Psycholinguistic factors in the formation of a creative personality

Kulzhibek Kusmanova

Sarsen Amanzholov East Kazakhstan University
k.kusmanova@outlook.com

Aida Aitmukashova

Sarsen Amanzholov East Kazakhstan University
ai_aitmukashova@outlook.com

Assem Nurlanova

Kazakh-American Free University
nurlanovassem@hotmail.com

Lazzat Baimanova

Sh. Ualikhanov Kokshetau University
LBaimanova@proton.me

Gainigul Ismailova

Shakarim University of Semey
gainiguli@gmail.com

Abstract

The study of the relationship between language and creativity not only reveals the mechanisms of creative thinking in various domains but also becomes relevant in the modern context.

Understanding the impact of language on the formation of a creative personality is crucial for developing educational methods aimed at supporting creative abilities. This study aims to identify the connection between the diversity of lexical composition and creative potential. The research relies on an empirical basis, which includes the analysis of quantitative and substantive features of the lexical richness of well-known creative individuals in Kazakhstan, as well as its comparison with representatives of professions unrelated to creativity. During the study, three main psycholinguistic parameters of a creative personality were identified: syntactic flexibility, metaphorical thinking, and lexical repertoire. Syntactic flexibility reflects the ability to express the same idea using various syntactic constructions. Metaphorical thinking involves the skill of incorporating metaphors into speech, contributing to the formation of new associations. Lexical repertoire encompasses a multitude of words that an individual possesses and can operate in their speech. The research, based on empirical data, revealed that creative individuals in the arts have a more extensive lexical repertoire compared to representatives of non-creative professions, as confirmed by quantitative indicators. A qualitative analysis of the frequency of nouns and verbs usage also showed that creative personalities more often use terms related to creativity and abstract concepts, while representatives of non-creative professions tend to focus on more concrete topics related to work activities. The study has practical value, providing a foundation for the development of educational programs aimed at fostering creativity and shaping creative abilities in various fields of human activity.

Keywords: syntactic flexibility, metaphorical thinking, vocabulary, creativity, language.

Lo studio della relazione tra linguaggio e creatività non solo rivela i meccanismi del pensiero creativo in diversi ambiti, ma assume anche una rilevanza particolare nel contesto contemporaneo. Comprendere l'impatto del linguaggio sulla formazione della personalità creativa è fondamentale per sviluppare metodi educativi volti a sostenere le capacità creative. Questo studio si propone di individuare il legame tra la diversità della composizione lessicale e il potenziale creativo. La ricerca si basa su dati empirici, che includono l'analisi delle caratteristiche quantitative e sostanziali della ricchezza lessicale di noti individui creativi in Kazakistan, nonché il confronto con rappresentanti di professioni non legate alla creatività. Nel corso dello studio sono stati identificati tre principali parametri psicolinguistici della personalità creativa: flessibilità sintattica, pensiero metaforico e repertorio lessicale. La flessibilità sintattica riflette la capacità di esprimere la stessa idea attraverso diverse costruzioni sintattiche. Il pensiero metaforico implica l'abilità di inserire metafore nel discorso, contribuendo alla formazione di nuove associazioni. Il repertorio lessicale comprende la molteplicità di parole che un individuo possiede e utilizza nel proprio linguaggio. La ricerca, basata su dati empirici, ha rivelato che gli individui creativi che operano nelle arti possiedono un repertorio lessicale più ampio rispetto ai rappresentanti delle professioni non creative, come confermato dagli indicatori quantitativi. Un'analisi qualitativa della frequenza d'uso di nomi e verbi ha inoltre mostrato che le personalità creative usano più frequentemente termini legati alla creatività e a concetti astratti, mentre i rappresentanti delle professioni non creative tendono a concentrarsi su temi più concreti e legati all'attività lavorativa. Lo studio ha un valore pratico, in quanto fornisce una base per lo sviluppo di programmi educativi finalizzati a promuovere la creatività e a formare capacità creative in diversi ambiti dell'attività umana.

Parole chiave: flessibilità sintattica, pensiero metaforico, vocabolario, creatività, linguaggio.

1.   Introduction

Understanding how language influences the formation of a creative personality becomes a key factor in developing educational methods to support creative abilities, which can enhance the creative potential of the younger generation. This is a necessary strategic task for the country, as creativity is an essential factor in personal and societal development. Creative individuals can

tackle complex tasks, find new approaches to problem-solving, and create innovative products and services. Moreover, research in the field of cognitive linguistics contributes to the development of interdisciplinary approaches, integrating knowledge from linguistics and psychology. This has broad prospects for influencing various aspects of human development and sociocultural processes, making such research crucial for contemporary science and practice. In addition to the arguments already presented, another aspect of relevance is the increasing influence of linguistic culture on societal development. In the modern world, language is becoming an increasingly important factor in societal development. It is used for information transmission, communication, and expressing ideas and values. Linguistic culture influences thinking, perception of the world, and behaviour. Research on psycholinguistic factors in the formation of a creative personality will help identify patterns of language influence on creativity development, contributing to the enhancement of linguistic culture in Kazakhstan.

