GEOGRAPHICAL STABILITY OF CATEGORY NORMS FOR RUSSIAN LANGUAGE

3 authors, including:

Olga Marchenko
Moscow State University of Psychology and Education

8 PUBLICATIONS   **6** CITATIONS

SEE PROFILE

Yuri Pavlov
University of Tuebingen

22 PUBLICATIONS   **29** CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:

Sleep in Disorders of Consciousness View project

category norms L2 View project

Dialectology. Geographical linguistics. Areal linguistics (UDC 81`28)

Марченко О.П.[1], Бандурка Т.Н.[2], Павлов Ю.Г.[3]

[1]Кандидат психологических наук, Московский государственный лингвистический университет,
[2]кандидат психологических наук, Иркутский государственный университет,
[3]научный сотрудник, Уральский федеральный университет

ГЕОГРАФИЧЕСКАЯ СТАБИЛЬНОСТЬ КАТЕГОРИАЛЬНЫХ НОРМ ДЛЯ РУССКОГО ЯЗЫКА

Аннотация

Исследование было направлено на проверку географической стабильности показателей частоты называния слов, принадлежащих различным семантическим категориям, для русского языка. Участники исследования из трех различных регионов России выполняли стандартную процедуру называния слов, принадлежащих 45 семантическим категориям. Для каждого экземпляра категории была посчитана общая частота его называния в каждом из трех регионов. Были продемонстрированы оценки надежности показателей частоты называния слов для каждого региона. Корреляции между показателями частоты называния слов в разных регионах были высокими, что является свидетельством географической стабильности этих нормативов в России.

Ключевые слова: категориальные нормативы, частота называния, географическая стабильность.

Marchenko O.P.[1], Bandurka T.N.[2], Pavlov Y.G.[3]

[1]PhD in Psychology, Moscow State Linguistic University, [2]PhD in Psychology, Irkutsk State University, [3]research associate, Ural Federal University

GEOGRAPHICAL STABILITY OF CATEGORY NORMS FOR RUSSIAN LANGUAGE

Abstract

This study was aimed to examine geographical stability of generation frequency norms for semantic categories in Russian language. Participants from three different regions of Russia carried out a standard procedure for generating exemplars of 45 semantic categories. For each exemplar, overall generation frequency was calculated in each of three regions. Reliability scores for these data were demonstrated in each region. Correlations of generation frequency data between all three regions were strong providing evidence of the geographical stability of these norms in Russia.

Keywords: category norms, exemplar generation frequency, geographical stability.

Почта авторов / Author Email: olga.p.marchenko@gmail.com

Introduction

In order to study categorization it is necessary first to identify which words are used by native speakers in specific semantic categories (like "A Fish" or "A Fruit"), and to determine generation frequency of these words within categories. This variable was also named instance dominance by some researches [13], [14]. First attempts to create category norms of generation frequency were made by Cohen at al. (1957) in USA [3]. Their work was continued by Battig and Montague during the next decade [1]. Battig and Montague's (1969) database, which contains 56 categories of English language is the most frequently cited database of generation frequency. The citation search made by Van Overschelde et al. [18] on 2002 demonstrated that it was cited over 1600 times in papers published in more than 220 different journals.

Cross-cultural and linguistic research has revealed that the content of categories varies across different cultures [21] and that patterns of phenomena and variable ratings for those categories may also vary with cultural milieu [12]. Thus using a database, that was collected from subjects of another culture, is not always acceptable. That is why similar studies were conducted in other countries as well, for example in Belgium [15], France [2], New Zealand [11], Canada [8], Israel [6], China [21], Great Britain [5], Spain [10], etc.

