

LINGUISTIC AND STYLISTIC MARKERS OF ANXIETY WITHIN UKRAINIAN-LANGUAGE GOOGLE SEARCH QUERIES

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Abstract. The article presents a comprehensive identification and typology of linguostylistic markers of anxiety within the Ukrainian-language segment of Google user queries. It establishes the patterns of destruction of the standard information query under the influence of extreme external factors – missile launches during air raid alerts in the Ukrainian space. The **object** of the study is the digital discourse of Ukrainian-language Google search engine users during the period of 2022–2026. The subject of the study encompasses the lexico-semantic, morpho-syntactic, and grapho-punctuation transformations of search units that explicate states of psychological tension and anxiety.

The research methodology relies on a synergy of content analysis of the Google Trends platform and data visualization in Datawrapper. Discourse analysis is used to interpret pragmatic intentions, while correlation analysis of time series is applied to compare reaction and stimulus. Psycholinguistic tools are employed to decode affective states through linguistic anomalies.

A typology of anxiety markers has been compiled, classified by linguistic levels. Within the pragmatic level, a shift in vector from informational to fatalistic and existential ("how to live on") is recorded. At the semantic level, catalyst words for threat zones ("missile," "impact") and units of the psychosomatic semantic field ("lump in the throat") are identified and described. In the study of the morpho-syntactic level, the deontic modality of predicates is highlighted, representing the realization of queries aimed at clarifying rules of behavior during states of anxiety. During the analysis of the grammatical level, the linguostylistic focus shifted toward ellipsis and the displacement of the predicate while maintaining vector directionality ("missiles where"), which explicates the strategy of linguistic economy of cognitive resources under adrenaline-induced stress. At the grapho-punctuation level, hyper-punctuation is outlined as a substitute for affective interjections during anxiety.

Analysis of Google Trends data for the 2024–2026 period demonstrated a clear correlation between external threats ("missiles where") and internal reflection ("when it's scary"). The extremum of the acute anxiety phase (July 2025) reached results of 100 and 85 units, respectively. The period of late 2025 and early 2026 is characterized by the establishment of a chronic state of anxiety (70–75 units), indicating cognitive exhaustion and a transition to digital coping strategies. The fixation of "zero zones" on the graphs indicates a state of emotional numbness from anxiety, or digital paralysis.

It is proven that the state of anxiety determines the destruction of linguostylistic tools, transforming a dialogic information query into an affectively-marked construct of anxiety. The results of the study account for the emergence of a new digital coping strategy – the verbalization of fear through search engines in order to master emotions and search for new and effective survival resources.

Keywords: Google Trends, digital coping, ellipsis, deontic modality, anxiety, linguostylistic marker, search query, psycholinguistics.

1. INTRODUCTION

In a state of war, Ukraine's linguocultural digital space, particularly its Ukrainian-language segment, is characterized by an unprecedented level of dynamism. In this situation, beyond its communicative function, language acts as an inducer of the collective psycho-emotional state. The digital environment, including the Google search engine, is acquiring the characteristics of a unique source of empirical data. For psycholinguistic research, it contains valuable quantitative and qualitative data, as digital activity does not involve the linguostylistic filtering present in fiction; this, accordingly, allows for the recording of immediate psychological reactions, specifically the representation of anxiety during wartime, air raid alerts, missile threats, etc.

The relevance of studying linguostylistic markers of anxiety in Google platform search queries is driven by the need for an in-depth analysis of the transformations, constructions, and deconstructions undergone by Ukrainian-language digital discourse in 2022–2026. As the research results revealed, traditional linguistic forms and models are insufficient to illustrate the specific destructuring of speech that arises under conditions of stress and anxiety. Classic informational search is being displaced by affectively-marked constructs and simplified to a critical minimum, reaching the level of linguistic primitivism.

Consequently, there is a need to identify, describe, and determine how neuroendocrine factors of anxiety (such as the release of adrenaline and cortisol) determine grammatical ellipsis, nominalization, and hyper-punctuation in the digital space. A pressing question arises: how is human cognitive resource redistributed in favor of survival strategies, shifting from the sphere of descriptive utterance and phrase construction into the deontic and fatalistic domains? Therefore, the study of search query linguopragmatics reveals prospects for psycholinguistics in the field of digital coping and monitoring public mental health through Big Data.

