Binding in South Slavic and DP: A Data-Driven Approach

Ivana LaTerza, Petya Osenova, and Boban Karapejovski

Abstract: This paper reports on a set of experiments designed to test the binding potential of prenominal possessives in Bulgarian, Macedonian, and Serbian. Despić (2013) argues that the differences in binding possibilities observed between English and Serbian provide support for the Parameterized DP Hypothesis (e.g., Fukui 1988; Zlatić 1997; Bošković 2003, 2005, 2008). LaTerza (2016) tests whether the claim holds true for two South Slavic DP-languages, Bulgarian and Macedonian, and concludes that it does not. Data provided in LaTerza 2016 is further discussed in Franks 2019. Based on three interesting observations—the use of a clitic vs. full pronoun, different binding behavior of pronominal and nominal possessives in Bulgarian, and acceptability judgments reported for Macedonian and Serbian—Franks (2019) concludes that Bulgarian and Macedonian have the same binding potentials as English, confirming Despić's original hypothesis. Srdanović and Rinke (2020) provide Serbian experimental data focusing on possessives in subject position and coreferential readings of pronouns in object positions. The authors show that Serbian allows coreferential readings just like English, especially when clitics are used. Our paper provides experimental data for Bulgarian, Macedonian, and Serbian. Our conclusions are that the three languages exhibit almost identical binding potentials. This finding is in line with the ones in Srdanović and Rinke 2020 since it also disproves the claim that the differences in binding result from the nominal structure present in a language: DP or NP.

1. Debate on DP and Binding

The universality of a Determiner Phrase (DP) as a functional projection in the nominal domain has been questioned ever since it was introduced (Abney 1987[1]). Fukui (1986) proposed that the DP was not universal based on his observation that Japanese lacks articles. A decade later, Zlatić (1997) revived and further developed Fukui's idea, arguing that the sole presence of articles in a language indicates the presence of a DP. These proposals initiated the discussion on parametric variation of DP. Two opposing views emerged: (i) the Universal DP Hypothesis (UDPH), which holds that DP projects in all

---

[1] Abney's work is based on the previous work of Brame (1982), Szabolcsi (1983), and Fukui and Speas (1986).

languages (Progovac 1998; Rappaport 2001; Bašić 2004; Cinque 2005, among others), and (ii) the Parameterized DP Hypothesis, which claims that DP projects only in languages with (definite) articles (Fukui 1986; Corver 1992; Zlatić 1997; Bošković 2005; Despić 2011).

The Parameterized DP Hypothesis has been most fully developed and explored in the works of Bošković and his followers, with a focus on Serbian (Stjepanović 1998; Bošković 2003, 2005; Trenkić 2004; Despić 2011; Talić 2013). This view specifically holds that the presence of DP correlates exclusively with the presence of a definite article.[2] Since Serbian lacks definite articles, it is claimed to lack DP. With no DP available, D-like elements are argued to be NP-adjoined. Such nominal structure has been claimed to have numerous empirically verified syntactic implications[3] (Bošković 2008, 2012; Despić 2013). This paper investigates one such implication: binding.

Despić (2009, 2011, 2013)[4] observes that English and Serbian prenominal possessives differ in binding possibilities: English allows coreferential readings with R-expressions or pronouns elsewhere in the clause ((1a) and (1b), respectively), whereas Serbian does not, (2).

(1) a.   His$_i$ father considers John$_i$ highly intelligent.

     b.   John$_i$'s father considers him$_i$ highly intelligent.

   (Despić 2009: 20, (3–4))

---

[2] The privileged status given to one specific element—the definite article—raises a number of questions: (i) language acquisition of a D category; (ii) language variation (North Frisian and Faroese have multiple lexical items corresponding to the English definite article) (Delsing 1993; Julien 2003; Schwarz 2009); (iii) definite articles do not exhibit a unique behavior among other determiners in English (Jackendoff 1977; Chomsky 1981); (iv) the proposed division among determiners has no semantic anchoring (Barwise and Cooper 1981; Heim 2002); and (v) the absence of the definite article entails that all the structure that the item might be responsible for licensing, such as relative clauses, should be missing as well (Smith 1964; Vergnaud 1974). See LaTerza 2014 for discussion.