The issues of cognitive linguistics as a scientific discipline at the intersection of psychology and linguistics have been widely discussed in the scientific discourse of Kazakhstan. Researchers Akishev Gabdolla and Jenisgul Baigozhina [1] emphasize that modern cognitive linguistics faces three main problems: the nature of linguistic knowledge, its acquisition, and ways of usage. As a result, the main directions of research include analysing types and forms of knowledge represented by linguistic signs (gnoseology), studying mechanisms of extracting knowledge from signs, and rules for their interpretation (cognitive semantics and pragmatics); examining conditions for the emergence and development of linguistic signs and the laws regulating their functioning; and analysing the relationship between linguistic signs and cultural realities.

Researcher Bagdan Kataevna Momynova [2] explores the concepts of "world-view" and "linguistic image of the world". The world-view is the general representation that an individual has of the world, based on their experience, knowledge, and perceptions [3]. The linguistic image of the world is the specific reflection of the world-view in language. The researcher emphasizes that language plays a crucial role in shaping the world-view, as people use it to organize and interpret information about the world.

Researchers Anar Tishibayevna Ashirova et al. [4] highlight that cognitive linguistics deals with the study of the relationship between language and consciousness, as well as the role of language in organizing the world and cognitive processes. Special attention in this field is given to the communicative competence of the speaker, regardless of the language used. Cognitive linguistics examines the interconnections between language, communication, mind, and culture, and the cognitive component of language includes aspects such as perceiving language as a sociocultural phenomenon [5, 6].

Researcher Makhabbat Tursynbekovna Dauletova [7] identifies the concept as one of the fundamental units of cognitive linguistics. The concept is a knowledge unit that reflects in an individual's consciousness some object, phenomenon, or idea. It can be expressed through a word, phrase, or sentence. The researcher points out that concepts are studied in linguistics from two perspectives: linguocognitive and linguocultural. Linguocognitive concept is a knowledge unit reflecting in an individual's consciousness some phenomenon or idea from the perspective of its meaning and content [8, 9]. It is studied within the framework of cognitive linguistics, which considers language as a tool for understanding the world. Linguocultural concept is a knowledge unit reflecting in an individual's consciousness some phenomenon or idea from the perspective of its cultural significance. It is studied within the framework of linguocultural studies, which views language as a means of expressing culture.

Researcher Zhenish Baizakov [10] highlights an important issue in cognitive linguistics – the interrelation of mind, thought, language, representation, conceptualization, categorization, and

perception. This complex and multifaceted relationship is actively studied within cognitive linguistics. Moreover, he identifies the main directions of this science, such as studying processes of understanding and creating natural language, analysing linguistic categorization, and investigating conceptual structure and its expression in language.

P. Shaikhova [11] notes that speakers store linguistic and non-linguistic means in memory in the form of categories. These categories, as generalized representations, are formed through generalizing the factual experience of perceiving the world and using language to reflect this experience.

According to the researcher Istvan Kenesei [12], language is a creative tool that allows expressing an unlimited number of ideas and meanings. At the word level, language enables the creation of new words and word combinations that have new meanings. This property of language is called recursion. At the sentence level, language allows the formation of new sentences that have new meanings. This property is referred to as metaphor. At the level of consciousness, language enables the formation and expression of thoughts and ideas. For example, the sentence "I think she is upset" signifies that the speaker understands that another person is experiencing emotions. The author asserts that recursion and metaphor are fundamental properties of language that facilitate creative thinking and expressing ideas in novel ways. Thus, language is a powerful tool that enables creativity and self-expression. Understanding the creative properties of language can aid in better utilizing it for communication and creativity.

Researcher Harry Julian Onsman [13] examines how language is used in the context of creativity in linguistic theory. There are two types of creativity: one adhering to syntax rules and the other changing the rules themselves. The first aspect of creativity involves the formal structure of the syntactic system and manifests more in a mechanical than a semantic aspect. The second relates to altering semantic rules. The theory of metaphor serves as an example of language creativity, where metaphor plays a role as a tool for creating new meanings. The author emphasizes that language has the ability to overcome the constraints of literal syntax and semantics proposed by traditional linguistic theory. Language creativity is an important aspect of human communication and thinking [14, 15]. It allows expressing ideas in new ways and finding innovative solutions to problems. Understanding the creative potential of language can contribute to better utilization for communication and creativity.