2. THEORETICAL BECKGROUND

The issues of changing orthographic and graphic laws of language within the digital space are explored in the work of Tamanno Vokhidova (Vokhidova, 2024). The influence of social networks on linguistic evolution is represented in the scientific research by Lina Herlina, Esther Hesline Palandi, and Lina Siti Nurwahidah (Herlina, Palandi & Nurwahidah, 2024). The assessment of Google queries based on language settings is presented in the study by Ahmed Aleroud (Ahmed, 2011), while the study of digital communication through linguistic means is addressed in the research by C. Tagg (Tagg, 2015).

Research in the field of Internet linguistics is highlighted in the work of David Crystal (Crystal, 2011). Regarding the scientific examination of the cognitive component—specifically understanding how users identify "correct and incorrect" language on the Internet—the main theses appear in the work of Loren Squires (Squires, 2010). The study by Mishel E., Bridges B. and Caudillo M. (Mishel, Bridges & Caudillo, 2018) is significant in the context of this research from a methodological standpoint, as the authors utilize Google Trends data and analyze Google search queries to identify "concerns regarding

same-sex sexual identities." The results of the Google Trends data analysis concerning Ukrainian-language Google queries for the lexemes "front" and "air raid map" are represented in our study, "Visualization of Google Trends content analysis data in Datawrapper: a visual communication tool" (Kukharuk, 2025).

3. RESEARCH OBJECTIVE, METHODOLOGY AND DATA

The chosen focus of this research is driven by the urgency of providing a linguostylistic and psycholinguistic interpretation and determination of communicative transformations under conditions of anxiety and stress within the digital environment of Google user searches. The aim of the article is to identify, describe from a systemic perspective, and typologize the linguostylistic markers of anxiety that emerge in the Ukrainian-language segment of Google user queries. Particular attention is paid to establishing the patterns of information query destruction under the influence of external threatening factors (missile strikes and air raid alerts across the territory of Ukraine).

The object of the study is the digital discourse of Ukrainian-speaking Google search engine users (2022–2026), which serves as an indicator of the most intense life-threatening risks. The subject of the study encompasses the lexico-semantic, morpho-syntactic, and grapho-punctuation transformations of search units that become the linguistic explication of the search subject's psychological tension, affective states, and anxiety.

To achieve this goal, a range of methods has been employed, which collectively facilitated the attainment of scientifically grounded results. The research methodology is based on an interdisciplinary approach, combining methods of computational linguistics, psycholinguistics, and digital humanities. The content analysis method was used to obtain data and track the real-time popularity of specific lexemes and phrases. Discourse analysis was applied to interpret pragmatic intentions and identify hidden communicative strategies in short search phrases. Time-series correlation analysis allowed for the establishment of a link between linguistic reaction and external stimulus. Psycholinguistic decoding within the study is aimed at deciphering states of anxiety by identifying linguistic anomalies, disruptions of logico-grammatical connections, and the specific application of graphic means. To represent the graphical results revealing the correlations and architectonics of the linguistic landscape of anxiety, the data visualization method was utilized.

4. RESULTS AND DISCUSSION

Linguostylistic markers of anxiety within the Ukrainian-language segment of Google search queries are characterized by conciseness compared to literary texts; therefore, short forms, truncated phrases, and representative keywords dominate. Anxiety is represented by a shift in the query type: instead of informational queries like "how to brew coffee" or "how to furnish an apartment," existential and often fatalistic queries emerge, such as "what to do if...", "when will it end...", "how to live...", etc. There is an emergence of deontic modality in predicates, which consists of a volition regarding rules of behavior dictated by society and morality; at the linguistic level, it is explicated by questions such as "is the action mandatory, permitted, or prohibited in light of social and moral authorities and rules?"

In a state of anxiety, catalyst words prevail in Google search queries, typically relating to air raid alerts within Ukraine: "safety," "threat," and an increase in queries for words like "missile," "shelter,"

"alert," "air raid map," "sounds," "explosions," "victims," "impact," etc. Concurrently, queries from the psychosomatic semantic field appear: "why is my chin trembling," "why are my hands shaking," "how to fall asleep," "lump in the throat," "dry mouth".

