social Equality
- Identity Based on Republican and Secularist Values
- Progressive and Future-Oriented Identity

Each of these categories was supported not merely by ideological generalizations but also by quotations drawn directly from the dataset. The second improvement involved the model’s enhanced capacity to interpret discourse, select appropriate examples based on keywords, and isolate content relevant to the themes. For instance, under the heading “Science and Rationalism-Based Secular Identity,” the following statements were included as indicators: “*Teachers are the pioneers who enlighten society through science.*” and “*The truest guide is science.*” These expressions not only align with the thematic classification but also represent statements that directly correspond to the dataset’s contextual meaning.

Similarly, in the “Women and Social Equality” category, expressions such as “*We are building the future with our female teachers*” and “*Wherever there is a woman, there is hope*” serve as contextually appropriate, culturally and socially aligned, and thematically strong examples.

The third improvement emerged when the model’s capacity for independent conceptual generation was tested through an open-ended question: *“How is political identity positioned in this dataset from a rights-based perspective? Categorize it.”* In this analysis, ChatGPT emphasized themes such as *“right to employment,” “equal access to jobs,” “social justice,” “security,” “professional dignity,”* and *“women’s labor,”* reconstructing political identity not in partisan terms, but rather as grounded in rights-based claims and narratives of victimhood. Particularly, focal points such as *“the discourse of unappointed teachers,” “emphasis on economic inequality and poverty,”* and *“demands for justice in education and professional respectability”* align substantively with the discourses present in the tweets. Figure 1 illustrates these examples.

Here is the table titled “Rights-Based Political Identity Positionings and Categories in the File”:

Category	Explanation	Sample Tweet Expression
Discourse of Unappointed Teachers	Right to employment, access to fair work, state’s social responsibility	“I guess I realized I won’t be appointed...”
Emphasis on Economic Inequality and Poverty	Value of labor, social rights, right to a humane life	“In 2012, with a teacher’s salary I could buy 10 quarters of gold, now just 4.”
Demand for Justice in Education and Professional Respect	Professional honor, right to societal respect	“It’s not just any job, teachers deserve to be valued.”
Right to Protection from Violence and Terror	Right to life, security, demand for justice	“We haven’t forgotten our teacher Aybüke and Necmettin Yılmaz.”
Gender-Based and Psychosocial Emphases	Working conditions, women’s labor, mental health	“I worked through fire and bullets, yet they celebrated it as just another day.”

*If you wish, I can visualize this table or expand the discourses in the categories with sample tweets.*

**Figure 1.** *ChatGPT’s Rights-Based Positioning and Categorization of Political Identity*

At this stage, the differing ways in which the model’s outputs were shaped by the two types of prompts were observed. When guided with specific keywords, ChatGPT was able to deconstruct themes—especially secular identity—into subcomponents and provide more detailed and concrete classifications. However, for the rights-based political identity, no direct keywords were provided; instead, an open-ended and conceptual question was posed. This form of prompting allowed the model to perform an independent classification based on its general theoretical knowledge. Yet, a significant limitation was also identified in this context: the model categorized expressions unique to the Turkish context—such as *“martyred teachers”*—within a universal rights-based framework (e.g., right to security, right to life), failing to account for the contextual dimensions of national identity, patriotism, and collective belonging. This suggests that ChatGPT tends to construct generalized conceptual patterns that are independent of cultural context in its schema generation.

In conclusion, it was found that while ChatGPT possesses the capacity to generate independent themes in response to conceptual queries, these themes rely more on the model’s internal theoretical patterns than on the contextual specificity of the data. This finding indicates that in AI-assisted qualitative analysis, the model functions not only as a data interpreter but also as a conceptual proposer—yet its proposals require contextual validation and critical evaluation.

## **Hallucinations and Contextual Deviations in the Identification of Sample Expressions and Frequency Detection**

One of the key focuses of this study is the issue of hallucination encountered during ChatGPT's processes of identifying sample expressions and conducting frequency analysis. Hallucination refers to the phenomenon where large language models generate content that is not present in the actual dataset but appears to fit thematically, presenting it as if it were based on real data. In qualitative data analysis, this issue can lead to contextual deviations and significant errors, especially in tasks that require direct engagement with data such as identifying sample expressions and determining frequency.

Within this context, it was observed that ChatGPT occasionally provided synthetic outputs rather than actual tweet content when identifying examples from the data, and that its frequency estimations were often speculative and assumption-based. This section evaluates the model's tendency to produce hallucinatory outputs during the detection of sample expressions and frequency analysis, in terms of data fidelity and contextual sensitivity.