No studies have been recorded in Kazakhstan's scientific space that specifically address the psycholinguistic properties of a creative personality. In this regard, one important psycholinguistic parameter of a creative personality is the lexical repertoire. The lexical repertoire plays a crucial role in how an individual expresses ideas and concepts. Studying this parameter can shed light on the influence of lexical richness within the framework of creativity. Thus, this study aims to determine the relationship between lexical richness and creative potential. Achieving this goal involves solving the following tasks:

[1] Identifying the main psycholinguistic parameters of a creative personality.

[2] Comparing the quantitative and substantive characteristics of the lexical repertoire of well-known creative personalities in Kazakhstan and representatives of non-creative professions.

2. Materials and Methods

The theoretical and methodological foundation of the study consists of certain principles of cognitive linguistics. Primarily, the notion that creative abilities are cognitive properties expressed in the linguistic domain is central. Cognitive linguistics views language as both a product and a tool for understanding the world. Within this framework, creativity is considered a cognitive ability that enables individuals to generate new ideas and images. Investigating the specifics of language use by creative individuals has revealed a correlation between creative abilities and linguistic activities.

In identifying the main psycholinguistic parameters of a creative personality, a method of systematic analysis and typology was employed. These research methods helped consolidate findings from various studies on the same topic and uncover common patterns and trends in the investigated field. A database of sources was compiled from three scholarly resources: Scopus, Google Scholar, and Web of Science. Typological methods were used to select and group sources within three presumed psycholinguistic parameters of a creative personality: syntactic flexibility, metaphorical thinking, and lexical repertoire. It was also observed that the "lexical repertoire" parameter exhibited low thematic prominence in scholarly discourse, indicating gaps in the research area.

To provide a clearer understanding of the relationship between creativity and lexical repertoire, an empirical study was conducted. The primary methodological feature of the study involved comparing quantitative and substantive characteristics of the lexical repertoire of well-known creative personalities in Kazakhstan with those of representatives of non-creative professions. Firstly, ten interviews with renowned creative personalities in Kazakhstan were selected: Asel Sabyrzhankyzy (artist), Saodat Ismailova (artist), Aruzhan Omarova (singer), Abdrahman Bekenov (singer), Lucidbeatz (singer), Alisher Nurakhmetov (comedian), Nazerke Amirova (comedian), Asem Zhapisheva (screenwriter), Katerina Suvorova (director), Rinat Balgabayev (director). The content analysis method was employed. The resource base for collecting primary information in the form of interview text content was "The Village Kazakhstan" website. In linguistic analysis, ten interviews with representatives of non-creative professions were also conducted, including a manager (male and female), engineer (male and female), healthcare professional (male and female), lawyer (male and female), and accountant (male and female). Interview questions aimed to reveal informants' professional lives. Quantitative and substantive processing of all twenty interviews was conducted using the Voyant Tools online service. Quantitative analysis of lexical density was measured based on the percentage ratio of unique words to the total number of words in the interviews. This measurement was performed for each informant individually. Substantive analysis of the lexical repertoire was based on a comparison of two text arrays: the overall array of interviews with well-known creative personalities in Kazakhstan and the overall array of interviews with representatives of non-creative professions. For each text array, 42 of the most popular nouns and verbs were selected.

The empirical results were subjected to a comparative analysis of both quantitative and substantive characteristics of the lexical repertoire of artists and representatives of non-creative professions.

3.   Results

3.1. Theoretical approaches to linguistic creativity

The literature analysis identified three main psycholinguistic parameters of a creative personality: syntactic flexibility, metaphorical thinking, and vocabulary. These parameters form the theoretical foundation for understanding how language influences creativity and are crucial for developing educational methods aimed at supporting creative abilities.

Syntactic flexibility refers to the ability of speakers to express the same thought using different syntactic structures [16, 17]. This ability is essential for creative thinking as it allows individuals to convey their ideas in various ways, making their communication more dynamic and adaptable. Victor S. Ferreira [18] identifies two primary factors influencing the choice of syntactic structure: information processing factors and communicative factors. Information processing factors include accessibility, where speakers tend to use structures that are more familiar to them, and syntactic priming, where speakers are more likely to use structures similar to those they have recently encountered. Communicative factors are related to the features of dialogue and discourse, where speakers choose structures that facilitate better information transmission and coordination. For instance, when speaking to a child, one might use simpler sentences like "I saw a dog" because it is easier for the child to understand.

Children exhibit high creativity in their use of language from an early age. They often come up with new expressions they have never used before, demonstrating an early ability for linguistic creativity. Researchers have analyzed recordings of conversations between young children and their mothers, finding that a significant portion of the child's statements were new and not previously uttered in full. These new statements were often based on previous ones, modified through simple operations such as word replacement or addition. This indicates that even at a young age, children possess the ability to be creative with language, using it to express new ideas and thoughts [19].