In order to study categorization in Russia as well it was important to create generation frequency norms for the Russian language. Some data has been published regarding 13 categories for Russian language in year 1997 [19], serving as a starting point for this line of research. Considering the ongoing changes, evolution of language content, it was important to enlarge the quantity of categories documented. Generation frequency database for 45 semantic categories was collected for Russian language later [9]. This database was collected in Moscow. Many of selected categories were the same as in the study by Battig and Montague. However, some new categories were included (for example "A Domestic Appliance", "An Organ of the Human Body").

It has been shown that some categorization phenomena depend on human experience and can vary between urban citizens and people who live in close contact with nature [12]. Thus, it is important to take into account not only cultural but also experiential factors [20], [17].

Task which is used to gather generation frequency norms can be quite sensitive not only to language and to culture aspect but to experiential factors as well [20]. It gives an impression about concept structure in population. Along with universality of concepts, it can reveal some differences between subjects, who speak the same language but live in different countries and have different environment [11], or who lives in the same environment but belongs to different cultural groups in the same country [20].

Category norms collected previously in Moscow were proved to be reliable [9]. Nevertheless, taking into account that Russia covers more than one-eighth of the Earth`s inhabited land, some differences could be suggested between distant regions. Thus, before making inferences and generalizing generation frequency norms collected in Moscow to the Russian language and the whole country, geographical stability of these results needs to be tested. Thus, it is important to test how similar generation frequency

data from distant regions will be. Moscow, Irkutsk and Ekaterinburg regions were chosen for this aim.

Moscow is located in the central part of Russia. The city is playing a role of a political, economic and cultural center in Russia. Ekaterinburg is located on the borderline between Europe and Asia on the eastern side of the Ural Mountains. Irkutsk is one of the biggest cities of Eastern Siberia.

Geographical stability of psychometric data is traditionally tested through correlations between data collected in different regions.

The following suggestions can be made. Generation frequency data can be accepted as geographically stable and reliable when there are strong correlations between samples of different regions.

Method

Participants. One hundred fifty students of different universities of Moscow aged 18-26 years participated in the study as volunteers (126 females and 24 males, m=19, SD=1.59). One hundred fifty students from Ekaterinburg aged 18-24 years (126 females and 24 males, m=19, SD=1.14) and one hundred fifty students from Irkutsk aged 18-28 years (132 females and 18 males, m=19, SD=1.87) participated in this study as well. There were no significant differences in proportion of male and female participants in samples taken from three different regions (Pearson Chi-square=2.178, *df*=1, *ps*=0.132). Participants involved in this study in each region represented the same generation and the same social group. All of participants were native Russian speakers.

Procedure. The procedure used to gather the Russian category norms was similar to the procedure of Battig and Montague (1969). Participants were provided with a small notebook. The following instructions, were copied verbatim from Battig and Montague (1969), but were translated into Russian.

"The purpose of this experiment is to find out what items or objects people commonly give as belonging to various categories or classes. The procedure will be as follows: First, you will be given the name or description of a category. Then you will be given 30 sec. to write down in the notebook as many items included in that category as you can, in whatever

order they happen to occur to you. For example, if you were given the category "seafood", you might respond with such items as lobster, shrimp, clam, oyster, herring, and so on. The words are to be written in the notebook, using a different page for every category. When you hear the word "Stop", you are to stop writing and go to the beginning of the next page. You will then be given the name of another category, and again you are to write the names of as many members of that category as you can think of." The full version of the instruction can be found in the paper by Battig and Montague of 1969 [1].

The category names were read aloud by the experimenter. The participants were tested in small groups to be sure that they could work in a proper way and will not be distracted by each other. The presentation order of the categories was randomized and was different in different groups of participants. The category set for this study consisted of 45 different categories such as various natural kinds ("A Fish", "An Insect", "A Flower"), artificial kinds ("A Type of Vehicle", "An Article of Furniture", "A Musical Instrument"), names ("A Male`s First Name"), activity kinds ("A Profession", "A Sport"), abstract kinds ("A Unit of Time", "A Unit of Distance"), etc.