At the grammatical level, Google queries in a state of panic and anxiety are explicated by a maximal shortening of phrases, as time is scarce and the speaker has high levels of adrenaline and cortisol. As a rule, predicate displacement occurs: the nominative remains along with "preserved vectoriness" (as an atrophied part of the predicative seme). Instead of "where are the missiles flying now," the query "missiles where" appears. Simultaneously, there is a hyper-use of punctuation marks: "explosion!!!!!!!", "what was that????", "where is the shooting?????", "impact????", "where did it hit????", "thumping nearby!!!!", which is not characteristic of standard informational search. These typological markers of anxiety – specifically the process of information query destruction in Google – are visualized in Table 1.

Tab. 1

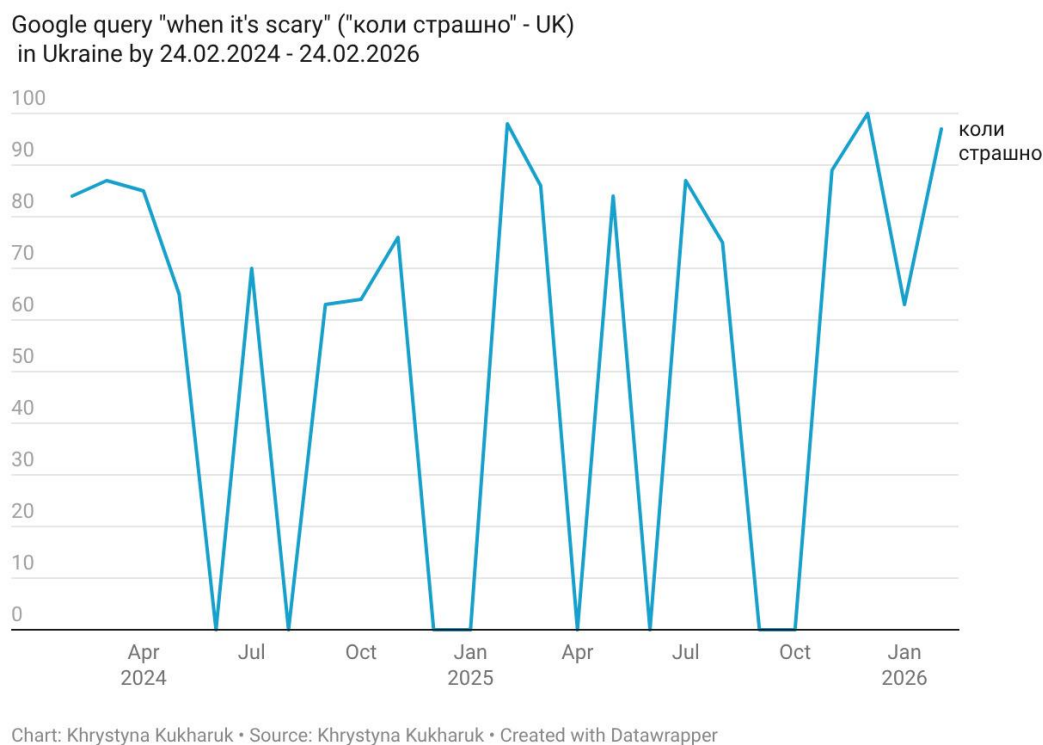
The process of information query destruction in Google

Linguistic Level	Linguostylistic Markers	Function in a State of Anxiety	Query Examples
Pragmatic (Intention type)	Vector shift: from informational to existential and fatalistic	Search for meaning, release of psychological tension, attempt to master the future.	"How to live on?", "When will the war end?", "What to do if I'm scared?"
Semantic	Use of catalyst words and specific semantic fields (Safety / Psychosomatics)	Marking zones of immediate threat and recording bodily reactions to stress.	"Missile where", "air raid map", "why is my chin trembling", "lump in the throat"
Morpho-syntactic	Deontic modality of predicates	Clarifying rules of behavior and moral boundaries in a crisis situation.	"Is it mandatory to go to the shelter?", "Is departure permitted?", "Is it okay not to..."
Grammatical (Structural)	Ellipsis (nominalization), predicate displacement with preserved vectoriness	Economy of linguistic effort under adrenaline surge; "telegraphic" style of panic.	"Missiles where", "Explosions Kyiv", "Impact where" (instead of full sentences)
Grapho-punctuation	Hyper-punctuation (expressive duplication of question and exclamation marks)	Explication of affect, conveying a high level of anxiety not inherent to dry info-searching.	"What was that????", "Impact????", "Thumping nearby!!!!", "Where is the shooting?????"

