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**A BLENDED METHOD TO INVESTIGATE THE DYNAMICS  
OF THE DEVELOPMENT OF RUSSIAN LINGUISTIC CONSCIOUSNESS  
AND VERBAL COMMUNICATION<sup>1</sup>**

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## СМЕШАННЫЙ МЕТОД ИЗУЧЕНИЯ ДИНАМИКИ ФОРМИРОВАНИЯ РУССКОГО ЯЗЫКОВОГО СОЗНАНИЯ И КОММУНИКАТИВНОЙ КОМПЕТЕНЦИИ<sup>1</sup>

Одной из наиболее актуальных проблем психолингвистики является проблема усвоения языка в онтогенезе, детская речь. Возможным способом лучшего понимания процесса формирования культурно- специфического языкового образа мира и речевого онтогенеза является исследование языковых ассоциаций носителей культуры различных возрастных групп. В настоящем исследовании мы провели ассоциативный эксперимент по методологии Московской школы психолингвистики и объединили его с методами корпусной лингвистики, чтобы сравнить языковое сознание и речевую компетенцию носителей русского языка разных возрастов: детей-дошкольников (4-5 лет), детей-школьников (10-12 лет) и взрослых.

Мы сравнили данные ассоциативного эксперимента (по 70 испытуемых из обеих возрастных групп) с данными корпусов CHILDES (детский корпус русского языка) и Araneum Russicum (корпус носителей языка старше 18 лет). Мы пришли к выводу, что данные, полученные в результате проведения ассоциативного эксперимента, хорошо дополняют массив лингвистических данных существующих корпусов. Более того, мы установили, что применение такого смешанного подхода, позволяет лучше понять процесс усвоения языка. Полученные результаты продемонстрировали динамику изменений языкового сознания в зависимости от возраста респондентов, а также развитие речевой компетенции в процессе усвоения языка и культуры, т.е. в процессе социализации.

**Ключевые слова:** ассоциативный эксперимент, корпусная лингвистика, раннее детство, Sketch Engine, языковое сознание, социокультурное развитие, усвоение языка и культуры

Language acquisition from Early Childhood is a concern of utmost relevance of Psycholinguistics. A possible path to better understand the development of the culture-specific verbal image of the world and verbal communication patterns is through the investigation of word associations of language users of various age groups. In this research we applied the association experiment as it is used and interpreted by the Moscow School of Psycholinguistics blended it with Corpus Linguistic methods, in order to compare the linguistic image of the world and verbal communication of 4-5-year-old, 10-12-year-old Russian children, and adult language users. We compared the data obtained with the association experiment (70-70 respondents from both age groups) to the large-scale databases of CHILDES Russia child language corpus and Araneum Russicum corpus of adult (over 18 years) language users.

We concluded that the results gained with the association method well complemented the massive amount of linguistic data available in existing corpora. Furthermore, we stated that the application of blended methods including the association experiment and the Corpus Linguistic approach effectively contributed to getting an insight to the language acquisition process. The results obtained demonstrate the dynamics of age-related changes in the linguistic image of the world and communication patterns that occur in the process of language and culture acquisition, i.e. in the process of socialization.

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**Keywords:** association experiment, Corpus Linguistics, Early Childhood, Sketch Engine, verbal/linguistic consciousness, social-cultural development, language and culture acquisition, Russian language

## **Introduction**

### **Psycholinguistic foundations**

Psycholinguistics traditionally focuses on such research areas as ontogenesis of language competence, speech production, speech perception, speech communication, etc. As emphasized by Ufimtseva, Russian psycholinguistics has its own achievements in these research areas, the most significant of them being the development of speech production model (or the model of language competence functioning) based on aphasiological evidence (Akhtina-Ryabova, A. A. Leontiev), the view of language as an activity structure (A. A. Leontiev), the theory of language consciousness (Tarasov, Ufimtseva) and the lacuna theory (Sorokin, Markovina) [Ufimtseva 2014b].