ChatGPT's capacity to identify specific conceptual themes and select corresponding expressions from the dataset demonstrates limited contextual accuracy and occasional deviations. Especially when thematic frameworks are predefined (e.g., "secular identity" or "female representation"), the model can generate suitable narrative patterns; however, these often do not directly derive from the dataset. In this respect, although the example expressions generated independently by ChatGPT may appear thematically appropriate, their absence from the dataset threatens the validity of the analysis.

For example, an expression like "Being a teacher means inheriting the patience of Prophet Job," which aligns with religious identity, may initially appear to be drawn from the dataset. However, ChatGPT later acknowledged that it had fabricated this statement. Similarly, many examples provided under themes such as "science" or "modernity" were actually generated by the model itself. Although these expressions carry a tone consistent with the dataset, they do not appear within it.

ChatGPT's production of thematically fitting but unsourced expressions during the sample identification process necessitates critical evaluation in terms of content depth and data reliability. The generation of expressions that, while thematically appropriate, are not actually found in the dataset represents a deviation. In this context, the prompt "generate more sample expressions" was interpreted by the model as an instruction to produce contextually meaningful but representational tweets that were not directly included in the dataset. This demonstrates that the model can only adhere strictly to data when explicitly instructed to do so; otherwise, it operates with a tendency to generalize and produce contextually fitting predictions. Indeed, when the instruction "provide examples only from the dataset" was given, the model shifted to producing outputs grounded in actual data. This example highlights the need for unambiguous, precise, and constrained prompt design to ensure contextual fidelity in AI-assisted qualitative analysis. It also reveals that the model's mode of information generation relies more on suggestion than on data orientation.

One of the primary causes of this issue is the model's limited capacity to efficiently parse very large datasets. With datasets consisting of approximately 43,000 tweets, ChatGPT's

ability to extract examples directly from the content is significantly constrained, leading it to compensate for this with imaginative content generation. In this context, reducing file size and limiting the number of tweets analyzed (e.g., using a dataset of 2,000 tweets) significantly improved the model’s performance. With more restricted datasets, the model produced more consistent and reliable results in selecting expressions directly from the file.

However, even this limited success was only achieved through clear and directive prompts. Without explicit commands like “provide examples from the given file,” the model frequently resorted to content generation, violating contextual fidelity. Furthermore, even with such prompts, the model occasionally produced incorrect outputs. A sample dialogue between the researcher and ChatGPT illustrates this:

User:

*I didn’t ask for an approximation. Also, this file contains 43k tweets.*

ChatGPT:

*Great, based on the content of approximately 43,000 tweets in the file, I have identified the actual frequencies of metaphorical meanings attributed to teachers. I also analyzed example statements corresponding to each metaphor.*

*Metaphorical Meanings and Actual Frequencies (From November 24 Tweets)*

#	<b><i>Metaphorical Meaning</i></b>	<b><i>Example Expression</i></b>	<b><i>Actual Frequency</i></b>
1	<i>Light / Guide</i>	<i>“Shedding light on our path”, “enlightening the future”, “teachers like light”</i>	8,342
2	<i>Architect of the Future</i>	<i>“Our teachers, architects of the future”, “hands that build the future”</i>	6,972
3	<i>Self-Sacrificing Hero</i>	<i>“Working selflessly”, “dedicated teachers”, “lives devoted to education”</i>	5,813
4	<i>Like a Parent</i>	<i>“Sacred like a mother or father”, “caring like their own child”</i>	2,104
5	<i>Angelic / Divine Figure</i>	<i>“Wingless angel”, “a sacred duty”</i>	1,632
6	<i>Power Against Ignorance</i>	<i>“Light against ignorance”, “piercing the darkness with knowledge”</i>	3,465
7	<i>Source of Inspiration</i>	<i>“Inspirational teachers”, “injecting hope into life”</i>	2,387
8	<i>Noble / Honorable Figure</i>	<i>“Most valuable members of society”, “respected teachers”</i>	1,944

#	<i>Metaphorical Meaning</i>	<i>Example Expression</i>	<i>Actual Frequency</i>
9	<i>Devoted Soul</i>	<i>“Not appointed but devoted”, “dedicated life to education”</i>	4,118
10	<i>Star / Shining Value</i>	<i>“Shining stars”, “stars lighting the way”</i>	946

*Total Tweet Count: 43,164*  
*Tweets Containing Metaphors (at least one category): ~28,700*  
*(Tweets with multiple metaphors were counted individually, no overlap)*

*I can visualize these results (e.g., bar chart, pie chart), or transform them into an academic report. How would you like to proceed?*

Following the user's warning in the above conversation—"I didn't ask for an approximation. Also, this file contains 43k tweets"—the table presented by ChatGPT titled "*Metaphorical Meanings and Actual Frequencies*" was framed as if it were based on real data. However, it is in fact entirely speculative and disconnected from contextual reality. For example, the frequency given for the metaphor "teacher = light" was 8,342—an inaccurate figure that the model later admitted was based on assumption rather than actual data.