In contrast to a state of tranquility, where a Google user formulates a query using dialogic linguistic tools, a state of anxiety triggers a maximal simplification of syntactic constructions toward pure

nomination. Punctuation takes on hypertrophied usage, as it conveys an emotional-expressive state—acting as interjections. Verbal modality undergoes a cognitive shift, transitioning from a cognitive function to a regulative one.

According to the results of the content analysis of the Google Trends platform and the Datawrapper visualization of the search query for the phrase "when it is scary", its extrema were identified over the four years following Russia's full-scale invasion of Ukraine (2022–2026); the data visualization is presented in **Chart 1**.



*Chart 1. Google query "when it's scary" ("коли страшно" - UK)
in Ukraine by 24.02.2024 - 24.02.2026*

The chart presents a graph of the frequency and quantitative indicators of Google queries in Ukraine for the phrase "when it is scary" (*коли страшно*) for the period from February 24, 2022, to February 24, 2026. The graph reflects the dynamics of Google search queries associated with the users' state of anxiety. As observed, the search for this phrase exhibits sharp declines and surges in the number of queries. The **extrema** of the search query occur in February 2025, December 2025, and February 2026, which is explained by the anniversaries of the start of the full-scale invasion, during which the media narrative sees an increased frequency of forecasts regarding potential escalations, predictions, etc. The December extrema indicate anxiety surrounding the energy and infrastructure sectors.

Within the same chronology, the Ukrainian-language Google search query for the phrase "missiles where" (*ракету куди*) correlates with the results of the search query "when it is scary," as visualized in **Chart 2**.



Chart: Khrystyna Kukharuk • Source: Khrystyna Kukharuk • Created with Datawrapper

Chart 2. Google query "missiles where" ("ракету куди" - UK) in Ukraine by 24.02.2024 - 24.02.2026

The **absolute extremum** is observed in July 2025, triggered either by a large-scale shift in the nature of shelling or by a significant impact event. From October 2025 to February 2026, a **high plateau** is maintained at the level of 70–75 units; consequently, a state of chronic anxiety is detected, where this query remains stable and does not fall below 65 units. From a psycholinguistic perspective, the use of syntactically concise queries is considered an indicator of stress and anxiety, while the utilization of the Google search engine itself constitutes **digital coping** a new coping strategy involving the search for resources to overcome anxiety.

The correlation between the data of the two search query studies – "when it's scary" and "missiles where" – within the Ukrainian-language Google segment indicates a functional differentiation of queries. "Missiles where" is an **action-query** characterized by high imperativeness, occurring when the user-speaker experiences high mobilization activity. The phrase-sentence is reduced to a minimum, representing speech under stress where cognitive resources are directed entirely toward survival. The phrase "when it's scary" is a **state-query** with an introspective function aimed at mastering one's own emotion.

The stimulus-response correlation is traceable on the charts, where the extremum of the query "missiles where" reaches 100, while the query "when it's scary" simultaneously shows a high indicator of 85. Thus, the external threat and internal fear coincide; therefore, the period of July 2025 in Ukraine can be defined as an **acute phase of anxiety**. During the autumn of 2025 and the winter of 2026, the query "missiles where" remains at 70–75 units, while the query "when it's scary" increases its amplitude to 95–100 units. This suggests that prolonged digital monitoring of danger – reflecting the speaker's linguo-pragmatic activity – exhausts the psyche, leading to an acute need to find resources for coping with anxiety.

Furthermore, **Chart 2** reveals deep drops to zero. From a psycholinguistic standpoint, this can be interpreted as periods of **emotional numbness** or **digital paralysis**, when the speaker refuses to reflect on fear. Additionally, **deontic modality** comes to the fore: the modality of necessity prevails in the query "missiles where", while the modality of permission appears in the query "when it's scary". The rise of the latter's extrema in late 2025 and early 2026 indicates that speakers have begun to verbalize their state of anxiety, which is essentially a coping strategy manifesting within the digital world.

5. CONCLUSIONS

This study allows for the conclusion that under conditions of external threat, the digital linguopragmatics of Google search queries deconstructs conventional linguostylistic tools. Based on a comprehensive analysis, it was revealed that a state of anxiety determines the destruction of the standard informational query, transforming it into an affectively-marked construct.