The research this article presents is an attempt to combine the methods of corpus linguistics with the widely used method of association experiment to obtain the data on how the linguistic image of the world develops in children in the process of social-cultural development and language acquisition. One of the core ideas of Russian psycholinguistics is the role of culture and language as a means to externalize ethnic consciousness. In other words, both culture and language unite people into one ethnic group. In the process of ontogenesis a child masters the semiotic function of the language and culture and through this gains access to the common knowledge about the world of representatives of the his/her native ethnic group. The knowledge about the world shared by all members of the culture is the basis for mutual understanding. It is the common knowledge that determines constructive communication within one culture implemented with the help of outer formal language based on the semiotic function of language and culture [Ufimtseva 2014a].

Our research aims to experimentally demonstrate how the linguistic image of the world develops in children in the process of social and cultural development and language acquisition. Another objective is to investigate the consciousness functioning in speech communication.

To identify the age-related changes in the linguistic consciousness in the process of socialization we applied the association experiment. To analyze how the linguistic consciousness serves communication we used the data obtained through the corpus linguistics method.

### **Early Childhood studies with emphasis on language skills and language acquisition**

According to the Early Years Foundation Stage, which is a widely recognized basic document for the Early Years development in Great Britain but also known globally, between 4 and 5 children have the confidence to speak to others about their wants and interests. They extend their vocabulary, especially by grouping and naming. They can develop simple stories and explanations, and they use simple grammatical structures. It is very important to recognize that they often speak up during free-play and we can make them speak up with a stimulating and enabling environment. From the age of four, they can follow appropriate language and instructions [EYFS 2007].

According to psychologists and linguists, children are competent language users by the age of six. By the start of the school-years they gain a powerful language ability. By four they

understand and able to express themselves in complex sentences, however, they generalize to many grammar rules [Clark 2000; Cole & Cole 2001]. Gosy points out that 4-5-year-old speakers often use details when they explain situations [Gosy 2005]. In lower elementary classes and around 10-12 years of age children become able to understand the order of lexical elements, syntactic, and pragmatics in grammar. They can understand unusual order within phrases [Cole & Cole 2001]. Our research worked well among 10-12-year-olds probably, because the communication context is being led in dialogues, where teachers are interviewing the pupils, so children got used to the situation as well.

### **Corpus Linguistics and its role in investigating language acquisition**

One of the most dynamically developing areas of linguistics is Corpus Linguistics, a relatively young area which gained significance after the late 1950-s when rapid development of computer technology facilitated the widespread use of large texts for linguistic analysis. A pioneering work of building an English-language corpus applicable for extensive linguistic investigation is the Brown corpus [Francis and Kucera 1964] that subsequently served as an example for further similar corpora of the English and other languages.

A linguistic corpus can be defined as “*A collection of linguistic data, either written texts or a transcription of recorded speech, which can be used as a starting-point of linguistic description or as a means of verifying hypotheses about a language.*” [Crystal 2008: 117]. The most substantial criteria of building a corpus [McEnry 2018] are: (1) it must be a large body of text (2) representative of language (3) in a machine-readable form, furthermore (4) must act as a standard reference about what’s typical in language, and (5) is often annotated with additional linguistic information.

A foundational distinction in Corpus Linguistics is between the *corpus-based* and the *corpus-driven approach* [Tognini-Bonelli 2001]. While corpus-based linguistic research aims at verifying a theoretical presumption or a hypothesis by application of linguistic corpora (thus applies corpora as a scientific method), corpus-driven research typically considers corpus as the exclusive reliable source of linguistic research that allows linguist to draw conclusions. In this paper, we committed ourselves to the first approach and consider corpora as a research method.

## **Methods**

### **The association experiment**

In psycholinguistics, association experiments are widely applied to investigate the content of the consciousness images externalized by the words of the language. Word associations are viewed as cognitive structures that serve to conceptualize experience accumulated through human activities in the ethnic culture. The association experiment allows for the individual consciousness and speech utterance mechanisms to be investigated by a researcher. It seems to be a unique research method to identify the mechanisms that a language speaker uses unconsciously. Data collected via large-scale association experiments is used to study the linguistic consciousness of various groups of people as their collective image of the world. In the research presented here, the authors apply for the second time [Lenart, Endrody, Markovina 2019] the association experiment approach combined with Corpus linguistic resources to contextualize associations with their various collocations [Leonard, Ufimtseva, Markovina 2019: 116].