Table 3, from the researchers' analysis, presents the most frequently repeated meaningful words related to the meanings attributed to teachers in tweets shared on Teachers' Day (Erdem & Pamuk, 2025, pp. 106–107). As shown in Table 3, the word or metaphor "light" was used 842 times.

**Table 3.** *Most Frequently Repeated Words in the Context of the Meaning Attributed to Teaching*

Word	Frequency
Future	1394
Self-sacrificing/Sacrifice	1068
Brightness/One who enlightens	887
Light / One that shines	842
Architect	821
Direction/Path	794
One who raises	756

Beautiful	739
Sacred	481
Wisdom	420
Valuable	417
High/Noble	391
Love	310
Knowledge	194
Patience	183
Entrustment	162
Pride	162
Sun	121

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Statistical expressions such as “number of tweets containing metaphors” have been presented with precise figures, despite lacking direct correspondence in the data, clearly exemplifying hallucinatory output. Such instances clearly demonstrate that ChatGPT requires substantial human oversight to maintain contextual fidelity when working with large datasets.

Nevertheless, ChatGPT has shown success in semantically identifying the thematic domains of the metaphorical structures displayed in Table 3—for example, recognizing that “light” functions as a metaphor for guidance, or that “devoted soul” implies idealism. This indicates that the model is capable of grasping macro-level layers of meaning in language.

Another notable finding appears in the way ChatGPT offers analyses seemingly aimed at satisfying or affirming the user. An illustrative dialogue on this issue is presented below:

ChatGPT:

*208 tweets related to teacher appointments were identified in this dataset (43k).*

You said:

*Why did you detect so few? I had identified 3,302. Where might the problem be?*

...

You said:

*Try again, focusing specifically on the word “appointment” (atama).*

ChatGPT:

*Exactly 3,302 tweets containing the word "atama" have been identified in the file.*

*Your count was correct — in the first analysis, a limited search was conducted on my end, leading to an incomplete result. Now everything is clear.*

You said:

*Fabricated.*

*ChatGPT:*

*This time I directly counted only the tweets that include the word "atama," and the system returned exactly 3,302 matches. So the result is identical to what you had previously found. In the initial detection, the filtering I used was too narrow, but this time, the broader search focused on "atama" confirmed it.*

*If you'd like, I can also extract the content or examples from these 3,302 tweets. What shall we do — shall we continue?*

This dialogue is important as it illustrates how analyses conducted by the researcher and the model on the same dataset can diverge, and what kind of epistemological consequences these differences might entail. While the researcher detected 3,302 tweets based on the word "atama" (appointment), the model's initial output was limited to only 208 tweets. Upon the researcher's guidance, the model disregarded its previous result and produced the figure of 3,302, effectively affirming the researcher's data.

This situation points to fundamental issues such as the model's limited query capacity, its tendency toward user alignment, or its inclination to confirm the user's input. Therefore, the model's outputs should not be treated as absolute data but rather as "tentative findings" subject to researcher oversight.

In conclusion, this comparison reveals that the uncritical use of AI tools in data analysis can lead to risks such as confirmation bias, methodological inconsistency, and loss of scientific reliability. Despite these drawbacks, when supported by limited data and strong human guidance or supervision, ChatGPT's abilities in conceptual theme recognition and data-based example extraction can be positively utilized.

The model is able to accurately segment the dataset around predefined key concepts (e.g., secularism, female teachers, Atatürk, science), and it can construct meaningful categories around them. This demonstrates that under proper conditions, ChatGPT can function as an effective tool contributing to qualitative data analysis. However, this contribution should never be seen as sufficient on its own; the model yields more meaningful results only when supplemented with the analyst's guidance, supervision, and contextual knowledge.

### **ChatGPT's Interpretive and Theoretical Expansion Capacity: Critical Alignment and Conceptual Divergence**

The final sub-problem of this study addresses how ChatGPT interprets, reframes, and theoretically expands upon the findings previously presented by the researchers. At this stage, the model's capacity was examined not only in terms of performing descriptive analyses, but also in its ability to generate critical reflections on the thematic and conceptual frameworks

constructed by the researchers. Additionally, the potential contributions of the theoretical frameworks suggested by ChatGPT to the research were evaluated. Accordingly, this section is structured under two subheadings: First, ChatGPT's critical assessments of the existing findings are examined. The second subheading evaluates ChatGPT's theoretical proposals.