Results and Discussion

The same procedure of data analysis as in previous works was used [1], [16]. No distinction was made between singular and plural or masculine and feminine versions of exemplars. Legible responses that were nonmembers were not removed from the list. For each exemplar, overall generation frequency was calculated in each region. Reliability of the generation frequency data for each of three regions was evaluated by applying the split-half method. Then the Spearman–Brown formula was applied: $\rho=2r_{half}/(1+r_{half})$.

Reliability data are presented in Table 1. Reliability of generation frequency data in all three regions is quite good.

In order to test geographical stability of generation frequency norms correlations between cities were calculated. All words (even these, which were named only one time) were used for this analysis. All Pearson`s correlations were significant, *p*<0.001. Correlations are presented in Table 1.

Table 1 – Split-half reliability coefficients of generation frequency for each region and correlation between three regions for each category

category	Spearman-Brown reliability coefficients			r-Pearson coefficients (n), *p*<0.001		
	Moscow	Irkutsk	Ekaterinburg	Moscow Irkutsk	Moscow Ekaterinburg	Irkutsk Ekaterinburg
An Alcoholic Beverage	0.985	0.985	0.994	0.974 (80)	0.987 (80)	0.977 (67)
An Amphibian	0.974	0.959	0.988	0.901 (58)	0.986 (72)	0.933 (67)
An Article of Clothing	0.979	0.970	0.975	0.959 (126)	0.982 (121)	0.965 (116)
An Article of Furniture	0.994	0.996	0.996	0.993 (90)	0.991 (83)	0.994 (89)
A Bird	0.966	0.972	0.982	0.961 (104)	0.961 (111)	0.976 (95)
A Carpenter`s Tool	0.988	0.984	0.986	0.951 (117)	0.966 (114)	0.983 (118)
A Color	0.997	0.993	0.995	0.994 (70)	0.997 (76)	0.995 (78)
A Country	0.980	0.969	0.980	0.975 (142)	0.971 (152)	0.97 (137)
A Crime	0.986	0.976	0.984	0.969 (161)	0.985 (159)	0.982 (140)
A Disease	0.962	0.933	0.967	0.948 (200)	0.963 (193)	0.936 (203)
A Domestic Animal	0.990	0.984	0.987	0.975 (84)	0.977 (86)	0.989 (69)
A Domestic Appliance	0.979	0.899	0.977	0.934 (89)	0.966 (86)	0.969 (89)
A Family Member	0.996	0.992	0.993	0.985 (68)	0.984 (70)	0.991 (70)