Metaphorical thinking is the ability to use metaphors in language, reflecting an individual's creative thinking. Metaphors allow for the creation of associative connections, expanding the semantic field and enabling more vivid expression of ideas [20]. This form of thinking is not only crucial for general creativity but also for scientific creativity, as it helps in making new discoveries and solving complex problems. A metaphor is a way of thinking that allows one to see something new by comparing it to something familiar [21]. For example, the metaphor "time is money" emphasizes that time is a valuable resource that should be used wisely.

Researchers believe that metaphorical thinking can significantly aid scientists in their work. For instance, physicist Albert Einstein used the metaphor of a "cosmic ship" to understand how space-time works. Empirical studies on the connections between metaphorical thinking and scientific creativity can contribute to a deeper understanding of the scientific process [22, 23].

Research by Yoed N. Kenett et al. [24] indicates that more creative individuals have a more flexible structure of semantic memory. This flexibility allows them to activate a broader and more diverse set of semantic associations, making them more capable of understanding new metaphors that have not been previously used. In a study where individuals performed tasks evaluating the semantic relatedness of word pairs, more creative individuals were faster and more accurate in understanding both traditional and new metaphors compared to less creative individuals. Brian Birdsell [25] further confirms that the ability to use metaphors is an important part of creativity. Creative metaphorical competence, which is the ability to create new and original metaphors, is associated with other dimensions of creativity such as problem-solving

ability, originality, and flexibility of thinking. This indicates that metaphorical thinking is not only a crucial part of creativity but also a skill that can be measured and developed.

A rich vocabulary is essential for creative individuals as it allows them to formulate their thoughts precisely and expressively, create non-standard expressions, and bring originality to their linguistic style. Engaging in creative writing tasks, such as writing poems, stories, and acrostic poems, has been shown to have a positive impact on expanding students' vocabulary. These tasks require students to use new words and expressions, encouraging them to explore their vocabulary and find new ways to use it. Creative writing also helps students use their vocabulary in context, making it more meaningful and memorable [26].

3.2. Experiment

Empirical evidence confirming the hypothesis that creative individuals have a rich vocabulary has not been observed within the framework of psycholinguistic studies. To address this knowledge gap, the author conducted a study by comparing the lexical density as well as its substantive characteristics among well-known creative personalities in Kazakhstan and representatives of non-creative professions. First and foremost, the lexical density of well-known creative personalities in Kazakhstan was documented based on interviews (Table 1).

Table 1. Quantitative analysis of the vocabulary of famous creative personalities of Kazakhstan

No.	Cultural figure	Total number of words	Number of unique words	Vocabulary density
1	Asel Sabyrzhankyzy (artist)	1.509	751	50%
2	Saodat Ismailova (artist)	1.656	921	57%
3	Aruzhan Omarova (singer)	1.149	604	53%
4	Abdrakhman Bekenov (singer)	1550	789	51%
5	Lucidbeatz (singer)	764	418	55%
6	Alisher Nurakhmetov (comedian)	787	462	59%
7	Nazerke Amirova (comedian)	953	511	54%
8	Asem Zhapisheva (screenwriter)	1618	812	50%
9	Katerina Suvorova (director)	1768	980	55%
10	Rinat Balgabaev (director)	1994	902	45%

Source: compiled by the authors.

The results strongly suggest that the density of the vocabulary of famous creative personalities of Kazakhstan has a range of 45-59%. The average vocabulary density for all ten cultural figures is 52%. Separately, it should be noted that comedians have a relatively high vocabulary density, while filmmakers have the lowest. In interviews with representatives of non-creative professions, the range of vocabulary ranged from 39% to 56%. (Table 2).

Table 2. Quantitative analysis of the vocabulary of individuals having non-creative professions.

No.	Representative of the profession	Total number of words	Number of unique words	Vocabulary density
1	Informant (manager, male)	1.451	672	46%
2	Informant (manager, woman)	1.243	511	41%
3	Informant (engineer, male)	1.175	452	39%
4	Informant (engineer, woman)	1.459	701	48%
5	Informant (health worker, male)	1.673	890	53%
6	Informant (health worker, woman)	1.561	642	41%
7	Informant (lawyer, male)	1.386	720	51%
8	Informant (lawyer, woman)	1.439	802	56%
9	Informant (accountant, male)	1.690	717	42%
10	Informant (accountant, woman)	1.245	690	55%

Source: compiled by the authors.