### Selected corpora

As set forth above, we applied the corpus-based approach in order to blend the association experiment with Corpus Linguistic methods, thus aimed at amalgamating the advantages of both perspectives. We compared the data obtained with the association experiment (70-70 respondents from both 4-5-year-old, 10-12-year-old age groups) to the large-scale databases of CHILDES Russia child language corpus and Araneum Russicum corpus of adult language users.

CHILDES is an acronym of the Child Language Data Exchange System, a corpus available in 24 languages in the Sketch Engine tool [Kilgarriff et als. 2014] including the CHILDES Russian corpus. The Russian corpus is compiled by transcripts of voice recordings of dialogues between 0-3-year old children and their family members and consists of nearly 60.000 tokens.

Araneum Russicum is one of the biggest corpora of the Russian language containing more than 1,2 billion tokens, nearly 860 million words from Russian-language websites. In this research we used the version available in Sketch Engine [Kilgarriff et als. 2014], the Araneum Russicum Russicum Maius (Russia-only Russian, 15.03) 1,20 G corpus.

### Results

Table 1 displays top 15 results of the association experiment conducted with 70 Russian kindergarten children from the age group 3-5 and with 70 Russian schoolchildren from the age group 10-12. Displayed data include three word classes, nouns verbs and adjectives, excludes results from all other word classes (articles, prepositions, pronouns, etc.).

Visible overlapping in the verbal consciousness of the two age groups include words as *мама* (*mother*), *папа* (*father*), *маленький* (*small*), *человек* (*man*), *дом* (*home/house*), *играть* (*play*), *большой* (*big*), *цвет* (*color*) – more than half (8 out of 15) of the most frequent associations coincide in the two groups. The six most frequent associations of 3-5-year-old children can be all found in the results of the 10-12-year-old group.

*Mother* and *father* seem to take privileged place in the younger age group's consciousness (*mother* precedes *father*), these reactions drop back to 8<sup>th</sup> and 11<sup>th</sup> places in the 10-12-year-old group respectively. *Man* and *home/house* are both present in the top 15 results – items also included in the core of verbal consciousness of adult Russian language users.

*Table 1*

**The 15 most frequent of words of the association experiments (nouns, verbs, adjectives)**

	Russian 3-5 yrs		Russian 10-12 yrs	
1	<b>мама</b> ( <i>mother</i> )	115	<b>человек</b> ( <i>man</i> )	245
2	<b>папа</b> ( <i>father</i> )	102	<b>маленький</b> ( <i>small</i> )	65
3	<b>маленький</b> ( <i>small</i> )	87	<b>существо</b> ( <i>being</i> )	52
4	<b>человек</b> ( <i>man</i> )	80	<b>страны</b> ( <i>countries</i> )	47
5	<b>дом</b> ( <i>home/house</i> )	61	<b>добрый</b> ( <i>kind</i> )	44
6	<b>играть</b> ( <i>play</i> )	54	<b>большой</b> ( <i>big</i> )	41
7	<b>люблю</b> ( <i>love</i> )	44	<b>играть</b> ( <i>play</i> )	41
8	<b>мальш</b> ( <i>kid</i> )	43	<b>мама</b> ( <i>mother</i> )	36

9	<b>хорошая</b> (good, <i>f</i> )	43	<b>цвет</b> (color)	35
10	<b>друг</b> (friend)	41	<b>жидкость</b> (liquid)	32
11	<b>семья</b> (family)	36	<b>папа</b> (father)	29
12	<b>большой</b> (big)	35	<b>лет</b> (year)	28
13	<b>белый</b> (white)	33	<b>люди</b> (people)	26
14	<b>цвет</b> (color)	31	<b>сестра</b> (sister)	26
15	<b>люди</b> (people)	27	<b>дом</b> (home/house)	26

Key adjectives of both respondent groups are *big* and *small*, while *playing* – in the form of a verb – proves to be also an essential part of verbal consciousness in Early Childhood. Responses of the 10-12-year-old group included more abstract notions that are also more complex grammatically and in form i.e. *существо* (*being*) and *жидкость* (*liquid*).

When contrasting the results of our association experiment with data of the CHILDES Russia (Table 2) corpus (nouns, verbs, adjectives) the similarities include the appearance of *мама* (*mother*) and *напа* (*father*), again interestingly – similarly to the findings of the association test with 10-12-year-old children, *father* preceding *mother*.