End of Table 1

category	Spearman-Brown reliability coefficients			r-Pearson coefficients (n), *p<0.001*		
	Moscow	Irkutsk	Ekaterinburg	Moscow Irkutsk	Moscow Ekaterinburg	Irkutsk Ekaterinburg
A Farm Animal	0.992	0.994	0.994	0.99 (51)	0.992 (61)	0.991 (54)
A Fish	0.969	0.895	0.951	0.788 (147)	0.928 (154)	0.835 (151)
A Flower	0.986	0.977	0.985	0.956 (129)	0.98 (102)	0.972 (135)
A Four-footed Animal	0.984	0.977	0.981	0.981 (110)	0.978 (112)	0.982 (108)
A Fruit	0.980	0.985	0.989	0.968 (50)	0.976 (54)	0.979 (53)
A Girl`s first name	0.960	0.894	0.943	0.894 (221)	0.907 (256)	0.893 (239)
An Insect	0.972	0.967	0.981	0.972 (83)	0.98 (87)	0.968 (88)
A Kind of Food	0.955	0.918	0.952	0.908 (237)	0.903 (251)	0.919 (231)
A Kitchen Utensil	0.987	0.986	0.989	0.94 (129)	0.973 (129)	0.981 (137)
A Male`s First Name	0.953	0.913	0.932	0.923 (214)	0.922 (219)	0.933 (233)
A Mammal	0.980	0.969	0.987	0.936 (122)	0.971 (121)	0.948 (115)
A Metal	0.994	0.987	0.992	0.982 (65)	0.969 (78)	0.978 (68)
A Musical Instrument	0.983	0.986	0.986	0.96 (82)	0.981 (88)	0.985 (84)
A Nonalcoholic Beverage	0.989	0.986	0.994	0.95 (69)	0.97 (96)	0.971 (98)
A Part of the Human Body	0.984	0.994	0.993	0.993 (110)	0.983 (113)	0.99 (108)
A Plant	0.946	0.949	0.955	0.892 (238)	0.909 (228)	0.935 (211)
A Precious Stone	0.987	0.980	0.988	0.962 (69)	0.974 (71)	0.981 (67)
A Profession	0.975	0.947	0.955	0.936 (277)	0.921 (188)	0.942 (267)
An Organ of the Human Body	0.993	0.990	0.994	0.987 (98)	0.989 (94)	0.983 (84)
A Reptile	0.990	0.993	0.994	0.976 (49)	0.994 (52)	0.987 (44)
A Science	0.990	0.972	0.992	0.977 (160)	0.969 (167)	0.962 (179)
A Sport	0.972	0.973	0.987	0.96 (149)	0.976 (158)	0.967 (152)
A Toy	0.976	0.982	0.982	0.968 (218)	0.962 (213)	0.964 (203)
A Tree	0.992	0.990	0.994	0.963 (79)	0.972 (82)	0.981 (76)
A Type of Fabric	0.990	0.980	0.982	0.972 (144)	0.968 (138)	0.976 (117)
A Type of Music	0.981	0.973	0.990	0.974 (177)	0.98 (175)	0.99 (145)
A Type of Vehicle	0.991	0.957	0.983	0.943 (116)	0.971 (112)	0.952 (109)
A Unit of Distance	0.993	0.994	0.996	0.986 (66)	0.991 (58)	0.992 (65)
A Unit of Time	0.994	0.988	0.996	0.986 (66)	0.991 (54)	0.987 (61)
A Vegetable	0.991	0.993	0.993	0.977 (55)	0.981 (55)	0.987 (51)
A Weapon	0.982	0.983	0.989	0.962 (170)	0.974 (184)	0.982 (158)
A Wild Animal	0.979	0.983	0.985	0.973 (137)	0.985 (138)	0.984 (138)

As correlations between the three regions are strong, geographical stability of generation frequency norms for Russian language can be suggested. Nevertheless, this work was aimed to prove geographical stability and further analyses can be continued in order to study regional specificity of concepts with more sensitive statistic methods.

Similar pattern was observed for English language when comparison of category norms collected in different regions of the same country conducted [1]. English and Chinese category norms of different age groups within a culture were also similar [7], [21], [4]. As norms of generation frequency are geographically stable, the same generation frequency norms can be used for Russian language around the whole country.

Список литературы / References

1. Battig W. F. Category norms for verbal items in 56 categories: a replication and extension of the Connecticut category norms / W. F. Battig, W. E. Montague // Journal of Experimental Psychology Monograph. – 1969. – Vol. 80(3). – P. 1-45. – doi:10.1037/h0027577.

2. Bueno S. French categorization norms for 70 semantic categories and comparison with Van Overschelde et al.'s (2004) English norms / S. Bueno, H. Megherbi // Behavior Research Methods. – 2009. – Vol. 41. – P. 1018-1028. – doi:10.3758/BRM.41.4.1018.

3. Cohen B. H. Cultural norms for verbal items in 43 categories (Tech. Rep.No. 22) / B. H. Cohen, W. A. Bousfield, G. A. Whitmarsh. – Storrs, CT: University of Connecticut, 1957.

4. Gutchess A. H. Categorical organization in free recall across culture and age / A. H. Gutchess, C. Yoon, T. Luo, F. Feinberg, T. Hedden, Q. Jing, R. E. Nisbett, D. C. Park // Gerontology. – 2006. – Vol. 52(5). – P. 314-323. – doi: 10.1159/000094613.