[3] Thorough cross- and intra-linguistic investigation has, however, shown that some of these implications need to be re-examined (Rappaport 2001; Bašić 2004; Runić 2006; Ivšić 2008; Caruso 2011; Bailyn 2012; Schoorlemmer 2012; Pereltsvaig 2013; Stanković 2013; Dubinsky and Tasseva-Kurktchieva 2014, etc.).

[4] Note that while Despić uses the same methodology for observing Serbian and English data, the experiments reported in this paper lack the baseline experimental data for English that would be directly comparable with our data for Bulgarian, Macedonian, and Serbian. Thus we take it for granted that the cited sentences for English in Despić 2009 are grammatical also in our context. We would like to thank one of our anonymous reviewers for pointing out this very important issue.

(2)   a.   *Njegov$_i$ otac   smatra   Marka$_i$ veoma   pametnim.
             his   father   considers   Marko   very   intelligent

          'His$_i$ father considers Marko$_i$ very intelligent.'

      b.   Markov$_i$ otac   smatra   njega$_i$ veoma   pametnim.
           Marko.POSS   father   considers   him   very   intelligent

          'Marko$_i$'s father considers him$_i$ very intelligent.'

                                              (Serbian; Despić 2009: 22, (11–12))

This difference in binding possibilities is attributed to the difference in nominal structures where English, a language with definite articles, projects DP, and Serbian, a language without definite articles, does not. More specifically, Despić (2011) argues, following Kayne (1994) and Szabolcsi (1983), that English prenominal possessives are in SpecPossP position within DP, out of which they are unable to c-command elements outside DP, as shown in (3);[5] hence the co-referential reading is possible. Conversely, Serbian prenominal possessives are NP-adjoined, (4), and since there is no DP in the structure, they c-command outside their NP.

(3)

(LaTerza 2016: 743, (4))

---
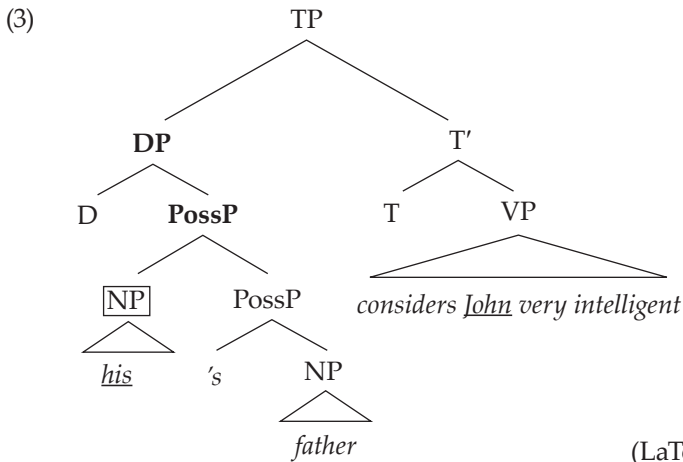
[5] Note also that Despić (2011: 133, (54)) argues that in English full possessors are in SpecDP, while pronominal possessors are in SpecPossP, with a caveat, listed in a footnote, that the full DP possessor might move from SpecPossP to SpecDP. Such a structure would predict that full possessor DPs would be able to bind outside of DP in English, contrary to judgments reported in (1b).

(4)
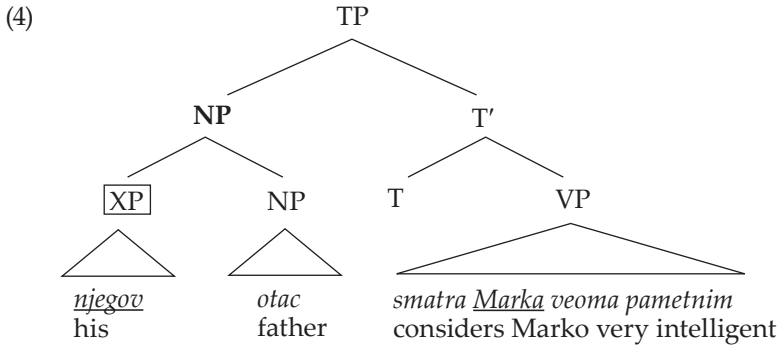
(LaTerza 2016: 743, (5))

Such a proposal predicts that two Slavic languages with definite articles, Bulgarian and Macedonian, should parallel English with respect to binding. LaTerza (2016) tests this prediction and concludes that it does not hold true: both Bulgarian and Macedonian, on par with Serbian, disallow relevant coreferential readings.[6] [7] [8]

---

[6] LaTerza (2016: 748, fn. 13) also reports that one Bulgarian speaker has different acceptability judgments regarding example (5) and points out that the observed variation calls for a controlled study.