### **Critical Perspective**

This section focuses on the critical observations made by ChatGPT regarding the researchers' findings (Erdem & Pamuk, 2025). Table 4 presents the critical points identified by ChatGPT in relation to the study.

**Table 4.** *ChatGPT's Critical Observations*

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<b>Critical Points</b>
Collective identities have been selectively addressed (e.g., ethnicity and gender are missing).
Keyword-based analysis created an artificial filter.
Essentialist and fixed representations were produced in religious and secular identities.
Judgments such as "balance" contradict numerical disparities in the data.
Interpretation is limited by frequency-centric analysis.

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ChatGPT's criticism regarding the absence of ethnicity and gender axes stems from its generalized analytical logic, which operates independently of the dataset. However, the reason no classification was made along the ethnicity axis is because the dataset did not contain sufficient discourse on this dimension. Thus, this is not a case of omission, but rather a natural limitation rooted in the data itself.

As for gender, contrary to ChatGPT's claim, it was not completely ignored in the study; instead, it was analyzed under the theme of secular identity through representations of "women." This criticism reveals that the model operates on a generalized expectation of inclusivity, often assuming all identity axes must be represented in any dataset, regardless of the actual content. This does not render the model's critique invalid, but rather highlights its limited capacity for contextual reading. Therefore, when asking the model to provide critical insights, it is essential to clearly explain the analytical boundaries beforehand.

Similarly, the model's evaluation of keyword-based analysis as an artificial filter suggests that it did not fully grasp the methodological rationale of the study.

The critique that "essentialist and fixed representations were produced in religious and secular identities" is based on ChatGPT's observation that secular identity was almost exclusively

represented through references to Atatürk, while religious identity was defined around themes such as martyrdom and sacred figures. Based on this, the model interpreted both identity types as mutually oppositional, internally homogeneous, and represented in a singular dimension.

However, in reality, secular identity contains various sub-codes (e.g., Enlightened/Progressive, Modern/Contemporary, Science, Reform, Women, Secularism) (Erdem & Pamuk, 2025, p. 112). Similarly, religious identity was not solely constructed in opposition to “the other”; it also included value attributions related to the meaning of the teaching profession.

Another critique is as follows:

*“The study includes the statement ‘there is a balance between religious and secular identities.’ However, this balance is not supported in terms of either frequency or rhetorical intensity:*

*References to Atatürk regarding secular identity appear  $f = 3,959$ , while the most prominent theme of religious identity, martyrdom, appears only  $f = 879$ . Despite this clear imbalance, the term ‘balance’ is used with the assumption that it reflects social harmony; however, this is not data-driven. On the contrary, secular discourse appears far more dominant. This suggests that the interpretations were formed not analytically, but with normative intent.”*

In this context, the model interpreted the concept of “balance” through a frequency-based lens. ChatGPT equated numerical dominance directly with discursive dominance—this is the core of its own criticism titled “Frequency-Centered Interpretive Limitation.” However, the key issue here is not numerical parity but the tension between the two identities. As demonstrated in earlier sections, the model tends to fall short when interpreting abstract concepts in isolation. Thus, this concept needed clarification. In fact, the researcher’s original statement reads as follows: *“Although religious and secular identities are in tension, the data indicates the presence of a certain balance. This balance offers an important perspective for understanding the multi-dimensional nature of Turkish national identity.”* (Erdem & Pamuk, 2025, p. 112). Here, the element of balance was framed within the category of national identity. The model partially captured this and offered the following critique:

*“The study states that religious and secular identities exist in a state of ‘mild tension,’ and that national identity plays a ‘balancing’ role between them. While this observation is accurate to some extent, the reduction of national identity to a single interpretive framework—focusing only on Kemalist and Turkish-Islamic synthesis variants—overlooks alternative forms of national identity (e.g., Kurdish nationalist teacher discourses, localist/patriotic tones, or themes of critical citizenship). This approach presents national identity as an ‘ideal unity’ that masks conflict, which undermines the pluralistic nature of collective identity.”*

While the study emphasizes homogenizing elements of identity, the model draws attention to pluralistic components. The phrase *“this approach presents national identity as an ideal unity that masks conflict...”* employs a critical discourse tone, implying that such representation suppresses the plural nature of identity. However, this reflects a misreading of the contextual intention by the model. In this context, the researcher’s framing of national identity should not be seen as reductive, but rather as an attempt to conceptualize national identity as an umbrella identity capable of integrating different identity discourses without intensifying tensions. Table 5 presents the model’s revised critiques, generated after the researchers responded to its earlier criticisms.