5. Hampton J. A. Measures of internal category structure: a correlation analyses of normative data / J. A. Hampton, M. M. Gardiner // British Journal of Psychology. – 1983. – Vol. 74. – P. 491–516. – doi:10.1111/j.2044-8295.1983.tb01882.x.

6. Henik A. Category content: Findings for categories in Hebrew and a comparison to findings in the US / A. Henik, L. Kaplan // Israel Journal of Psychology. – 1988. – Vol. 1(2). – P. 104–112.

7. Howard D. V. Category Norms: a Comparison of the Battig and Montague (1969) Norms with the responses of adults between the ages of 20 and 80 / D. V. Howard // The Journal of Gerontology. – 1980. – Vol. 35 (2). – P. 225-231. – doi:10.1093/geronj/35.2.225.

8. Kantner J. Category exemplars normed in Canada / J. Kantner, D. S. Lindsay // Canadian Journal of Experimental Psychology/Revue canadienne de psychologie expérimentale. – 2014. – Vol. 68(3). – P. 163-165. –doi:10.1037/cep0000023.

9. Marchenko O. P. Psycholinguistic Database for Russian Language [Electronic resource] / O. P. Marchenko // European Perspectives on Cognitive Science / Ed. by B. Kokinov, A. Karmiloff-Smith, N.J. Nersessian. – New Bulgarian University Press. 2011. – URL: http://old.nbu.bg/cogs/eurocogsci2011/proceedings/pdfs/EuroCogSci-paper197.pdf (accessed: 05.12.16)

10. Marful A. Normative data for the 56 categories of Battig and Montague (1969) in Spanish / A. Marful, E. Díez, A. Fernandez // Behavior Research Methods. – 2015. – Vol. 47(3). – P. 902–910. – doi:10.3758/s13428-014-0513-8.

11. Marshall C. E. New Zealand norms for a subset of Battig and Montague's (1969) categories / C. E. Marshall, W. V. Parr // New Zealand Journal of Psychology. – 1996. – Vol. 25(1). – P. 24-29.

12. Medin D. L. The native mind: biological categorization, reasoning and decision making in development across cultures / D. L. Medin, S. Atran // Psychological Review. – 2004. – Vol. 111(4). – P. 960-983. – doi:10.1037/0033-295X.111.4.960.

13. Mervis C. B. Relationships among goodness-of-example, category norms and word frequency / C. B. Mervis, J. Catlin, E. Rosh // Bulletin of the Psychonomic Society. – 1976. – Vol. 7(3). – P. 283-284. – doi:10.3758/BF03337190.

14. Neely J. H. Semantic priming and retrieval from lexical memory: Roles of inhibitionless spreading activation and limited-capacity attention / J. H. Neely // Journal of Experimental Psychology: General. – 1977. – Vol. 106. – P. 226-254. – doi:10.1037/0096-3445.106.3.226.

15. Ruts W. Dutch norm data for 13 semantic categories and 338 exemplars / W. Ruts, S. De Deyne, E. Ameel, W. Vanpaemel, T. Verbeemen, G. Storms // Behavior Research Methods, Instruments, and Computers. – 2004. – Vol. 36. – P. 506-515. – doi:10.3758/BF03195597.

16. Storms G. Flemish category norms for exemplars of 39 categories: A replication of Battig and Montague (1969) category norms / G. Storms // Psychologica Belgica. – 2001. – Vol. 41. – P. 145-168.

17. Taverna A. S. Naming the living things: linguistic, experiential and cultural factors in Wichí and Spanish speaking children / A. S. Taverna, S. R. Waxman, D. L. Medin, N. Moscoloni, O. A. Peralta // Journal of Culture and Cognition. – 2014. – Vol. 14. – P. 213-233. – doi:10.1163/15685373-12342122.

