The many shades of blue in Russian-German bilinguals

Universität Konstanz

Conceptual distinctions in the acquisition and processing of color words in early and late bilinguals

Olia Blacher, Bernhard Brehmer

Introduction

Russian differs from many other languages in that it has two basic color terms for blue: goluboj 'light blue' and sinij 'dark blue' (Corbett & Morgan, 1988; Morgan & Corbett, 1989). German, on the other hand, possesses only one basic term *blau* 'blue'. It has been shown by previous research that goluboj and sinij represent basic color terms for monolingual speakers of Russian, but not for American-Russian bilinguals. While late bilinguals who emigrated as adults did not differ from the monolingual controls, heritage speakers exhibited a semantic shift. For some of them, sinij became the sole basic term for 'blue'. For others, both terms functioned as subsets of a single category blue, just as *dark blue* and *light blue* in English (Andrews, 1994; Pavlenko et al., 2017).

Research questions

- Do Russian-German bilinguals differ from Russian monolinguals in distinguishing the two color terms goluboj and sinij?
- Does age of onset of the majority language German have an impact on the successful discrimination of goluboj and sinij?

Methodology

Participants were asked to describe pictures with items depicted in different colors;
Experiment 1: just one blue item depicted on the screen
Experiment 2: several blue items depicted on the screen

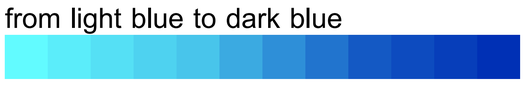
Sample

- 3 groups of Russian-German bilinguals with differing age of arrival (AoA) in Germany:
  Heritage speakers: born in Germany (HS)
  Early bilinguals: arrived as adolescents (EB)
  Late bilinguals: arrived as adults (LB)
- 3 age-matched control groups from Russia and Ukraine

Group	n (f/m)	Age (SD)	AoA (SD)
HS	11 (4/7)	9–22 (3.65)	0 (0)
C1	11 (7/4)	9–20 (3.29)	-
EB	10 (8/2)	24–45 (6.79)	7–15 (3.14)
C2	12 (9/3)	31–47 (4.80)	-
LB	9 (9/0)	50–62 (4.39)	28–43 (5.23)
C3	10 (8/2)	51–69 (6.86)	-

Materials

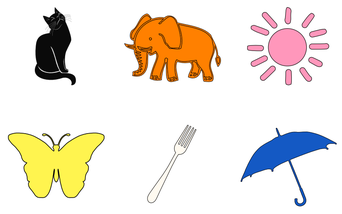
- selection of 12 color chips, ranging from light blue to dark blue



- other basic colors as distractors (white, black, red, yellow, green etc.)
- 60 pictures depicting frequent words, presented in randomized order

Experiment 1

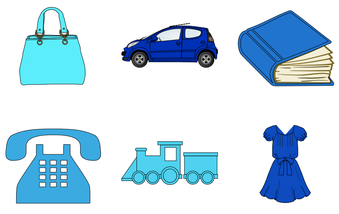
- 48 items



Example slide (in total 8 slides): 5 distractors + 1 prototypical goluboj or sinij object on each slide

Experiment 2

- 12 items



Example slide (in total 2 slides): 6 blue items on each slide (2 prototypical goluboj and 2 prototypical sinij objects)

Analysis and results

HS: 34.9% did not use goluboj for describing light blue objects, but no significant difference between HS and C1; **EB:** 26.25% used other color terms (e.g. *birjuzovyj* 'turquoise') for light blue objects. EB (Mdn = 3.5) show significantly more mismatches when referring to goluboj items than C2 (Mdn = 8), p=.02; r = -0.53 (Exact Wilcoxon-Mann-Whitney Test). **LB:** 36.11% described light blue objects with secondary terms for shades of blue, but no statistically significant difference between LB and C3.

