

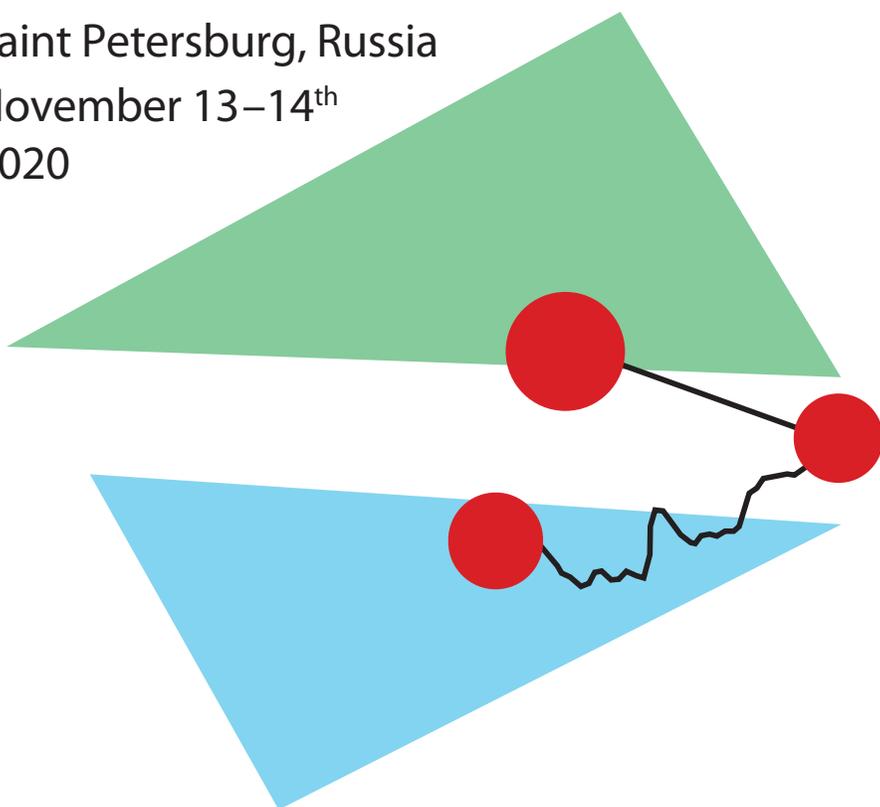
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Saint Petersburg, Russia

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Organised by the Laboratory of  
Behavioural Neurodynamics,  
Saint Petersburg State University

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Saint Petersburg State University

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**Edited by Olga Shcherbakova**



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'cost' of reading digital text. Further research with additional conditions is needed to validate and extend the present results.

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*Nina Zdorova<sup>1</sup>, Mariya Khudyakova<sup>1</sup>*

<sup>1</sup> National Research University Higher School of Economics

## **How do Spanish natives and Spanish learners resolve pronominal anaphora?**

In pro-drop languages, null subject pronouns tend to be co-referred with their subject antecedents in case of referential conflict (Carminati, 2002). The present study aims to answer the question whether Spanish native speakers and Spanish learners with Russian L1 resolve pronominal anaphora in line with that strategy. Anaphora resolution is understudied on this language pair, which in turn combines a full null-subject language (Spanish) and a semi null-subject language (Russian).

The experimental group of Spanish L2 learners with Russian L1 (N = 42) was compared to the control group of Spanish L1 speakers from Latin American countries (N = 90). All participants performed a self-paced reading experiment, namely, reading pairs of sentences word-by-word. The first sentence introduced two animate constituents of the same gender (Subject and Object), whereas the second sentence started with a third person Singular pronoun (null or overt) referring to one of those constituents. We expected to see a speedup in reading time on either of the pronouns which would imply the existing null-subject bias in pronoun resolution.

The analysis of residual reading times with a linear mixed-effect model (performed in R, Version 4.0.0) revealed no significant effects of the antecedent syntactic role, pronoun form or their interaction in Spanish L2 learners ( $p = .8$ ).

However, a significant interaction between the antecedent syntactic role and pronoun form was found in Spanish L1 speakers ( $p < .001$ ),

indicating that they read overt subject pronouns co-referred with the subject antecedents faster than other conditions.

We observed a difference in the strategies applied by native speakers and Spanish L2 learners in pronominal anaphora resolution. Spanish natives indeed co-referred a pronoun form with a syntactic role of the antecedent, whereas Spanish learners did not. The results demonstrated by Spanish native speakers are compatible with those showed by Italian natives (Carminati, 2002) and by native speakers of Mexican Spanish (Keating et al., 2011). At the same time, the results demonstrated by Spanish learners with Russian L1 resemble the ones by English-Spanish heritage speakers and L2 learners (Keating et al., 2011).

*Kirill Gavrilchenko<sup>1</sup>, Maria Akulenkova<sup>1</sup>*

<sup>1</sup>Kursk State Medical University

## **Speech dysfunction with damage of the subcortical structures of the brain as a result of the ischemic stroke**

In patients who have experienced ischemic stroke localized in the subcortical brain structures, symptoms that are not typical for lesions of these areas are often observed (Moretti, Caruso, & Crisman, 2018). That is due to the close location of many highly specialized structures, and numerous cortical-subcortical connections as well (Fuertinger, Horwitz, & Simonyan, 2015). Thus, a primary analysis of non-aphasic speech dysfunctions developing as a result of such damages is conducted.

The sample included 17 patients diagnosed with ischemic stroke. The abnormal focus was localized in subcortical brain structures. Research methods: Montreal Cognitive Assessment (MoCA) (Nasreddine, Phillips, & Bedirian, 2005), “10 words” technique (Akhutina, 2012), observation, qualitative analysis, Spearman’s correlation coefficient.

The subscales of MoCA showed the following: “Naming” — 1 out of 3 points in 88% of the participants; “Phrase repetition” — 0 out of 2 points for 100% of the participants; “Speech fluency” — 0 out of 1 point in 76% of the participants. The mean score for “10 words” technique was 3.6. We also