Table 2

## The 15 most frequent of words of selected corpora (nouns, verbs, adjectives)

	CHILDES Russia corpus		Araneum Russicum Corpus	
1	<b>мальчик</b> (boy)	381	<b>может</b> (may)	1,529,045
2	<b>собака</b> (dog)	236	<b>будет</b> (be)	1,440,635
3	<b>будет</b> (be)	119	<b>время</b> (time)	1,423,693
4	<b>хочу</b> (want)	116	<b>есть</b> (has)	1,262,757
5	<b>видишь</b> (see)	115	<b>более</b> (more)	1,247,207
6	<b>собачка</b> (small dog)	110	<b>года</b> (years)	1,067,703
7	<b>надо</b> (must)	109	<b>является</b> (is)	894,318
8	<b>лягушка</b> (frog)	105	<b>работы</b> (job)	828,425
9	<b>папа</b> (father)	100	<b>России</b> (Russia)	773,292
10	<b>делает</b> (do)	100	<b>просто</b> (simple)	722,367
11	<b>мама</b> (mother)	99	<b>компания</b> (company)	713,094
12	<b>посмотри</b> (look)	97	<b>день</b> (day)	660,297
13	<b>сидит</b> (sit)	79	<b>области</b> (region)	610,025
14	<b>варенка</b> ( <i>varyenka</i> ; a dessert made of boiled condensed milk)	78	<b>необходимо</b> (necessary)	591,914
15	<b>олень</b> (deer)	76	<b>больше</b> (bigger)	591,008

Diminutive forms are strongly present in the top 15 most frequent occurrences of the CHILDES corpus including: *собачка* (small dog), *лягушка* (frog), and *варенка* (boiled condensed milk). Elements of everyday conversation between the child and his/her parents including verbal forms referring obviously to activities can be observed including *хочу* (want), *видишь* (see), *надо* (must), *делает* (does), and *сидит* (sits).

The Araneum Russicum database shows relatively low level of overlapping with results of our survey. *Big* (*большой*) appears in two forms: *более* (more) and *больше* (bigger), but no further similarities can be observed. Numerous items of the 15 most frequent words of this gigantic corpus may mirror the inclusion of a large number of written documents into the database *России* (Russia), *компании* (company), *день* (day), *области* (region).

After setting forth the most frequent 15 words of the overall results, we display below the top 10 lexical elements in each word class (nouns, adjectives, verbs, and others).

Besides the above presented observations about the parents' distinguished role in both age groups, we note that the 3-5-old children more typically associate to objects surrounding them (Table 3) in their everyday lives such as *игрушка* (toy) or *машинка* (toy car).

Table 3

#### The 10 most frequent nouns of the association experiments

	Russian group 3-5yr		Russian 10-12	
1	<b>мама</b> (mother)	134	<b>человек</b> (man/person)	305
2	<b>человек</b> (man/person)	120	<b>страна</b> (country)	61
3	<b>папа</b> (father)	111	<b>существо</b> (human being)	60
4	<b>дом</b> (house/home)	82	<b>цвет</b> (color)	45
5	<b>друг</b> (friend)	46	<b>мама</b> (mother)	38
6	<b>семья</b> (family)	44	<b>жидкость</b> (liquid)	34
7	<b>мальш</b> (kid)	43	<b>семья</b> (family)	33
8	<b>игрушка</b> (toy)	39	<b>ребенок</b> (child)	32
9	<b>вода</b> (water)	39	<b>сестра</b> (sister)	31
10	<b>машинка</b> (toy car)	38	<b>папа</b> (father)	31

Food-related words appear in the CHILDES Russia corpus (Table 4) including *варенка* (dessert made of boiled condensed milk) and *булочка* (bun) that reflects the relatively higher importance of nutrition in this period of life (0-3 years).