[7] Note that the Bulgarian and Macedonian examples differ somewhat from the Serbian examples taken from Despić 2009. In particular, they do not contain the verb *smatrati* 'consider', which might involve a small clause structure and therefore interfere with Condition B. LaTerza (2016: 742, fn. 4) addresses this fact and further notes that Despić (2011, 2013) provides examples with other verbs with no change in acceptability. She provides only examples *without* a small clause structure in order to avoid any interference it might have with the relevant binding potentials.

[8] Despić (2015) argues that languages with postnominal articles share certain characteristics with languages with no articles rather than languages with pre-nominal articles, such as the presence of reflexive pronouns. Talić (2020) makes a similar observation with respect to the presence of bare lexical projections.

To account for the presence of reflexive pronouns in Bulgarian but not English, Despić (2011) assumes that possessors move to the edge of D because D has some sort of Edge feature. These assumptions apply to all languages with postnominal definiteness marking (Icelandic, Faroese, Swedish, Danish, Norwegian, Bulgarian, Macedonian, Romanian). Note that such a structure would allow for possessors in these languages to bind out of DP. Our findings for Bulgarian and Macedonian are consistent with this observation. Note, however, that as far as binding potentials are concerned, the division between DP- and NP-languages would then not be based solely on the nominal structure (DP or no DP) but also on some Edge Feature on D that would trigger the movement of possessors to SpecDP. Further investigation of binding possibilities in other languages with postnominal definiteness marking would be highly

(5) a. *Negovijat$_i$ papagal uxapa Ivan$_i$ včera.   (Bulgarian)
         his.DEF   parrot bit   Ivan yesterday

         Intended: 'His$_i$ parrot bit Ivan$_i$ yesterday.'

     b. *Ivanovijat$_i$ papagal nego$_i$ uxapa včera.
         Ivan.POSS.DEF parrot   him   bit   yesterday

         Intended: 'Ivan$_i$'s parrot bit him$_i$ yesterday.'

                                            (LaTerza 2016: 748, (13))

(6) a. *Negoviot$_i$ papagal go$_i$ grizna Jovan$_i$ (Macedonian[9])
         his.DEF   parrot him.CL bit   Jovan

         včera.
         yesterday

         Intended: 'His$_i$ parrot bit Jovan$_i$ yesterday.'

     b. *Jovanoviot$_i$ papagal go$_i$ grizna nego$_i$ včera.
         Jovan.POSS.DEF parrot   him.CL bit   him   yesterday

         Intended: 'Jovan$_i$'s parrot bit him$_i$ yesterday.'

                                            (LaTerza 2016: 748, (14))

Franks (2019) brought up three interesting points with respect to the binding data, as presented in LaTerza 2016: (i) the use of clitic and full pronoun forms in Bulgarian and how they interact with binding possibilities, (ii) the difference in acceptability of pronominal and nominal possessives in Bulgarian, and (iii) the overall acceptability of relevant coreferential readings in Macedonian and Serbian. We will address each of these in turn below.

2. Clitic vs. Full Pronoun

Franks (2019) has made the interesting empirical claim that the relevant binding data turn crucially on whether clitic or full pronoun forms are employed, a point which, if correct, would have serious implications for how binding arguments are evaluated. In particular, Franks reports that LaTerza's Bulgarian example containing a full pronoun, (7a), allows relevant coreferential reading

---

informative in this regard. Note that Franks's (2019) interpretation of Despić 2011 is challenged by our findings.