18. Van Overschelde J. P. Category norms: An updated and expanded version of the Battig and Montague (1969) norms / J. P. Van Overschelde, K. A. Rawson, J. Dunlosky // Journal of Memory and Language. – 2004. – Vol. 50. – P. 289-335. – doi:10.1016/j.jml.2003.10.003.

19. Высоков И. Е. Внутренняя структура естественных категорий: продуктивная частотность / И. Е. Высоков, Д. В. Люсин // Психологический журнал. – 1997. – Т. 18(4). – С. 69-77.

20. Winkler-Rhoades N. Naming the animals that come to mind: Effects of culture and experience on category fluency / N. Winkler-Rhoades, D. L. Medin, S. R. Waxman, J. Woodring, N. O. Ross // Journal of Cognition and Culture. – 2010. – Vol. 10 (1-2). – P. 205-220. – doi:10.1163/156853710X497248.

21. Yoon C. Category norms as a function of culture and age: Comparisons of item responses to 105 categories by American and Chinese adults / C. Yoon, F. Feinberg, P. Hu, A. H. Gutchess, T. Hedden, H. Chen, Q. Jing, Y. Cui, D. C. Park // Psychology and Aging. – 2004. – Vol. 19. – P. 379-393. – doi:10.1037/0882-7974.19.3.379.

Список литературы на английском / References in English

1. Battig W. F. Category norms for verbal items in 56 categories: a replication and extension of the Connecticut category norms / W. F. Battig, W. E. Montague // Journal of Experimental Psychology Monograph. – 1969. – Vol. 80(3). – P. 1-45. – doi:10.1037/h0027577.

2. Bueno S. French categorization norms for 70 semantic categories and comparison with Van Overschelde et al.'s (2004) English norms / S. Bueno, H. Megherbi // Behavior Research Methods. – 2009. – Vol. 41. – P. 1018-1028. – doi:10.3758/BRM.41.4.1018.

3. Cohen B. H. Cultural norms for verbal items in 43 categories (Tech. Rep.No. 22) / B. H. Cohen, W. A. Bousfield, G. A. Whitmarsh. – Storrs, CT: University of Connecticut, 1957.

4. Gutchess A. H. Categorical organization in free recall across culture and age / A. H. Gutchess, C. Yoon, T. Luo, F. Feinberg, T. Hedden, Q. Jing, R. E. Nisbett, D. C. Park // Gerontology. – 2006. – Vol. 52(5). – P. 314-323. – doi: 10.1159/000094613.

5. Hampton J. A. Measures of internal category structure: a correlation analyses of normative data / J. A. Hampton, M. M. Gardiner // British Journal of Psychology. – 1983. – Vol. 74. – P. 491–516. – doi:10.1111/j.2044-8295.1983.tb01882.x.

6. Henik A. Category content: Findings for categories in Hebrew and a comparison to findings in the US / A. Henik, L. Kaplan // Israel Journal of Psychology. – 1988. – Vol. 1(2). – P. 104–112.

7.   Howard D. V. Category Norms: a Comparison of the Battig and Montague (1969) Norms with the responses of adults between the ages of 20 and 80 / D. V. Howard // The Journal of Gerontology. – 1980. – Vol. 35 (2). – P. 225-231. – doi:10.1093/geronj/35.2.225.

8.   Kantner J. Category exemplars normed in Canada / J. Kantner, D. S. Lindsay // Canadian Journal of Experimental Psychology/Revue canadienne de psychologie expérimentale. – 2014. – Vol. 68(3). – P. 163-165. –doi:10.1037/cep0000023.