The average vocabulary density for all ten representatives of non-creative professions is 46%. The lowest scores were recorded among managers and engineers, while lawyers exhibited the highest scores. Comparing quantitative characteristics of vocabulary, it can be observed that well-known cultural figures, on average, have a higher vocabulary density than representatives of non-creative professions by 8%. Comparative research results confirm the hypothesis that creative individuals have high vocabulary density relative to professions where creativity is not presumed. This can be attributed to several factors. Firstly, creative individuals often encounter the need to express their ideas and thoughts in new and original ways. This requires them to expand their vocabulary and seek new words and expressions. Secondly, creative individuals often have an interest in various aspects of life and strive to explore as much as possible. This also contributes to expanding their vocabulary, as creative individuals encounter new words and concepts in different fields. Thirdly, creative individuals often use language as a tool to express their emotions and feelings. This, too, can contribute to expanding their vocabulary, as creative individuals seek words that accurately convey their emotions. Of course, not all creative individuals have a high vocabulary density. However, in general, it can be said that creative individuals are more inclined to expand their vocabulary compared to people whose activities are not related to creativity. Content analysis of the most frequently used nouns shows that well-known cultural figures most often use three categories of words [27].

Firstly, words directly related to creativity (film, music, song, track). This indicates that creativity is an important part of the lives of creative individuals. They often talk about their creativity, their goals, and aspirations in this area. Secondly, words with socially significant contexts (friend, people, money, woman). Creative individuals often contemplate concepts such as the meaning of life, happiness, justice, and others. They use their language to express their thoughts and feelings on these matters. Thirdly, words predominantly of abstract nature rather than concrete (time, sensation, fear). Creative individuals seek to convey not only concrete images but also more profound meanings [28, 29]. In the speech of representatives of non-creative professions,

the most common nouns are words directly related to work activities (job, salary, company, efficiency, responsibility). This means that work is an important part of the lives of these individuals, and they often talk about their work, goals, and aspirations in this area. The prevalence of concrete words over abstract ones is also noted.

Content analysis of the most frequently used verbs by well-known creative individuals in Kazakhstan shows a predominance of various words with personal significance (see, love, think, want). This indicates that creative individuals often use language to express their thoughts, feelings, and emotions. The use of verbs with personal significance in the speech of creative individuals can be associated with several factors. Firstly, creativity requires individuals to be open and honest with themselves and others. Creative individuals often share their thoughts, feelings, and emotions with their audience. Secondly, creativity is often used to express a person's subjective experience. Creative individuals often use verbs with personal significance to convey their unique view of the world [30]. Thirdly, creativity is often used to establish a connection with others. Creative individuals use verbs with personal significance to share their feelings and emotions with others, to establish a connection with them.

In comparison, representatives of non-creative professions predominantly use verbs with instrumental content (control, work, determine, manage). This means that individuals in non-creative professions often use language to describe their actions and how they use their abilities and skills. The use of verbs with instrumental content in the speech of representatives of non-creative professions can be associated with several factors. Firstly, work often requires people to perform specific actions and use their abilities and skills. Representatives of non-creative professions often use verbs with instrumental content to describe their work duties and how they perform them. Secondly, work often requires people to be efficient and effective. Representatives of non-creative professions often use verbs with instrumental content to describe their methods and ways of achieving goals. Thirdly, work often requires people to collaborate with others. Representatives of non-creative professions often use verbs with instrumental content to describe their interactions with others and how they work together.

In conclusion, the results showed that the lexical density for creative personalities ranged from 45% to 59%, with an average of 52%. Comedians demonstrated the most lexical density, whilst filmmakers exhibited the least. The lexical density for non-creative workers varied between 39% and 56%, with a mean of 46%. Among non-creative occupations, lawyers exhibited the highest lexical density, whereas managers and engineers demonstrated the lowest.

The content analysis indicated that creative individuals often employed nouns classified into creativity-related phrases (e.g., film, music, song), socially relevant situations (e.g., friend, people, money), and abstract notions (e.g., time, sensation, fear). Verbs frequently possessed personal value (e.g., perceive, adore, contemplate, desire). Conversely, non-creative professionals often employed nouns associated with occupational tasks (e.g., job, salary, company, efficiency, responsibility) and largely instrumental verbs (e.g., control, work, determine, manage).

The findings validate the premise that creative persons exhibit greater lexical density than non-creative professionals. This can be ascribed to multiple factors: the necessity for authentic expression, curiosity about varied subjects, and the utilisation of language to convey emotions and sentiments. Creative persons utilise language to articulate their thoughts, feelings, and emotions, as well as to forge connections with others, whereas non-creative professionals employ language predominantly to delineate their work responsibilities and accomplishments.

4. Discussion

This study's findings offer significant insights into the correlation between creativity and vocabulary, especially regarding psycholinguistic factors like syntactic flexibility, metaphorical thinking, and lexical repertoire. The empirical data obtained from interviews with creative individuals and representatives of non-creative professions reveal notable disparities in lexical density and the substantive attributes of their language.

The quantitative investigation indicated that creative individuals possess a greater vocabulary density (52%) than non-creative professionals (46%). This indicates that creativity is intimately associated with a more extensive and varied lexical inventory. Creative individuals typically employ a wider array of vocabulary and idioms, supporting the view that creativity necessitates the capacity to articulate concepts in innovative and creative manners. This discovery has practical ramifications for educational initiatives designed to cultivate creativity, as it emphasises the significance of enhancing vocabulary.