The analysis of lexico-semantic and grammatical levels proves that in a state of anxiety, the user-speaker experiences a nominalization of speech. During the peak of anxiety within the Ukrainian-speaking world in July 2025, a displacement of predicates was observed. Where complex sentences previously existed, linguostylistic structures with "atrophied" predicativity now dominate, retaining only vector directionality. Simultaneously, there is a transformation from cognitive modality (information seeking) to deontic modality (the modality of permission and obligation).

The analysis of graphical data illustrates a correlation between the user-speaker's internal reflection and external stimuli. July 2025 marked the extremum of the acute anxiety phase, where indicators reached 100 and 85 units, respectively. The period from late 2025 to early 2026 illustrates the formation of a chronic state of anxiety (70–75 units), which serves as an indicator of cognitive exhaustion and a transition toward digital coping strategies. The "zero zones" on the charts represent periods of emotional numbness.

The results of this scientific inquiry are the product of the content analysis of the Google Trends platform, discourse analysis of short queries, and time-series correlation analysis. Psycholinguistic tools were employed to decode states of anxiety through grapho-punctuation markers—specifically, hyper-punctuation, which is interpreted as a substitute for interjections.

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Христина Кухарук. Лінгвостилістичні маркери тривожності в пошукових запитах україномовного сегменту Google. *Журнал Прикарпатського університету імені Василя Стефаника. Філологія*, 12 (2025), 80–88.

У статті представлено комплексне виявлення та типологізація лінгвостилістичних маркерів тривожності в україномовному сегменті запитів користувачів Google, встановлено закономірності деструкції стандартного інформаційного запиту від впливом екстремальних зовнішніх чинників – пусків ракет під час повітряних тривог у просторі України. Об'єкт дослідження – цифровий дискурс україномовних користувачів-мовців пошукової системи Google у період 2022–2026 рр. Предмет дослідження – лексико-семантичні, морфолого-синтаксичні та графічно-пунктуаційні трансформації пошукових одиниць, які експлікують стан психологічної напруги і тривожності. Методика дослідження опирається на синергію методів контент-аналізу платформи Google Trends та візуалізації даних у Datawrapper. Використано метод дискурс-аналізу для інтерпретації прагматичних інтенцій, кореляційний аналіз часових рядів для зіставлення реакції та стимулу. Застосовано психолінгвістичний інструментарій для дешифрування афективних станів через мовні аномалії.

Укладено типологію маркерів тривожності, які класифіковані за мовленнєвими рівнями. У межах прагматичного рівня зафіксовано зміну вектора від інформаційного до фаталітичного, екзистенційного («як жити далі»). У рамках семантичного мовленнєвого рівня виявлено та описано слова-катализатори зон загрози («ракета», «влучання») та одиниці семантичного поля психосоматики («ком у горлі»). При дослідженні морфолого-синтаксичного рівня виокремлено деонтичну модальність предикатів, що є реалізацією запитів на з'ясування правил для поведінки під час стану тривожності. Під час аналізу граматичного рівня лінгвостилістичний фокус змістився на еліпсис та витісненні предиката при збереженій векторності («ракети куди»), що є експлікацією стратегії мовної економії когнітивного ресурсу в умовах адреналінового стресу. На графічно-пунктуаційному рівні окреслено гіперпунктуацію, що виконує роль замітника афективного вигуку під час тривожності.

Аналіз даних Google Trends за період 2024–2026 рр. продемонстрував чітку кореляцію між зовнішньою загрозою («missiles where») та внутрішньою рефлексією («when it's scary»). Екстремум гострої фази тривожності (липень 2025 р.) сягнув результату 100 і 85 одиниць відповідно. Період кінця 2025 р. та початку 2026 року характеризується становленням хронічного стану тривожності (70-75 од.), а відтак свідчить про когнітивне виснаження і перехід до цифрових копінг-стратегій. Фіксація нульових зон на графіках свідчить про стан емоційного оніміння від тривожності, або цифрового заціпеніння.

Доведено, що стан тривожності детермінує деструкцію лінгвостилістичного інструментарію, трансформуючи діалогічний інформаційний запит у афективно-маркований конструкт тривожності.

Результати дослідження обумовлюють появу нової цифрової копінг-стратегії – вербалізації страху через пошукові системи з метою опанування емоцій і пошуку нових та ефективних ресурсів виживання.

Ключові слова: Google Trends, цифровий копінг, еліпсис, деонтична модальність, тривожність, лінгвостилістичний маркер, пошуковий запит, психолінгвістика.