[9] Macedonian examples, unlike Bulgarian, contain an object clitic, which is required when the object is definite. Please note that clitic doubling exists in Bulgarian as well and it mainly depends on the information structure. Such structures have not been examined here nor in the works cited. See Nicolova 1998 (esp. pp. 151–55) for structured information on clitic doubling in Bulgarian.

if a clitic is used instead, as in (7b). Hence, he concludes, LaTerza's argument that Bulgarian and English binding potentials differ is undermined.

(7) a. *Ivanovijat$_i$ papagal nego$_i$ uxapa včera.   (Bulgarian)
         Ivan.POSS.DEF parrot   him   bit   yesterday

     Intended: 'Ivan$_i$'s parrot bit him$_i$ yesterday.'

                                              (LaTerza 2016: 748, (13))

     b. Ivanovijat$_i$ papagal go$_i$ uxapa včera.
         Ivan.POSS.DEF parrot   him bit   yesterday

     'Ivan$_i$'s parrot bit him$_i$ yesterday.'   (Franks 2019: 70, (18))[10]

Interestingly, Serbian, like Bulgarian, has a possibility of using either a full pronoun or clitic. And, in fact, the pronoun used in Despić's example, (2b), is a full pronoun. LaTerza (2016) kept the same structure that Despić (2009) used in his original paper where he made the claims about binding possibilities in Serbian vs. English. In that respect then, Franks (2019) is arguing against LaTerza's data without subjecting the original Despić's data to the same standard.

Despić (2009: 22, fn. 4) addresses the question of full pronoun vs. clitic used in his examples, and claims that the use of full vs. clitic form of a pronoun does not interfere with the acceptability of the relevant coreference in Serbian. He further explains that when a clitic is used, "the sentence somehow 'improves' (but still stays ungrammatical)" (ibid.). Despić ascribes the observed improvement to the cross-linguistic observation that full pronouns generally introduce new referents. Therefore, a full pronoun, e.g., *njega* 'him', cannot refer to an already introduced referent, e.g., *Markov* 'Marko's'. He further claims that this observation, in addition to the violation of Condition B, makes the relevant example "more ungrammatical" when a full pronoun is used instead of a clitic. So, in Serbian, the type of pronoun used does not seem to interfere with the binding potentials. Therefore, if the binding differences between the two types of languages stem from the presence or absence of DP, the puzzling difference in the use of full and clitic pronouns in Bulgarian remains to be accounted for.

Srdanović and Rinke (2020) present Serbian experimental data addressing the issue of full vs. clitic form in relevant structures and conclude that clitics are more likely to be interpreted as coreferential (55%) than full pronouns (41%). The differences in binding potentials cannot be attributed to the nominal structures of the languages, DP or NP, but rather the availability of different types of pronouns in a language. The authors favor the pragmatic-based approach, i.e., discourse conditions, to coreference potential over the

---

[10] Word-for-word glosses have been modified to adhere to the JSL stylesheet.

syntactic one. The results of this study are in opposition to the findings reported in LaTerza 2016, but what unifies the two is the fact that both show that the nominal structure cannot be responsible for the binding potentials in the languages in question.

It is important to note that the issue of full vs. clitic pronouns as discussed in Franks 2019 does not seem to undermine the LaTerza squib nearly as much as it claimed, since the full pronoun data, (7a), is not in dispute and still argues against Despić. If binding potentials directly relate to the presence or absence of DP in the nominal structure, where DP allows for coreferential readings, the Bulgarian example in (7a) remains to be explained under this theory.

3. Pronominal vs. Nominal Possessives

Another observation made in Franks 2019 concerns the difference in acceptability of pronominal and nominal possessive coreferential readings in Bulgarian. LaTerza (2016) reports that Bulgarian coreferential readings between a *pronominal* possessive and R-expression, (8a), and a *nominal* possessive and pronoun, (8b), are equally unacceptable.

(8) a. *Negovijat$_i$ papagal uxapa Ivan$_i$ včera.   (Bulgarian)
          his.DEF   parrot   bit   Ivan   yesterday

         Intended: 'His$_i$ parrot bit Ivan$_i$ yesterday.'

     b. *Ivanovijat$_i$ papagal nego$_i$ uxapa včera.
          Ivan.POSS.DEF parrot   him   bit   yesterday

         Intended: 'Ivan$_i$'s parrot bit him$_i$ yesterday.'