The examination of the most commonly utilised nouns and verbs reinforces this result. Creative individuals frequently employ terminology associated with creativity and abstract notions, whereas non-creative professionals concentrate on tangible and work-related vocabulary. This signifies that language serves not merely as a communication tool but also as a medium for articulating and examining complex concepts and emotions, essential for creative cognition.

The results of this study align with those of Sana Tariq Ahmed and Gregory J. Feist [31], who utilized linguistic analysis to assess the creative abilities of individuals. Their study demonstrated that linguistic analysis can be an effective method for differentiating individuals with varying levels of scientific and artistic creativity. The current study focused on the ratio of unique words to the total number of words, as well as the most frequently used verbs and nouns, emphasizing the substantive structure of the lexical repertoire.

The study by Rahmi Yulia Ningsih et al. [32] shed light on the forms of language creativity among students at morphological, syntactic, and semantic levels. While their study emphasized the analysis of writing skills, the current research focused on spoken language and the lexical repertoire's interaction with creativity. This distinction highlights the unique contributions of each study to understanding language creativity.

The research by Lívia Körtvélyessy et al. [33] presented results from an extensive interdisciplinary project aimed at confirming the influence of creativity on the formation of new complex words by university students. Their focus on the tendency toward expression economy and semantic transparency complements the current study's findings on the correlation of unique words with the total number of words and the use of the most commonly occurring verbs and nouns.

Additionally, the study by Radwa Khalil et al. [34] explores the link between creativity, cognition, and underlying neural mechanisms. Their research suggests that creative thinking is supported by specific neural processes that facilitate flexible and divergent thinking. This aligns with the current study's findings that creative individuals demonstrate greater syntactic flexibility and metaphorical thinking, which are likely underpinned by these neural mechanisms. Furthermore, the research by Victoria Guentulle et al. [35] examines the relationship between creativity and language as measured by linguistic maturity and text production. Their findings indicate that creative individuals tend to have higher linguistic maturity, which is reflected in their ability to produce more complex and original texts. This supports the current study's conclusion that a richer vocabulary and more sophisticated language use are associated with higher levels of creativity.

Several studies have explored the relationship between creativity and second language learning, generally confirming a positive connection. Unlike current research, these studies focus on how learning a foreign language enhances creative abilities. For instance, Toshinori Yasuda Shungo et al. [36] studied the role of creativity in second language oral production with 60 Japanese students using picture-based narratives and open argumentative tasks. The study found that divergent and convergent thinking influenced speech coherence and the amount of information provided, with openness to experience linked to increased syntactic and lexical complexity. These findings suggest that creativity enhances various aspects of oral production in a second language.

Similarly, Tiansheng Xia et al. [37] found that bilingualism is associated with creativity, proposing that skills required for language switching contribute to cognitive creativity. Their study of 54 Chinese students showed that highly proficient bilinguals outperformed low-proficiency bilinguals in convergent and divergent thinking, with cognitive inhibition and flexibility as mediating factors. Almudena Fernández-Fontecha and Yoed Nissan Kenett [38] argued that creativity is linked to a more flexible structure of semantic memory. Their study of Spanish language learners demonstrated that highly creative students exhibited greater fluency and originality in both languages, with the effect being more pronounced in their second language.

This study presents persuasive data on the correlation between creativity and vocabulary but possesses certain limitations. The sample size, while representative, is comparatively small, and the emphasis was mainly on spoken language. Subsequent research ought to broaden its focus to encompass written language and a more extensive, diverse sample to corroborate these findings. The study also failed to examine the potential impact of cultural and linguistic origins on the results, presenting a compelling opportunity for further research. It is important to acknowledge that the empirical information derives from publicly accessible interviews, which may exhibit scripted and coached dialogue, particularly with prominent figures. Thus, the identified language characteristics – including lexical richness, syntactic diversity, and metaphorical density – may be partially influenced by the structure and context of the recorded interviews. This may restrict the capacity to differentiate between organic language inventiveness and deliberately crafted public discourse. Subsequent research analyzing prior spontaneous speech samples or unpublished dialogues may yield enhanced understanding of the developmental trajectory of linguistic inventiveness in public characters.

This study enhances the existing research on the correlation between creativity and language. The results highlight the significance of an extensive vocabulary and adaptable language use in promoting creativity. The study offers empirical data by comparing the lexical vocabulary of creative and non-creative individuals, thereby supporting the development of educational programs designed to enhance creative talents. Subsequent research ought to expand upon these findings to investigate further dimensions of language and creativity, encompassing cultural and linguistic impacts, in order to achieve a more thorough comprehension of this intricate link.