Table 4

#### The 10 most frequent nouns of selected corpora

	CHILDES Russia corpus		Araneum Russicum Corpus	
1	<b>мальчик</b> (boy)	381	<b>время</b> (time)	1,423,693
2	<b>собака</b> (dog)	236	<b>года</b> (year)	1,067,703
3	<b>собачка</b> (small dog)	110	<b>работы</b> (job)	828,425

4	лягушка (frog)	105	России (Russia)	773,292
5	папа (father)	100	компании (company)	713,094
6	мама (mother)	99	день (day)	660,297
7	варенка (varyonka, boiled condensed milk)	78	области (region)	610,025
8	олень (deer)	76	жизни (life)	565,731
9	дерево (tree)	75	человек (man/person)	486,725
10	булю (buns)	67	системы (system)	477,049

Adjectives with mainly positive meaning appear among the results – *хороший* (good), *добрый* (kind), *красивый* (nice), *настоящий* (real), *уютный* (cozy) *веселый* (happy), and *любимый* (favorite) – confirm that children in both age groups regard each other, themselves and the outer world (most of the questions referred to these spheres of life) in a positive manner. Ten out of 20 reaction words have a definitely positive connotation (Table 5).

Table 5

The 10 most frequent adjectives of the association experiments

	Russian group 3-5yr		Russian group 10-12yrs	
1	маленький (small)	115	маленький (small)	99
2	хороший (good)	95	добрый (kind)	77
3	большой (big)	57	большой (big)	63
4	добрый (kind)	40	хороший (good)	52
5	черный (black)	39	черный (black)	34
6	белый (white)	38	уютный (cozy)	29
7	красивый (nice)	29	плюшевый (plush)	26
8	настоящий (real)	21	веселый (happy)	24
9	плохой (bad)	18	красивый (nice)	22
10	разный (different)	18	любимый (favorite)	22

In contrast with our survey, in both selected corpora *просто* (simple) appears (Table 6): here we note that even though the word itself is in the form of an adverb, we displayed this result as it is very close in meaning and form to *простой* (simple).

Table 6

The 10 most frequent adjectives of selected corpora

	CHILDES Russia corpus		Araneum Russicum Corpus	
1	маленькая (small)	62	просто (simply)	722,367
2	большой (big)	57	необходимо (necessary)	591,914
3	хорошо (well)	53	других (other)	470,530



4	<b>правильно</b> (right)	34	<b>лучше</b> (better)	424,932
5	<b>просто</b> (simply)	23	<b>российской</b> (Russian)	324,028
6	<b>красиво</b> (beautifully)	22	<b>особенно</b> (special)	301,566
7	<b>интересно</b> (interesting)	15	<b>менее</b> (less)	293,435
8	<b>пустая</b> (empty)	11	<b>любой</b> (any)	290,428
9	<b>обязательно</b> (necessary)	10	<b>различных</b> (various)	273,410
10	<b>красная</b> (red)	10	<b>возможно</b> (perhaps)	266,482

Strikingly, seven out of the top 10 verbs totally coincide in both the 3-5 and the 10-12-year-old respondent groups (Table 7) including: *быть* (*be*), *играть* (*play*), *любить* (*love*), *жить* (*live*), *пить* (*drink*), *мочь* (*be able*), and *помогать* (*help*). *Знать* (*know*) is over-represented in the younger respondent group as kindergarten children responded to a relatively high proportion of questions with “*I don’t know*” (*не знаю*).

Table 7

#### The 10 most frequent verbs of the association experiments

	Russian group 3-5yr		Russian group 10-12yrs	
1	<b>знать</b> (know)	154	<b>играть</b> (play)	59
2	<b>быть</b> (be)	133	<b>жить</b> (live)	33
3	<b>играть</b> (play)	118	<b>быть</b> (be)	27
4	<b>любить</b> (love)	81	<b>мочь</b> (be able)	26
5	<b>жить</b> (live)	74	<b>любить</b> (love)	26
6	<b>пить</b> (drink)	45	<b>пить</b> (drink)	24
7	<b>бывать</b> (be regularly)	42	<b>гулять</b> (walk)	23
8	<b>мочь</b> (be able)	36	<b>понимать</b> (understand)	21
9	<b>помогать</b> (help)	34	<b>ходить</b> (go)	20
10	<b>дружить</b> (be friends)	29	<b>помочь</b> (help)	18

The 0-3-year-old children respondent group – as displayed by Table 8 below – can be characterized by activities of their everyday lives and interaction with their parents (besides the above mentioned reaction words we mention: *можно* (*may*) and *упал* (*has fallen down*)).