                                                        (LaTerza 2016: 748, (13))

As discussed in §2 above, Franks (2019) reports that (8b) is unacceptable because of the full pronoun, and as soon as the clitic is used instead, the example becomes completely acceptable for the relevant coreferential readings. Example (8a), on the other hand, presents a puzzle for him since "some B[ul]g[arian] speakers, e.g., Iliyana Krapova (p.c.), do concur with the judgment LaTerza reports" (Franks 2019: 73).

Franks continues to show that by introducing different types of demonstratives and quantifiers in the structure, such as *tezi* 'these' in (9), the coreferential readings become available:[11]

---

[11] A word of caution regarding examples used to illustrate this point: the example with the demonstrative, (9), is in plural, whereas the example without the demonstrative, (8a), is in singular. It is always good practice to keep the examples minimally different since other factors might be interfering with relevant interpretations.

(9) Tezi negovi$_i$ papagali uxapaxa Ivan$_i$ včera.   (Bulgarian)
     these his   parrots   bit   Ivan   yesterday
     'These parrots of his$_i$ bit Ivan$_i$ yesterday.'   (Franks 2019: 74, (23))

He then concludes that "[i]t is unclear why having just a DP above NP, as in [(8a)], instead of a DP and a QP, is not sufficient to override the R-expression effect (since replacing the R-expression with a clitic pronoun makes these good for Condition B).… The solution surely has to do with the depth of nominal structure, although just how to calculate that depth remains a puzzle. Nonetheless, regardless of how such subtleties are explained, these data demonstrate that demonstratives and quantifiers indeed count as adding a distinct category above NP" (Franks 2019: 75). According to this theory, it follows that demonstratives are **not** in DP in Bulgarian but rather in QP, an assumption that needs to be addressed since demonstratives are natural candidates for DP projection across languages.

The Bulgarian data that Franks discusses actually clearly demonstrate that DP by itself cannot be the explanation of binding potentials, a point which he takes to be crucial for DP- and NP-language binding potentials. In other words, his work shows that something other than the presence or absence of DP drives the relevant coreferential readings, at least in Bulgarian.

4. Acceptability of Relevant Coreferential Readings

Another point discussed in Franks 2019 is the overall acceptability of relevant coreferential readings in Macedonian and Serbian. In particular, Franks reports that all Macedonian speakers he consulted find coreferential readings in the examples reported in LaTerza 2016 viable (cf. (6)):

Furthermore, other examples Franks uses to support this point contain a 'make'-causative, the structure that under a variety of analyses (Pesetsky 1994; Cheung and Larson 2018) is claimed to involve *derived* subjects. One of the key properties of *derived*-subject constructions is that they interact with binding relations, permitting backward binding of anaphors (cf. [***Her***$_i$ *many problems*] *made **Mary**$_i$ uneasy*). In other words, it is exactly the kind of structure one does not want to use in this context since other factors might be interfering with binding potentials.

(i) a. *Nejnite$_i$ problemi pritesnjavaxa Marija$_i$ mnogo.
         her.DEF   problems troubled   Maria   much
         Intended: 'Her$_i$ problems made Maria$_i$ very uneasy.'

     b. Tezi nejni$_i$ problemi pritesnjavaxa Marija$_i$ mnogo.
         these her   problems troubled   Maria   much
         'These problems of hers$_i$ made Maria$_i$ very uneasy.' (Franks 2019: 74, (25))

(10) a. Negoviot$_{i/j}$ papagal go$_i$ grizna Jovan$_i$ (Macedonian)
          his.DEF   parrot   him   bit   Jovan

          včera.
          yesterday

          'His$_{i/j}$ parrot bit Jovan$_i$ yesterday.'

      b. Jovanoviot$_i$ papagal go$_{i/j}$ grizna (nego$_{i/j}$) včera.
          Jovan.POSS.DEF   parrot   him   bit   him   yesterday

          'Jovan$_i$'s parrot bit him$_{i/j}$ yesterday.'   (Franks 2019: 72, (14'))

Franks (2019: 71) explains that the initial interpretations his consultants report align with the reports made in LaTerza 2016, but that "all speakers readily concede that [the owner of the parrot and the person bitten] could be the same". He states, "[i]t is thus possible that LaTerza was collecting preferred/dominant readings rather than absolute judgments, which could explain the discrepancy between what she reports and the judgments I obtained. The fact nonetheless remains that the coreference possibilities in Mac[edonian] are exactly as they are in English, which is precisely what we expect if Mac[edonian], like English, is a DP-language" (Franks 2019: 72).