5.   Conclusions

Three essential psycholinguistic characteristics of a creative personality were found in this study: lexical repertoire, metaphorical thinking, and syntactic flexibility. Creative people can use a variety of syntactic structures to convey ideas more precisely and expressively when they possess syntactic flexibility. New linkages and concepts can be formed through metaphorical thinking, which broadens semantic areas and improves creative expression. Precise and expressive concept formation is made possible by a large lexical repertoire, which also encourages unconventional

expressions and unique linguistic style. These factors are interconnected, with a wide vocabulary enabling more efficient metaphor use and creative thinking improving syntactic flexibility.

According to the empirical study, creative people in a variety of artistic domains had a higher lexical density than people in non-creative occupations. This was supported by both quantitative and qualitative data, which showed that Kazakhstani creative people had an average vocabulary density of 52%, whereas non-creative professionals had an average vocabulary density of 46%. While non-creative professionals concentrate more on tangible and work-related terms, creative people utilise a wider variety of words and expressions, frequently associated with creativity and abstract concepts.

Despite offering insightful information, this study has several drawbacks. Spoken language was the main focus, and the sample size was somewhat tiny. To confirm and broaden these findings, future studies should investigate written language and try to include a bigger and more varied sample. Furthermore, examining the possible influence of linguistic and cultural origins may offer a more thorough comprehension of the connection between language and creativity. In order to gain a deeper understanding of the organic evolution of linguistic innovation, future research should also take into account the analysis of spontaneous speech samples.

References

[1] Gabdolla, Akishev, and Jenisgul Baigozhina. 2021. "The Formation of Cognitive Linguistics." News of Kazakh Ablai Khan University of International Relations and World Languages 60 (1).

[2] Momynova, Bagdan Kataevna. 2019. "Cognitive Linguistics and Conceptualization Process." Tiltanym 1: 18–27.

[3] Efremov, Andrei. 2025. "The Psychology of Faith and Religious Identity: How Theology Shapes Worldview and Self-Perception." Pharos Journal of Theology 106 (3): 1–15.

[4] Ashirova, Anar Tishibayevna, Aigul Niyazbekovna Atahanova, Shafiga Asylbekovna Ramazanova, and Amanzhol Abdykadyrovich Baniyazov. 2021. "Application of Language to the Main Issues of Cognitive Linguistics as a Sub-Branch of Cognitive Science." Eurasian Journal of Philology: Science and Education 181 (1): 96–102.

[5] Sheikh, Mona. 2019. "The Significance of Worldview Analysis for Social Sciences." In Entering Religious Minds: The Social Study of Worldviews, 111–121. https://doi.org/10.4324/9780429468810-11

[6] Doszhan, Raikhan. 2023. "Multi-vector cultural connection in the conditions of modern globalisation." Interdisciplinary Cultural and Humanities Review 2 (1): 27–32.

[7] Dauletova, Makhabbat Tursynbekovna. 2021. "The Concept as the Main Unit of Cognitive Linguistics and Linguoculturology." The Bulletin of the National Academy of Sciences of the Republic of Kazakhstan 6: 146–152.

[8] Daurenbekova, Laura, Imanberdiyeva Saule, Baitanassova Karlygash, Akniyet Ozat, and Alimbayev Aslan. 2024. "Transformation of Literary Translations of the Literary Classics by Abai Kunanbayev." New Voices in Translation Studies 29 (2): 66–87.

[9] Malyk, Valentyna. 2024. "Psycholinguistic factors of foreign language acquisition." Scientia et Societus 3(2): 82–92.

[10] Baizakov, Zhenish. 2023. "History of Formation of Cognitive Linguistics." European Journal of Interdisciplinary Research and Development 13: 193–197.

[11] Shaikhova, P. 2022. "Cognitive Linguistics and the Study of Word Meaning (Based on the Concept of Prestige)." In Current Problems of Philology, 3089–3094. https://rep.enu.kz/handle/enu/3798

[12] Kenesei, Istvan. 2013. "The Role of Creativity in the Cognitive Turn in Linguistics." International Review of Pragmatics 5: 271–292.

[13] Onsman, Harry Julian. 1982. Creativity and Linguistic Theory: A study of the Creative Aspect of Language. Sydney: University of Tasmania.

[14] Shapran, Olha, Shapran Yurii, Pomyluiko Vira, Gusak Liudmyla, and Shapran Oleksii. 2025. "Age-related changes in the development of communicative competence in adults." Humanities Studios: Pedagogy, Psychology, Philosophy 13 (1): 56–69.

[15] Tanana, Svitlana, and Soga Liudmyla. 2023. "Formation of communicative culture of future service sector specialists: Theoretical analysis and practical perspectives." Scientia et Societus 2 (2): 42–52.

[16] Hoff, Sara, & Barboza Gabriela. 2025. "Languages, Language, and Linguists: The Study of the Diversity of Languages According to Saussure and Benveniste." Bakhtiniana 20 (1): e65692e.