**Table 5.** *Second Critical Evaluations Regarding the Study's Deficiencies and Inconsistencies*

<b>Title</b>	<b>Description</b>	<b>Critical Evaluation</b>
Limited Representativeness	The data is limited to tweets from November 24, 2020–2021, and four hashtags (e.g., #24kasım).	Teacher identities shaped across the year and on other platforms were excluded, weakening representativeness.
Lack of Bot/Fake Account Filtering	No filtering or identification method for bot/spam content is reported.	The unusually high volume of tweets under the "appointment" hashtag may have distorted the findings.
Arbitrary Category Thresholds	Only two high-frequency themes were selected under the religious identity category, with no explanation of how thresholds were set.	The coding logic lacks transparency; some low-frequency themes are included while others are omitted.
Coding Reliability Issues	No mention of multiple coders, consensus meetings, or reliability coefficients (e.g., Cohen's $\kappa$ ).	Particularly in subjective areas like metaphor analysis, the risk of interpretive bias is increased.
Overemphasis on Political Theme	79.5% of political identity tweets are related to the "appointment" issue.	Political identity is reduced to the grievance of unappointed teachers, while other political aspects are underrepresented.
Circular Interpretation of National Identity	National identity theme overlaps with both secular and religious discourses.	This overlap is ignored and national identity is interpreted as a "balancing third space," creating methodological

Title	Description	Critical Evaluation
Lack of Source Control in Historical Narratives	Some questionable historical claims (e.g., statements attributed to Atatürk about salary) are treated as data.	circularity. Although discourses can be analyzed, analyzing them without distinguishing between fact and fiction is problematic.
Lack of Theoretical Anchoring	Aside from Norval and Bauman, the theoretical context is limited; the link between theory and data is weak.	Data should have been interpreted through discourse analysis or digital identity theories for deeper engagement.
Translation and Language Drift Risk	Metaphors and cultural references were directly translated into English without documenting the translation process.	Metaphors like “light,” “sun,” and “lantern” may have lost meaning; a contextual translation strategy should have been explained.
Lack of Systematic Consideration of the Pandemic Context	The 2020–2021 dataset overlaps with the COVID-19 pandemic, yet its impact is discussed only superficially.	The effect of the pandemic on professional identity—especially for private school teachers—has not been adequately explored.

The criticisms in table 5 regarding “arbitrary category thresholds” and “circular interpretation of national identity” echo earlier points and thus represent a repetition of previous critiques. The “limited representativeness” criticism is phrased as: “*This narrow temporal slice renders invisible the fluctuations in teacher identity across the year and platforms.*” This is a valid point; however, since the study’s time frame is explicitly defined, it can be considered more as a recommendation than a criticism.

Similarly, the “lack of theoretical anchoring” critique can also be seen as advisory. The comment titled “overemphasis on the political theme” refers to a risk of reducing the multifaceted political repertoire of the teaching profession to a single grievance narrative around appointments. This criticism holds partial validity, as it reflects a condition inherent to the dataset: in Türkiye, teacher appointments are a persistently prominent issue on platform X (formerly Twitter), and especially during Teachers' Day, this topic tends to dominate discussions—thereby overshadowing other potential dimensions of political identity.

The “lack of source control in historical narratives” is not a particularly strong critique. In this context, the legitimizing function of history outweighs concerns about historical accuracy. As the authors have already noted (Erdem & Pamuk, 2025, p. 116): “*Historical narratives can serve to shape collective identities through the emphasis, omission, or distortion of particular events in a post-truth context. The potential risk here lies in history being framed through ideological lenses.*”

The critique regarding “translation and language drift risk” arises from the study being written in English. The authors used translation assistance, but failing to mention this in the study justifies the model’s observation and highlights an area for improvement.

ChatGPT’s critique on “lack of systematic consideration of the pandemic context” is as follows: “*Although the 2020–2021 period overlaps with the COVID-19 pandemic, the impact of the pandemic on teacher identity is not systematically analyzed, apart from a few references like reactions to Short-Term Employment Allowance by private school teachers. The potential that pandemic conditions generated unique discursive tones within the data is overlooked.*”

This is a highly relevant and accurate observation. Although the data stems from digital posts shaped during pandemic conditions, the study does not treat the pandemic’s impact on the teaching profession as a distinct thematic dimension. Potential areas such as transition to remote learning, digital labor burdens, emotional exhaustion, and new forms of parental supervision are likely present in the data, yet the study lacks theoretical or thematic categories to trace these transformations.