Franks draws a distinction between "preferred/dominant reading and absolute judgment" without explaining what the absolute judgment means. Binding data in particular seems susceptible to variation, so it remains unclear what the absolute judgment would mean in this context.[12]

Franks (2019: 63, fn. 4) also discusses the acceptability of such coreferential readings in English and says "that English speakers do not hesitate in accepting the intended translations." This statement is in opposition to the one made about Macedonian consultants since their initial interpretations are the ones that do not involve coreference.

Unlike Macedonian, Franks (2019: 70, (18)) reports that Serbian binding data is exclusive, that is, the "speakers consistently disallow coreference in comparable sentences".[13]

---

[12] Franks mentions that the possessive adjective derived from the R-expression *Jovan* in Macedonian, *Jovanoviot*, is not particularly natural, and that the more natural way to express this is to use the prepositional phrase *na Jovan* 'of Jovan'. When the prepositional variant is used, he adds, "no Mac[edonian] speakers expressed any reservations about the acceptability of coreference" (Franks 2019: 72, fn. 8). This is not surprising given that the R-expression is inside a prepositional phrase, and as such, it does not c-command the relevant pronoun, rendering coreference possible.

[13] Example (11) is a Serbian equivalent of Franks's Bulgarian example (18) (Franks 2019: 70).

(11) *Jovanov$_i$ papagaj   ga$_i$ je   juče   ugrizao.   (Serbian)
      Jovan.ᴘᴏss parrot   him ᴀᴜx yesterday bit

      Intended: 'Jovan$_i$'s parrot bit him$_i$ yesterday.'

It could be the case that the absolute judgment refers to consistent dis-allowing or allowing of coreferential readings. One very important point to keep in mind here is the fact that the data reported in LaTerza 2016, and then further discussed in Franks 2019, stem from a handful of speakers, many of whom have linguistic training and are familiar with the theories tested when asked for native speaker judgments. To settle this issue and provide unbiased data, we ran a controlled study of relevant binding data in Bulgarian, Mace-donian, and Serbian. The design and results of the study are presented in the next section.

5. Experimental Study

Our study tested how native speakers of Bulgarian, Macedonian, and Serbian interpret pronouns and pronominal possessives in the following scenarios: (i) nominal possessives in subject positions and pronouns in object positions, (12a), and (ii) pronominal possessives in subject positions and R-expressions in object positions, (12b). In other words, we wanted to see if the speakers readily choose coreferential interpretations available within a clause—i.e., coreferential readings with R-expressions or pronouns, (12a) and (12b), re-spectively—or outside a clause (some referent outside of the clause).

(12) a. Ivanov$_i$ papagaj   ga$_i$ je   ugrizao.   (Serbian)
          Ivan.ᴘᴏss parrot   him ᴀᴜx bit

          'Ivan$_i$'s parrot bit him$_i$.'

     b. Njegov$_i$ papagaj   je   ugrizao Ivana$_i$.
          his   parrot   ᴀᴜx bit   Ivan

          'His$_i$ parrot bit Ivan$_i$.'

All items (critical and fillers) in all three languages (Bulgarian, Macedonian, and Serbian) had the exact same format and conditions.[14]

---

[14] To our knowledge, there is no other study reported in the literature testing these structures in Bulgarian, Macedonian, and Serbian.