[17] Dovhan, Nataliia. 2020. "Sociocultural interactions of generations: Research resources of the discourse analysis." Scientific Studios on Social and Political Psychology 26 (2): 179–187.

[18] Ferreira, Victor S. 1996. "Is it Better to Give than to Donate? Syntactic Flexibility in Language Production." Journal of Memory and Language 35 (5): 724–755.

[19] Lieven, Elena, Heike Behrens, Jennifer Speares, and Michael Tomasello. 2003. "Early Syntactic Creativity: A Usage-Based Approach." Journal of Child Language 30 (2): 333–370.

[20] Sheikh, Mona, and Juergensmeyer Mark. 2019. Entering Religious Minds: The Social Study of Worldviews. New York: Routledge.

[21] Kravchenko, Kravchenko, and Yudenko Oleksandr. 2025. "Cognitive processing of visual metaphor from the perspective of Conceptual Metaphor Theory." International Journal of Philology 29 (1): 58–69.

[22] Cherednichenko, Olena. 2024. "The Term "Creativity" in the Discourse of

Theories and Concepts." Humanities Studios: Pedagogy, Psychology, Philosophy 12 (4): 90–103.

[23] Sanchez-Ruiz, Maria-Jose, Manuela Romo Santos, and Juan Jiménez Jiménez. 2013. "The Role of Metaphorical Thinking in the Creativity of Scientific Discourse." Creativity Research Journal 25 (4): 361–368.

[24] Kenett, Yoed N., Rinat Gold, and Miriam Faust. 2018. "Metaphor Comprehension in Low and High Creative Individuals." Frontiers in Psychology 9: 482.

[25] Birdsell, Brian. 2018. Creative Metaphor Production in a First and Second Language and the Role of Creativity. Birmingham: University of Birmingham.

[26] Durdas, Alla, Tetiana Harbuza, Yuliia Radchenko, and Hanna Starosta. 2022. "Teaching Foreign Languages Efficiently: The Role of Creative Writing." Continuing Professional Education: Theory and Practice 72 (3): 33–38.

[27] Lychuk, Mariya, & O. Nozhovnik. 2020. "Fostering Cognitive and Creative Thinking Styles Through the Use of Innovative Pedagogical Technologies in the Process of Vocational Training." International Journal of Philology 24 (4): 132–139.

[28] Kieliszek, Zdzislaw. 2024. "The Concept Of Fatherhood In Kant'S Philosophy And Its Current Potential." Logos (Lithuania) 121: 6–27.

[29] Tatenko, Vitaliy. 2017. "Subjective-action approach as a form of social and psychological thinking." Scientific Studios on Social and Political Psychology 23 (1): 27–38.

[30] Gonçalves, Jean. 2024. "What Is (Not) Aesthetic Education?" Bakhtiniana 19 (2): e63561e.

[31] Ahmed, Sana Tariq, and Gregory J. Feist. 2021. "The Language of Creativity: Validating Linguistic Analysis to Assess Creative Scientists and Artists." Frontiers in Psychology 12: 724083.

[32] Ningsih, Rahmi Yulia, Zainal Rafli, and Endry Boeriswati. 2021. "Linguistic Creativity of the Indonesian for Foreign Speakers (BIPA) Students at the Morphological, Syntactic, and Semantic Levels." Lingua Cultura 15 (2): 199–206.

[33] Körtvélyessy, Lívia, Pavol Štekauer, and Pavol Kačmár. 2021. "On the Role of Creativity in the Formation of New Complex Words." Linguistics 59 (4): 1017–1055.

[34] Khalil, Radwa, Ben Godde, and Ahmed A. Karim. 2019. "The Link Between Creativity, Cognition, and Creative Drives and Underlying Neural Mechanisms." Frontiers in Neural Circuits 13: 18.

[35] Guentulle, Victoria, Miguel Nussbaum, Franco Castillo, Pablo Chiuminatto, Jonathan Michael Spector, and Matías Rojas. 2024. "The Relationship Between Creativity and Language as Measured by Linguistic Maturity and Text Production." Thinking Skills and Creativity 54: 101636.

[36] Shungo, Toshinori Yasuda, Keiko Hanzawa, and Judit Kormos. 2022. "How Does Creativity Affect Second Language Speech Production? The Moderating Role of Speaking Task Type." TESOL Journal 56: 1320–1344.

[37] Xia, Tiansheng, Yi An, and Jiayue Guo. 2022. "Bilingualism and Creativity: Benefits from Cognitive Inhibition and Cognitive Flexibility." Frontiers in Psychology 13: 1016777.

[38] Fernández-Fontecha, Almudena, and Yoed Nissan Kenett. 2022. "Examining the Relations between Semantic Memory Structure and Creativity in Second Language." Thinking Skills and Creativity 45: 101067.