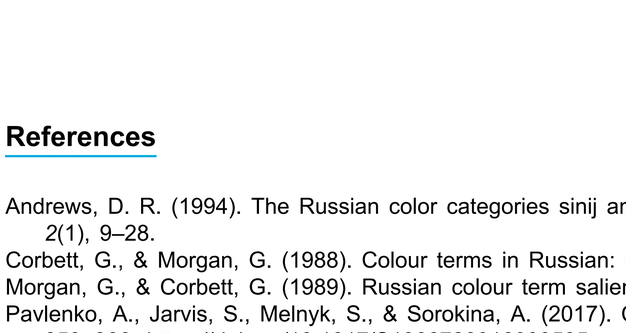


Figure1: Goluboj

Almost all dark blue objects were characterized as sinij by the informants, with single exceptions only in the control groups C1 (mismatch rate 7.9%) and C3 (1.3%). All groups apart from the HS occasionally use additional terms such as *lazurnyj* 'azure', *fioletovyj* 'violet', *ul'tramarinovyj* 'ultramarine', etc.

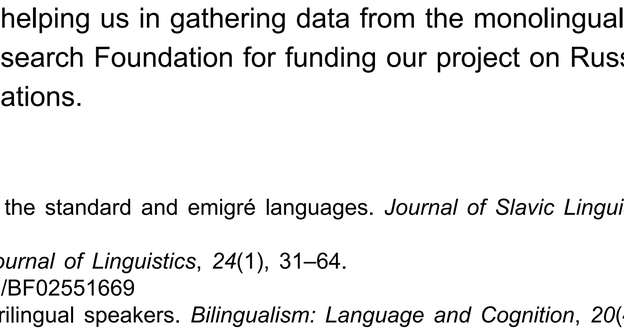


Figure2: Sinij

Conclusions

The results reveal that the term sinij is used consistently in all three bilingual groups to denote objects depicted in the respective color. Goluboj, however, is often replaced by sinij and/or secondary terms. Only the late bilinguals stick to goluboj consistently if they do not prefer secondary terms. The semantic shift starts to emerge in the HS group where 34.1% use the term sinij for light blue objects, although there is (still) no significant difference to monolingual children here. The early bilingual group exhibits a clearer decrease in the use of goluboj: They use it significantly less frequently than the age-matched controls from Russia and Ukraine. In Experiment 1, 32.5% of the early bilinguals replace goluboj with sinij, while in Experiment 2 they use goluboj more often (mismatch rate 17.5%), although the difference between the two experiments is not significant. Nevertheless, goluboj clearly starts to function as a secondary term of the single category 'blue', denoted by the term sinij. These findings are in line with the results of previous studies on other populations of Russian heritage speakers and early bilinguals.

Contact:

olia.blacher@uni-konstanz.de & bernhard.brehmer@uni-konstanz.de

Acknowledgement

We would like to thank our research partners at the St. Petersburg State University for helping us in gathering data from the monolingual control groups and the German Research Foundation for funding our project on Russian in Germany across different generations.

References

Andrews, D. R. (1994). The Russian color categories sinij and goluboj: An experimental analysis of their interpretation in the standard and emigré languages. *Journal of Slavic Linguistics*, *2*(1), 9–28.
Corbett, G., & Morgan, G. (1988). Colour terms in Russian: Reflections of typological constraints in a single language. *Journal of Linguistics*, *24*(1), 31–64.
Morgan, G., & Corbett, G. (1989). Russian colour term salience. *Russian Linguistics*, *13*, 125–141. https://doi.org/10.1007/BF02551669
Pavlenko, A., Jarvis, S., Melnyk, S., & Sorokina, A. (2017). Communicative relevance: Color references in bilingual and trilingual speakers. *Bilingualism: Language and Cognition*, *20*(4), 853–866. https://doi.org/10.1017/S1366728916000535

Funded by DFG Deutsche Forschungsgemeinschaft German Research Foundation