PROCESSING LINGUISTIC AMBIGUITIES BY NATIVE SPEAKERS AND LANGUAGE LEARNERS

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Introduction and Literature Review

In the present study, the property under investigation is attachment resolution preferences in relative clauses (RCs) with ambiguities:
(1) "Maria saw *the mother* of *the woman* that was talking about cosmetics".
To answer a comprehension question - "*Who was talking about cosmetics?"*- native speakers (NSs) of Russian, French, Dutch, German, Greek, and Italian prefer – "the mother" (high attachment/HA), whereas NS of English, Norwegian, Romanian, and Swedish prefer – "the woman" (low attachment/LA) (Fodor, 1998).
To start the acquisition of a new language, adult learners transfer the whole system of their L1 into the L2 (Schwartz & Sprouse, 1995). At later stages L2/L3-acquisition remains UG-constrained. Language learners demonstrate sensitivity to the TL morphology in sentence processing (Slabakova, 2000; Ionin et el, 2004; Ionin, 2006; Montrul & Slabakova, 2008; Lardiere, 2009) and show TL-like attachment resolution preferences in the L2 (Dekydtspotter, 2008, 2009; Dussias, 2003; Dussias and Sagarra, 2007).
Sensitivity to the inner structure of the L2 predicts a change of a sentence processing pattern under the influence of a new linguistic phenomenon, i.e. an event-oriented, or pseudo-relative (PR) interpretation of an RC:
(2) *Maria witnessed (what?) the event that the mother of the woman was talking about cosmetics*.
The PR interpretation favors HA in NSs of French, Spanish, Italian (Grillo & Costa, 2014) and English, though English preserves overall LA (Grillo & Costa, 2015). The present study deals with Russian and English. Formally these languages do not allow PRs and need a change of structure to get an even-oriented interpretation. The proposed study claims that both NSs and language learners are sensitive to the effect of the perception verb and calls it *phenomenon-specific* RC processing.

Research Questions	Hypotheses
RQ1: Do NSs of Russian and English and L2-learners of Russian show different attachment resolution preferences?	Hyp1for RQ1: NS of Russian prefer HA, Ns of English prefer HA. L2-learners of Russian prefer HA, when tested in Russian, and LA, when tested in English.
RQ2: Do NSs and L2-learners show sensitivity to the effect of the perception verb in the matrix clause?	Hyp2 for RQ2: All groups of subjects are sensitive to the effects of the perception verb and prefer HA under its influence.

Method

Participants

Table 1. Background information about the subjects of the study

Group	NE (Native speakers of English)	NR (Native speakers of Russian)	2ERR (2-languages: English+Russian, tested in Russian)	2ERE (2-languages: English+Russian, tested in English)
Knowledge of foreign languages	none	none	Russian (Spanish – very low)	Russian (Spanish – very low)
Language proficiency	Native	Native	low-intermediate	low-intermediate (L2)
C-test , % correct	99%	99%	38%	37%
Length of exposure to the L2	No	No	2 years (4 classes per week)	2 years (4 classes per week)
Mean age	40	29	21	21

Stimuli

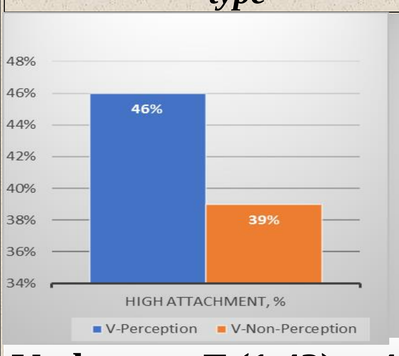
Verb type	Ambiguity	Masculine	Feminine
perception	English	A neighbor saw the doctor of the director that sat in the café.	A neighbor saw the mother of the woman that sat in the café.
	Russian	Сосед видел врача директора, который сидит в кафе. Neighbor saw doctor-Acc,masc director-Gen,masc, that sits in café.	Сосед видел маму женщины, которая сидит в кафе. Neighbor saw mother-Acc,fem woman-Gen,fem that sits in café.
non-perception	English	The police arrested the doctor of the director that sat in the café.	The police arrested the mother of the woman that sat in the café
	Russian	Полиция арестовала врача директора, который сидит в кафе. Police arrested doctor-Acc,masc director-Gen,masc, that sits in café.	Полиция арестовала маму женщины, которая сидит в кафе. Police arrested mother-Acc,fem woman-Gen,fem, that sits in café.