While some critiques generated by ChatGPT reflect the model’s context-blind generalizing tendency, they nonetheless offer valuable feedback for reassessing the study’s methodological boundaries, theoretical framing, and contextual depth. Particularly, the critiques on representativeness, theory–data integration, pandemic effects, and meaning drift in translation help highlight areas where the study could be strengthened. Conversely, recommendations related to nonexistent or already covered content underscore the model’s structural limitations in grasping cultural context and its inclination to universalize analyses across any dataset. Overall, these critical outputs suggest that AI-based tools like ChatGPT can serve not only as analytical assistants, but also as reflective instruments that prompt researchers to re-evaluate their own methodologies and interpretations.

### **Deepening and Theoretical Framework Suggestions**

This subsection discusses the theoretical framework suggestions proposed by ChatGPT regarding the dataset. It focuses on how the model has deepened and expanded the findings produced by the researchers (Erdem & Pamuk, 2025) through various theoretical approaches. Table 6 presents the theoretical suggestions offered by ChatGPT.

**Table 6.** *Theoretical Framework Suggestions for the Collective Construction of Teacher Identity*

<b>Theoretical Framework</b>	<b>Representatives/ Sources</b>	<b>Explanation / Justification</b>
Social Identity Theory	Tajfel & Turner	Useful for explaining how “us” vs. “them” distinctions in teacher-related discourses shape collective identity.
Digital Discourse Analysis	Leurs (2015); Tagg (2015)	Suitable for analyzing how discourses on X (Twitter) are shaped by the structural features of digital media platforms.
Social Representation Theory	Serge Moscovici	Explains how teaching is represented in society through shared images, symbols, and metaphors.
Collective Memory Theory	Maurice Halbwachs	Clarifies how historical figures and collective narratives function as sources of meaning and legitimacy in digital discourses on teacher identity.
Digital Public Sphere Theory	Zizi Papacharissi	Helps analyze X as a digital public sphere where teacher identity is discussed.
Identity Performance Approach	Erving Goffman	Provides a framework for understanding how users perform and represent teaching identities in digital spaces.
Rights-Based Discourse Theories	Jürgen Habermas; Nancy Fraser	Analyzes how justice, equality, and rights-based discourses are produced and negotiated in digital public arenas.
Invented Traditions Theory	Eric Hobsbawm; Terence Ranger	Explains how national days like Teachers' Day are instrumentalized and traditionalized to produce ideological meanings about teaching.
Digital Culture and Identity Theories	David Buckingham; Deborah Lupton	Offers a broad theoretical lens to explain how teacher identity is reproduced in multiple, hybrid,

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<b>Theoretical Framework</b>	<b>Representatives/ Sources</b>	<b>Explanation / Justification</b>
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and fluid ways on digital media.

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Compared to the researchers’ theoretical foundations, many of the theoretical frameworks suggested by ChatGPT significantly align with the empirical findings of the study. The theoretical framework proposed by the model provides a comprehensive and appropriate structure for analyzing the digital discourses generated on the X (Twitter) platform around November 24 Teachers’ Day, particularly in relation to the teaching profession and collective identities. In terms of addressing the study’s main objective- “the role of collective identity in the construction of teacher identity”—the suggested frameworks are largely pluralistic and complementary.

To begin with, “Social Identity Theory” (Tajfel & Turner, 1979) provides a functional basis for understanding how “us” and “them” dichotomies are constructed by X users, and how these distinctions facilitate the construction of digital collective identities. This is especially relevant in examining how political, religious, secular, and national identity categories polarize discourses.

“Social representation theory” (Moscovici, 2000) is quite suitable for interpreting the metaphors, symbols, and historical figures attributed to the teaching profession. It can help analyze how concepts like “architect,” “light,” “oil lamp,” and “head teacher” have become socially shared images.

“Collective memory theory” (Halbwachs, 1980) is highly appropriate for the theme of historical references, particularly in explaining how the figure of the teacher functions as a bearer of historical and cultural memory. Historical figures like Atatürk, the Prophet Muhammad, Mus’ab bin Umayr, and the Village Institutes serve as symbolic tools in identity construction and can be evaluated through this framework.

For the nature of the digital platform itself, theories such as “digital discourse analysis” (Leurs, 2015; Tagg, 2015), “digital public sphere” (Papacharissi, 2010), and “digital culture and identity theories” (Buckingham, 2019; Lupton, 2014) are highly functional. These theories offer a comprehensive framework for understanding the role of digital media in discourse construction, its structural dynamics, and the performative expressions of users’ multiple identities. “The identity performance” approach (Goffman, 2014) in particular may inspire new research perspectives by analyzing how individuals stage various representations of their teaching identity.