5.1. Design

We devised sets of sentences, each testing one of the relevant interpretations: pronouns and pronominal possessives. The scenarios presented included a sentence with relevant binding elements, followed by a question on interpretation of the relevant element: pronoun or pronominal possessive, (13a) and (13b), respectively:

(13) a. Pronoun interpretation

Lukin   papagaj ga je   ugrizao.   (Serbian)
Luka.POSS parrot   him AUX bit

Koga je   Lukin   papagaj ugrizao?
whom AUX Luka.POSS parrot   bit

'Luka's parrot bit him. Who did Luka's parrot bite?'

   b. Pronominal possessive interpretation

Njegov papagaj je   ugrizao Luku.
his   parrot AUX bit   Luka

Čiji   papagaj je   ugrizao Luku?
whose parrot AUX bit   Luka

'His parrot bit Luka. Whose parrot bit Luka?

The participants were given two possible answers to choose from: (i) the referent mentioned in the relevant context (Luka) and (ii) someone else (not the referent).

We also included corresponding examples with two overtly mentioned referents to see if the overt presence of another referent in the relevant context changes the preferred interpretation. The second referent was always outside of the critical clause.

(14) a. Pronoun interpretation – two overt referents   (Serbian)

Luka ima papagaja. Marko se   igra s   njim.
Luka has parrot   Marko REFL plays with it

Lukin   papagaj ga je   ugrizao.
Luka.POSS parrot   him AUX bit

Koga je   Lukin   papagaj ugrizao?
whom AUX Luka.POSS parrot   bit

'Luka has a parrot. Marko is playing with it. Luka's parrot bit him. Who did Luka's parrot bite?'

(14) b.   Pronominal possessive interpretation – two overt referents

Luka ima   papagaja. Marko se   igra s   njim.
Luka have   parrot   Marko REFL play with it

Njegov papagaj je   ugrizao Luku.
his   parrot AUX bit   Luka

Čiji   papagaj je   ugrizao Luku?
whose parrot AUX bit   Luka

'Luka has a parrot. Marko is playing with it. His parrot bit Luka.
Whose parrot bit Luka?'

In these cases, the participants were given three options to choose from: referent 1 (Luka), referent 2 (Marko), or someone else.[15]

There were six examples for each of the four conditions: (i) one overt referent, pronoun interpretation; (ii) one overt referent, pronominal possessive interpretation; (iii) two overt referents, pronoun interpretation; and (iv) two overt referents, pronominal possessive interpretation. There were sets of minimally different sentences for all four conditions (as shown in (13) and (14) above). All three languages had the same sets to avoid any potential semantic differences among them. See the appendix for the list of all critical items for all three languages.

The examples testing pronominal interpretations in all three languages included clitics and **not** full pronouns, in order to test the claims made in Franks 2019, as discussed in §2 above. Our study complements and further builds on Srdanović and Rinke 2020 by testing coreferential interpretations of clitics in Serbian[16] and adding Bulgarian and Macedonian data.

---

[15] A reviewer points out that participants should have been given another option, that is, "coreferent OR someone else". We ran such an experiment with the same data and found that participants in all three languages either choose the OR option or the responses are almost evenly spread among the provided possible answers. We wanted to get at preferences, so we ran a follow-up experiment excluding the OR option, and the results of that study are reported in this paper. There are other possible follow-up experiments that could provide more insight into this topic, such as giving participants a scale rather than an either/or choice. There could be two ways to do this: either (i) for a sentence like *Luka's parrot bit him*, the scale goes from "*him* = Luka" to "*him* = someone else"; or (ii) asking for acceptability judgements, e.g., on a scale from "very acceptable" to "unacceptable", participants would judge items like *Luka's parrot bit him*, where *him* = Luka, and *Luka's parrot bit him*, where *him* = someone else.

[16] Srdanović and Rinke (2020) used a picture selection task where participants were presented with a context and a critical sentence (either with a full pronoun or a clitic) and then were shown two pictures corresponding to two different coreferential readings and asked to choose the correct one.

All the verbs used in critical items were common transitive verbs to avoid any other potential structural interference with respect to binding interpretations. We used frequent lexical items and avoided using distractors, such as nominal or verbal modifiers. Each participant was presented with all conditions, i.e., all 24 critical items. We also included 24 fillers, which followed the same pattern of having to choose one of the provided answers. All the items were randomized. The platform used to distribute the questions and collect responses in all three languages was Qualtrics.