Data collection and Data analyses

• A self-paced reading task via Linger. • SPSS Generalized Linear Mixed Model.

Results

Chart 1. Overall attachment resolution preference by verb type



Cart 2. High attachment preference per group by verb type

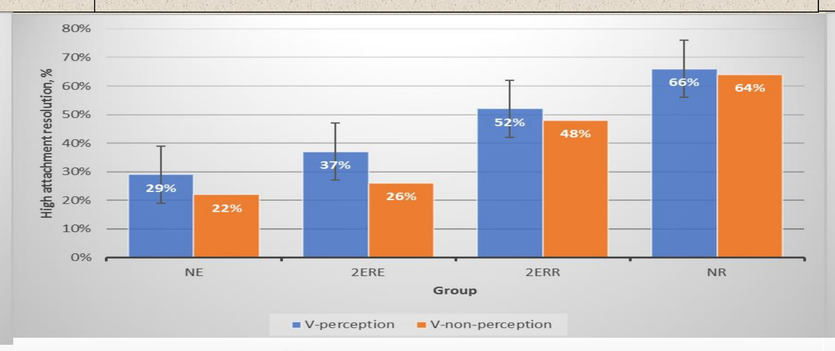


Chart 3. Overall preference for high attachment resolution preference per group.

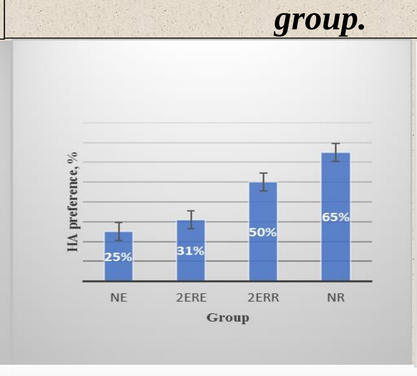
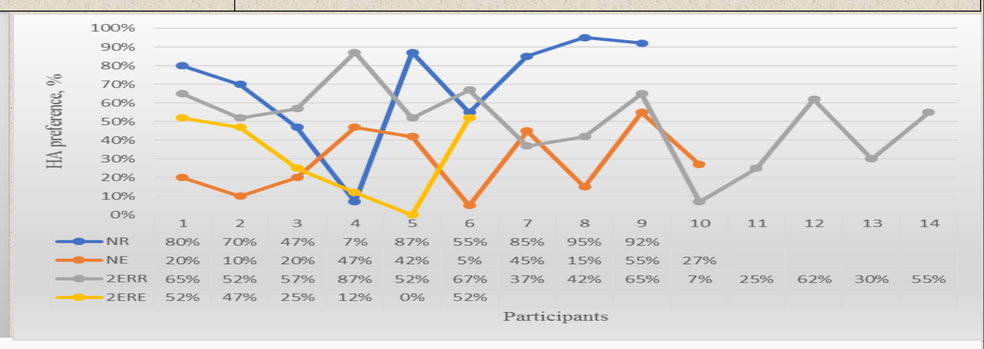


Chart 4. Individual preference for high attachment. Descriptive statistics.



Verb type: F (1,43) = 4,481 p = .040 Effect size = 1.32

Group*Verb type – no significant effect

Group effect: F (3,1592) = 44, 237 p = .000
Effect size of group for high attachment: NR/NE = 5.55; NR/2ERR = 1.59
2ERR/NE = 3.48; NR/2ERE = 4.09; 2ERR/2ERE = 2.57

Discussion

Hypothesis 1 is confirmed: Native speakers of Russian and English show the opposite patterns of attachment resolution preferences. The language of testing influences L2-learners: there is no significant difference between the NE and the 2ERE groups.
Hypothesis 2 is confirmed: Both native speakers and language learners are sensitive to the effect of the verb in the matrix clause. The perception verb favors high attachment resolution preference.
The effect of the perception verb does not override the native attachment resolution preference: LA for English and HA for Russian.
There still are high- and low-attachment languages (see, Grillo and Costa, 2015).
Attachment resolution preference under the influence of the perception verb is not an RC-specific phenomenon. The semantics of a perception verb triggers certain syntactic representations that reveal themselves in HA of RC with ambiguities.

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