Apart from coinciding items (Table 8) – *может* (*may*), *быть* (*be*) – adults more typically apply more abstract and semantically complex lexical items including *является* (*is*), *позволяет* (*allows*), *следует* (*follows*), or *использовать* (*use*).

Table 8

#### The 10 most frequent verbs of selected corpora

	CHILDES Russia corpus		Araneum Russicum Corpus	
1	<b>будет</b> (will be)	119	<b>может</b> (may)	1,529,045
2	<b>хочу</b> (want)	116	<b>есть</b> (there is)	1,262,757

3	<b>видишь</b> (see)	115	<b>быть</b> (be)	1,223,223
4	<b>надо</b> (must/need)	109	<b>является</b> (is)	894,318
5	<b>делает</b> (does/makes)	100	<b>имеет</b> (has)	724,956
6	<b>посмотри</b> (look)	97	<b>стоит</b> (costs)	471,249
7	<b>сидит</b> (sits)	79	<b>сделать</b> (do)	468,815
8	<b>смотри</b> (look)	57	<b>позволяет</b> (allows)	441,269
9	<b>можно</b> (may)	52	<b>следует</b> (follows)	384,417
10	<b>упал</b> (has fallen down)	52	<b>использовать</b> (use)	319,985

Table 9 summarizes the 10 most frequent words of all four groups investigated. Results include prepositions – *в* (in), *у* (at), *с* (with), *на* (on), *из* (from/of), *для* (for) and *по* (by) –, conjunction words – *и* (and), *а* (and, but) –, negation word – *не* (not) – personal pronouns – *я* (I), *ты* (you) –, and adverb – *всегда* (always), besides others.

Table 9

**The 10 most frequent words (excluding nouns, adjectives, verbs) of the association experiment and of selected corpora**

	Russian group 3-5yrs		Russian group 10-12yrs		CHILDES Russia corpus		Araneum Russicum Corpus	
1	<b>это</b> (this)	297	<b>с</b> (with)	154	<b>а</b> (but/and)	1803	<b>и</b> (and)	30,834,806
2	<b>не</b> (not)	271	<b>в</b> (in)	140	<b>и</b> (and)	1291	<b>в</b> (in)	29,316,512
3	<b>и</b> (and)	269	<b>не</b> (not)	119	<b>вот</b> (here)	1285	<b>на</b> (on)	14,210,611
4	<b>в</b> (in)	261	<b>и</b> (and)	88	<b>это</b> (this)	1189	<b>не</b> (not)	10,200,118
5	<b>он</b> (he)	146	<b>из</b> (from/of)	82	<b>что</b> (what)	1040	<b>с</b> (with)	9,748,575
6	<b>у</b> (at, in)	132	<b>на</b> (on)	75	<b>я</b> (I)	866	<b>что</b> (what)	6,758,831
7	<b>я</b> (I)	121	<b>моя</b> (my)	45	<b>не</b> (not)	845		6,461,080
8	<b>с</b> (with)	113	<b>очень</b> (very)	43	<b>на</b> (on)	824	<b>по</b> (by)	6,280,415
9	<b>меня</b> (me)	87	<b>я</b> (I)	41	<b>ты</b> (you)	751	<b>а</b> (and/ but)	4,713,449
10	<b>на</b> (on)	83	<b>всегда</b> (always)	36	<b>в</b> (in)	741	<b>как</b> (how)	4,646,735

### Conclusions

In this paper, we demonstrated the steps, and the changes in the linguistic competence that occur in the process of ethnic linguistic consciousness formation.

We revealed a remarkable overlapping in the verbal consciousness of 3-5-year-old and 10-12-year-old Russian children represented by more than half – 8 out of 15 – of the most frequent associations in the two age groups including the words: *мама* (mother), *папа* (father), *маленький* (small), *человек* (man), *дом* (home/house), *играть* (play), *большой* (big), *цвет* (color).

We stated that both *mother* and *father* take a privileged role in the 3-5-year-old age group's picture of the world, the association *mother* preceding the word *father*. Parents are less dominantly present in 10-12-year-old Russian children's verbal consciousness, marked by a drop in the position of *mother* and *father* to 8<sup>th</sup> and 11<sup>th</sup> places respectively.