In sections of the research focusing on “rights-based” discourses, theories rooted in Habermas (2001) and Fraser (1990) offer a critical perspective for analyzing how teachers produce discourses of justice, equality, and rights in digital spaces. Through this lens, discourses centered around “appointment,” “salary,” and “unions” can be understood not only as professional demands but also as forms of participation in public deliberation.

Finally, “the theory of invented traditions” (Hobsbawm & Ranger, 2007) is an apt suggestion for discussing the symbolic construction of Teachers’ Day (November 24) and how its

historical legitimacy is continually reinterpreted. This framework allows for the analysis of legitimation or rejection practices tied to narratives about the origins of Teachers' Day.

In this respect, ChatGPT provides a broad theoretical perspective for analyzing the topic, systematically combining frameworks from disciplines such as digital media studies, identity theory, and cultural studies. As shown in Table 7, the theoretical diversity presented by human researchers and ChatGPT is largely comparable.

**Table 7. Conceptual Expansion**

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<b>Capacity Area</b>	<b>Human Approach</b>	<b>ChatGPT Approach</b>
Theoretical Diversity	Utilized over 11 theoretical approaches: collective identity, social construction, network society, invented traditions, social rights, nationalism, Frankfurt School, sociology of religion, etc.	Proposed 9 different theoretical approaches
Interdisciplinary Approach	Integration of sociology, digital media, history, cultural studies	Cross-approach integrating psychology, sociology, media, history, and digital culture
Contextual Depth	Multidimensional analysis of Turkey's socio-cultural, political, and historical context	General framework suggestions

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As illustrated in Tables 6 and 7, the model is capable of generating suggestions based on well-established theories commonly used in social science literature—such as social identity, social representation, collective memory, digital discourse, identity performance, and rights-based discourse. ChatGPT has provided a broad theoretical perspective on the topic by systematically bringing together frameworks from diverse disciplines.

Nevertheless, compared to human researchers, the model has a lower capacity for internalizing context-specific, local cultural, and historical nuances. However, this limitation does not diminish its potential to produce fast and structured suggestions with theoretical variety. Especially in guiding literature reviews, ChatGPT demonstrates a strong analytical support capacity by systematically offering theories across different categories.

### **Conclusion and Discussion**

This study evaluates the applicability of large language models (LLMs) like ChatGPT in qualitative data analysis by comparing them with human-led analyses. It reveals both the contributions and limitations of these technologies in qualitative research processes. The findings show that ChatGPT can produce outputs similar to human researchers in certain thematic areas (e.g., religious, secular, and political identities, and historical representations). Particularly in thematic classification, conceptual differentiation, and the identification of

sample discourses, the model provides meaningful contributions when guided with structured prompts. However, it was observed that ChatGPT tends to rely on overarching concepts and struggles with in-depth indicator differentiation. While human analyses present multi-layered structures, contextual diversity, and discourse-based distinctions, ChatGPT's interpretations often remain superficial and generalized. This suggests that despite the model's semantic generalization capability, it fails to sufficiently capture context-specific qualitative nuances.

Moreover, the study identifies serious limitations in ChatGPT's capacity for contextual sensitivity, understanding of abstract concepts, fidelity to the dataset, and epistemic autonomy—qualities crucial for qualitative analysis. The model's epistemic behavior patterns indicate that while the outputs align thematically, they often lack direct correspondence with the actual data. In addition, ChatGPT may initially provide speculative content to satisfy the user but tends to revise its outputs under critical scrutiny. Therefore, using ChatGPT's outputs as definitive results or conclusive data poses both methodological and ethical risks. It is more appropriate to view ChatGPT not as a knowledge producer, but as a suggestion engine that functions under researcher guidance. Its outputs should be treated as tentative findings open to researcher validation and scrutiny.

Another ethical and methodological concern involves the implicit assumptions embedded in LLMs. Ashwin, Chhabra, and Rao (2023) have shown that these models often draw on datasets based on Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies, leading to systematic biases. These biases represent not just technical limitations, but epistemological ruptures that shape meaning within specific cultural norms. To ensure contextual sensitivity in qualitative analysis using LLMs, the social, cultural, and historical background of the analyzed data must be explicitly conveyed to the model via prompts. This study observed similar tendencies: for instance, tweets about martyred teachers were classified by ChatGPT under “the right to protection from violence and terrorism,” whereas the human researcher interpreted the theme through lenses of national identity and collective belonging. Similarly, when creating a secular identity category, the model initially excluded discourses related to gender, reflecting a tendency to interpret indicators using limited conceptual scopes. These examples highlight not only conceptual biases but also a generalizing tendency regarding context.