9.   Marchenko O. P. Psycholinguistic Database for Russian Language [Electronic resource] / O. P. Marchenko // European Perspectives on Cognitive Science / Ed. by B. Kokinov, A. Karmiloff-Smith, N.J. Nersessian. – New Bulgarian University Press. 2011. – URL: http://old.nbu.bg/cogs/eurocogsci2011/proceedings/pdfs/EuroCogSci-paper197.pdf (accessed: 05.12.16)

10. Marful A. Normative data for the 56 categories of Battig and Montague (1969) in Spanish / A. Marful, E. Díez, A. Fernandez // Behavior Research Methods. – 2015. – Vol. 47(3). – P. 902–910. – doi:10.3758/s13428-014-0513-8.

11. Marshall C. E. New Zealand norms for a subset of Battig and Montague's (1969) categories / C. E. Marshall, W. V. Parr // New Zealand Journal of Psychology. – 1996. – Vol. 25(1). – P. 24-29.

12. Medin D. L. The native mind: biological categorization, reasoning and decision making in development across cultures / D. L. Medin, S. Atran // Psychological Review. – 2004. – Vol. 111(4). – P. 960-983. – doi:10.1037/0033-295X.111.4.960.

13. Mervis C. B. Relationships among goodness-of-example, category norms and word frequency / C. B. Mervis, J. Catlin, E. Rosh // Bulletin of the Psychonomic Society. – 1976. – Vol. 7(3). – P. 283-284. – doi:10.3758/BF03337190.

14. Neely J. H. Semantic priming and retrieval from lexical memory: Roles of inhibitionless spreading activation and limited-capacity attention / J. H. Neely // Journal of Experimental Psychology: General. – 1977. – Vol. 106. – P. 226-254. – doi:10.1037/0096-3445.106.3.226.

15. Ruts W. Dutch norm data for 13 semantic categories and 338 exemplars / W. Ruts, S. De Deyne, E. Ameel, W. Vanpaemel, T. Verbeemen, G. Storms // Behavior Research Methods, Instruments, and Computers. – 2004. – Vol. 36. – P. 506-515. – doi:10.3758/BF03195597.

16. Storms G. Flemish category norms for exemplars of 39 categories: A replication of Battig and Montague (1969) category norms / G. Storms // Psychologica Belgica. – 2001. – Vol. 41. – P. 145-168.

17. Taverna A. S. Naming the living things: linguistic, experiential and cultural factors in Wichí and Spanish speaking children / A. S. Taverna, S. R. Waxman, D. L. Medin, N. Moscoloni, O. A. Peralta // Journal of Culture and Cognition. – 2014. – Vol. 14. – P. 213-233. – doi:10.1163/15685373-12342122.

18. Van Overschelde J. P. Category norms: An updated and expanded version of the Battig and Montague (1969) norms / J. P. Van Overschelde, K. A. Rawson, J. Dunlosky // Journal of Memory and Language. – 2004. – Vol. 50. – P. 289-335. – doi:10.1016/j.jml.2003.10.003.

19. Vysokov I. E. Vnutrennyaya struktura estestvennyh kategorij: produktivnaya chastotnost' [Internal structure of natural categories: generation frequency] / I. E. Vysokov, D. V. Lyusin // Psichologichesky Zhurnal [Psychological journal]. – 1997. – Vol. 18(4). – P. 69-77. [in Russian]

20. Winkler-Rhoades N. Naming the animals that come to mind: Effects of culture and experience on category fluency / N. Winkler-Rhoades, D. L. Medin, S. R. Waxman, J. Woodring, N. O. Ross // Journal of Cognition and Culture. – 2010. – Vol. 10 (1-2). – P. 205-220. – doi:10.1163/156853710X497248.

21. Yoon C. Category norms as a function of culture and age: Comparisons of item responses to 105 categories by American and Chinese adults / C. Yoon, F. Feinberg, P. Hu, A. H. Gutchess, T. Hedden, H. Chen, Q. Jing, Y. Cui, D. C. Park // Psychology and Aging. – 2004. – Vol. 19. – P. 379-393. – doi:10.1037/0882-7974.19.3.379.