The application of CHILDES Russia corpus confirmed the results of the association experiment by reasserting the substantial role of the family indicated by lexical items as *nana (father)* or *мама (mother)*, at the same time revealed that (1) activities in everyday life are equally noteworthy as indicated by the verbs *хочу (want)*, *видишь (see)*, *делает (do)*, *посмотри (look)*, *сидит (sit)*; (2) diminutive forms are present in 3-5-year-old children's image of the world marked by lexemes as *собачка (small dog)*; (3) Russian specificities appeared in the form of lacunae such as *варенка (varyenka, a dessert made of boiled condensed milk)*.

When we contrasted the results of the two association experiments with data of the Araneum Russicum database, we stated that the relatively low level of overlapping items include *big (большой)* in two different forms: *более (more)* and *больше (bigger)*. We furthermore concluded that a remarkable change in the individual's verbal consciousness can be observed between childhood and adulthood marked by multiple differences between results of the association experiments and data of the Araneum Russicum corpus, most unequivocally in the following areas: (1) use of more formal language represented by lexemes *Россия (Russia)*, *компания (company)*, or *области (region)*; (2) a shift from a dominantly positive picture of the world – displayed by such lexical items of the CHILDES corpus as *хорошо (well)*, *правильно (right)*, *красиво (beautifully)* – to a neutral approach; and (3) the linguistic data in all analysed age groups display similar frequency list if we take into account, conjunction words, negation words, personal pronouns, and adverbs.

In general, we can conclude that the application of blended methods by combining the association experiment with Corpus Linguistic methods dynamically and effectively contributed to gaining a clearer picture of the age-related development of Russian language users' verbal consciousness.

All in all, we can state that one of the major trends of Russian psycholinguistics is the study of the phenomenon of the cultural specificity of language consciousness by analyzing cross-linguistic data from free association experiments. New steps should be taken to collect similar data from other languages and cultures to continue with the cross-cultural comparison. The ultimate objective with this and other studies is to map cross-cultural ontologies that would facilitate intercultural communication and promote appreciation of other cultures [Lenart, Markovina, Endroby 2019; Leonard, Ufimtseva, Markovina 2019:111].

## References

- Clark, Beverly A. (2000). First- and Second-Language Acquisition in Early Childhood // Issues in Early Childhood Education: Curriculum, Teacher Education, & Dissemination of Information. Proceedings of the Lilian Katz Symposium (Champaign, IL, November 5-7, 2000) <http://ericeece.org/pubs/books/katzsym/clark-b.pdf> (retrieval date: 27.05.2020).
- Cole, M., Cole, Sh. (2001). The Development of Children, 4th ed., Worth Publishers, New York.
- Crystal, D. (2008). A Dictionary of Linguistics & Phonetics. 6th edition. Blackwell.