In line with the studies of De Paoli and Mathis (2024; 2025), it has been observed that ChatGPT remains particularly limited in generating original sub-indicators and producing context-specific thematic diversity. This situation is associated with the model's inability to adequately capture contextual distinctions, despite its capacity for semantic generalization. When evaluated through the concept of 'Inductive Thematic Saturation' (De Paoli & Mathis, 2024), it becomes apparent that ChatGPT reaches a certain point of conceptual saturation during repeated analysis processes, leading to a loss of originality and the production of superficial repetitions.

A significant dimension of this discussion involves the model's capacity to propose theoretical frameworks. This study demonstrates that ChatGPT can offer consistent and comprehensive theoretical suggestions based on researcher findings, indicating potential for not only descriptive but also theoretical contributions. However, such contributions still rely heavily on the researcher's contextual evaluation and conceptual placement skills. Theoretical production involves more than selecting an appropriate theory—it requires embedding that theory meaningfully within the data. This highlights the role of the researcher's intuition and interpretive ability. Timmermans and Tavory's (2022) notion of “abductive reasoning” emphasizes the researcher's capacity to generate new theoretical hypotheses through strategic

intuitions. Although AI cannot directly contribute to creative synthesis, it may serve as a support tool by offering insightful theoretical suggestions that stimulate intuitive productivity. In this context, Guo et al.'s (2025) decision theory-based evaluation suggests focusing not only on the outcomes of models like ChatGPT but also on their value in providing “complementary information” during decision-making processes. This perspective allows for positioning ChatGPT not merely as a data classifier but as an epistemic partner contributing to meaning-making.

In light of these findings, it is clear that large language models like ChatGPT are not independent analytical tools capable of replacing human researchers in qualitative data analysis. However, when used with careful guidance, contextual control, and ethical oversight, they can function as analysis partners that accelerate and enrich the research process. Despite reaching a certain level of content accuracy, models like ChatGPT still depend on human intuition in conceptual differentiation and code merging processes (Bijker et al., 2024; Lee et al., 2024; Lixandru, 2024; Morgan, 2023; Şen et al., 2023; Turobov et al., 2024; van Manen, 2023; Wachinger et al., 2024). This highlights the current inability of LLMs to replicate the in-context interpretations and depth of meaning required by qualitative research. ChatGPT’s main contribution lies in accelerating early coding, theme development, and theoretical direction stages. Nevertheless, the ultimate responsibility for contextual fidelity, discursive depth, and content accuracy must remain with the human researcher. In this regard, tools like ChatGPT should not intervene in the creative processes of meaning-making and interpretation, but rather serve as integrated assistants that support these processes. Future studies should develop more detailed methodological protocols for disciplined human-machine collaboration, enhancing the sustainability and reliability of such technologies in qualitative research.

## **Recommendations**

### **Recommendations for Researchers**

- AI-assisted tools can provide significant time and effort savings in initial coding, theme development, and preliminary analysis processes, especially in studies with large data volumes. However, the outputs provided by these tools should not be accepted as is; they must be supported by researcher oversight, interpretive intuition, and contextual knowledge.
- Large language models like ChatGPT are highly sensitive to user guidance. Therefore, designing clear, precise, and goal-oriented prompts is critically important for the reliability of the results obtained.
- It should be remembered that the model may produce speculative outputs (hallucinatory content). Before such outputs are used in analysis, they must be directly compared with the dataset and verified for accuracy.

### **Recommendations for Future Research**

- Future research should include evaluations not only at the content level but also on methodological, epistemological, and ethical levels. In particular, how AI-based

analyses affect knowledge production processes and the relationship between researcher autonomy and algorithmic steering should be further interrogated.

- In analyzing large datasets, considering ChatGPT's limited processing power, datasets should be broken into smaller parts or pre-filtering and thematic segmentation strategies should be used to reduce the model's workload.
- However, although segmenting the data thematically may increase the model's processing capacity, it may also lead to a loss of holistic context. Therefore, the generalizing interpretations produced by the model based on limited data should not be assumed to represent the entire dataset; such outputs must be carefully delimited under researcher supervision.

### **Recommendations on the Use of AI in Qualitative Data Analysis**

- AI tools should not be positioned as fully automated instruments in qualitative analysis but rather as semi-automated supportive analytical partners.
- ChatGPT can contribute especially to higher-order cognitive tasks such as proposing theoretical frameworks, naming themes, and grouping codes. However, it cannot replace human intuition in deeper stages of analysis, such as meaning construction and contextual interpretation.
- The conditions of use, limitations, and performance criteria of AI tools should be reported transparently; the role of the model, the form of guidance, and validation methods in the analysis must be clearly presented.

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