- Early Years Foundation Stage, 2007, Department for Education and Skills, GB.
- Orsolya, E., Lénárt, I., Markovina, I.* (2020). Vállt vállnak vetve – gyerekek a gyermekkorról. Gyermeknevelés [Shoulder-to-shoulder – children about the childhood], 7. 2–3. pp. 125–135. [https://gyermeknevelés.elte.hu/gyn\\_2019-2-3\\_endrody-lenart-markovina\\_125-135](https://gyermeknevelés.elte.hu/gyn_2019-2-3_endrody-lenart-markovina_125-135) (retrieval date: 2020.05.25). (In Hungarian.)
- Francis, W.N., Kucera, H.* (1964). A Standard Corpus of Present-Day Edited American English, for use with Digital Computers Department of Linguistics, Brown University, Providence, Rhode Island, USA. Revised 1971. Revised and Amplified 1979.
- Gosy, M.* (2005). Pszicholinvisztika [Psycholinguistics]. Budapest, Osiris Kiadó.
- Griffin, M., Lahman, M., Opitz, M.* (2014). Shoulder-to-shoulder research with children: Methodological and ethical considerations. *Journal of Early Childhood Research*, Vol. 14(1), p. 18–27.
- Kilgarriff, A., Baisa, V., Bušta, J., Jakubiček, M., Kovář, V., Michelfeit, J., Rychlý, P., Suchomel, V.* (2014). The Sketch Engine: ten years on. *Lexicography*, Vol. 1, No. 1, p. 7–36.
- Lenart, I.* (2017). Associations and verbal consciousness: an analysis based on four English and one Hungarian translation of Bulgakov's novel: The Master and Margarita. *Neohelicon*. Vol. 44. P. 487-504.
- Lenart, I.* (2016). Intercultural lacunae in Hungarian-Vietnamese communication with emphasis on entrepreneurial interactions. Doctoral dissertation. Eotvos Lorand University, Budapest.
- Lenart, I., Endrody-Nagy, O., Markovina, I., Makhmutova, A.* (2019). Mapping Russian and Hungarian pre-school children's verbal consciousness: cross-cultural research results // *Journal of Psycholinguistics*. 1(39), p. 118–137.
- Leonard, S.P., Ufimtseva, N.V., Markovina, I.Y.* (2019). Language, consciousness and culture: some suggestions to develop further the Moscow School of Psycholinguistics // *Language and Culture*. No. 47, p. 111–130.
- Leontiev A.A.* (1969). Psicholingvisticheskie edinitsy i porozhdenie rechevogo vyskazaniia [Psycholinguistic Units and Speech Generation]. Moscow: Nauka. (In Russian.)
- Leontiev A.N.* (1977). Dejatel'nost'. Soznanie. Lichnost' [Activity. Consciousness. Personality]. Politizdat: Moscow. 304 p. (In Russian.)
- Markovina, I. Y.* (1982). Vlijanie lingvisticheskikh i jekstralingvisticheskikh faktorov na ponimanie teksta [The influence of linguistic and extra-linguistic factors on text comprehension]. Dissertation, Moscow. (In Russian.)
- Markovina, I., Sorokin, Y.* (2006). The lacuna phenomenon and the problem of foreign culture comprehension: An experimental study of lacuna elimination strategies. Panasiuk, I./ Schröder, H. (Hrsg.). *Lakunen-Theorie: Ethnopsycholinguistische Aspekte der Sprach- und Kulturforschung*. Berlin: LIT Verlag, p. 154-160.
- Panasiuk, I., Schröder, H.* (Hrsg.) *Lakunen-Theorie: Ethnopsycholinguistische Aspekte der Sprach- und Kulturforschung*. Berlin: LIT Verlag, p. 154–160.
- Markovina I.* (2011). Teoriya lakun v issledovanii problem mezhkulturnogo obscheniya. Etnopsicholingvisticheskiye osnovy lakunologii [The lacuna theory in the investigation of the problems of intercultural communication. Ethnopsycholinguistic basics of lacunology]. LAP LAMBERT Academic Publishing. 212 p.
- McEnery T., Gabrielatos C.* (2006). *English Corpus Linguistics* // Aarts, B., McMahon, A. (eds.), *The Handbook of English Linguistics*. P. 33–71. Oxford: Blackwell.

*McEnery T.* (2018). *Corpus Linguistics: Method, Analysis, Interpretation*. Online course handout. Future Learn. Lanchester University.

*Tarasov E.F.* (1996). *Mezkulturnoye obshcheniye – novaya ontologiya analiza yazikovogo soznaniya* [Intercultural communication: new ontology of verbal consciousness analysis] // *Etnokulturnaya spetsifika yazikovogo soznaniya* [Ethnocultural specificity of linguistic consciousness]. Moskva: Russian Academy of Science Institute of Linguistics. P.7–22. (in Russian.)

*Tognini-Bonelli, E.* (2001). *Corpus linguistics at work*. John Benjamins Publishing.

*Ufimtseva, N.V.* (2014a). *The Associative Dictionary as a Model of the Linguistic Picture of the World* // *Procedia - Social and Behavioral Sciences*, Elsevier, Tomsk, 154, p. 36–43.

*Ufimtseva, N. V.* (2014b). *Russian Psycholinguistics: Contribution to the Theory of Intercultural Communication* // *International communication studies*, vol. XXIII: 1, 2014, P.1–13.

*Vigotsky L.S.* (1934). *Thinking and Speech* [Thought and Language]. Moscow-Leningrad: State Socio-Economic Publishing House. (In Russian.).