5.2. Participants

There were 12 participants in the Bulgarian study, 17 in Macedonian, and 16 in Serbian. All participants were adult native speakers with no prior linguistic training. The participants were not paid. The study was anonymous. The recruitment of the participants was done via social media and distribution of the survey link to friends and acquaintances. At the beginning of the study, all participants were asked to verify that they are 18 years or older and that they are native speakers of the language in question.

5.3. Results

The results reveal that overall participants have preference for non-binder interpretation in all three languages in all conditions. In particular, non-binder interpretations were selected 80.9% of the time in Bulgarian, 66.66% in Macedonian, and 65.1% in Serbian.

However, in all three languages, the preferences differed as a function of pronominal possessive adjective and pronoun, such that non-binder interpretations were chosen more often for pronouns than for pronominal possessive adjectives. The results for each language are shown in Table 1 below.

Table 1. Percentages of chosen non-binder interpretations for pronominal possessive adjectives and pronouns

Non-binder interpretations	Bulgarian	Macedonian	Serbian
Pronominal possessive adjective	75.69	66.17	57.29
Pronoun	86.1	67.15	72.91

The difference between the pronominal possessive adjective and pronoun non-binder interpretation in Bulgarian is 10.41%, Macedonian 0.98%, and

Serbian 15.62%. Macedonian shows the least difference between the two conditions, suggesting that the preference for non-binder interpretation for pronominal possessive adjectives and pronouns seems to be minimally different. Bulgarian and Serbian, on the other hand, show bigger differences.

Similarly, in all three languages, the preferences differed as a function of having one overtly introduced referent and two overtly introduced referents, such that non-binder interpretations were chosen more often for one overtly introduced referent. The results for each language are shown in Table 2 below.

Table 2. Percentages of chosen non-binder interpretations in the context of one overtly introduced referent and two overtly introduced referents for pronominal possessive adjectives and pronouns

Non-binder interpretations	Bulgarian	Macedonian	Serbian
One overtly introduced referent	87.5	73.52	72.39
Two overtly introduced referents	74.3	59.8	57.81

The difference between non-binder interpretations in the context of one overtly introduced referent and two overtly introduced referents is 13.2% in Bulgarian, 13.72% in Macedonian, and 14.58% in Serbian. The differences observed for all three languages are minimally different, suggesting that the three languages behave very similarly in this respect: speakers prefer non-binding interpretations more often when there is one overtly introduced referent than when there are two.

Next, in Bulgarian and Macedonian, the preferences differed as a function of having one overtly introduced referent and two overtly introduced referents with pronominal possessive adjective, such that non-binder interpretations were chosen more often for pronominal possessive adjectives in the context of one overtly introduced referent. Serbian shows no difference between these two conditions. The results for each language are shown in Table 3.

Table 3. Percentages of chosen non-binder interpretations for pronominal possessive adjectives in the context of one overtly introduced referent and two overtly introduced referents

Non-binder interpretations	Bulgarian	Macedonian	Serbian
One overtly introduced referent	77.77	70.58	57.29
Two overtly introduced referents	73.61	61.76	57.29

The difference between non-binder interpretations for pronominal possessive adjectives in the context of one overtly introduced referent and two overtly introduced referents is 4.16% in Bulgarian and 8.82% in Macedonian. Serbian shows no difference, suggesting that speakers uniformly prefer non-binder interpretation for pronominal possessive adjectives, regardless of the number of overtly present referents—one or two.

Lastly, in all three languages, the preferences differed as a function of having one overtly introduced referent and two overtly introduced referents with pronouns, such that non-binder interpretations were chosen more often for pronouns in the context of one overtly introduced referent. The results for each language are shown in Table 4 below.

Table 4. Percentages of chosen non-binder interpretations for pronouns
in the context of one overtly introduced referent and
two overtly introduced referents

Non-binder interpretations	Bulgarian	Macedonian	Serbian
One overtly introduced referent	97.2	76.47	87.5
Two overtly introduced referents	75	57.84	58.3

The difference between non-binder interpretations for pronouns in the context of one overtly introduced referent and two overtly introduced referents in Bulgarian is 22.2, in Macedonian 18.63, and in Serbian 29.2. This result aligns with the observed preference for non-binder interpretations for pronouns on the one hand and the context of one overtly introduced referent on the other.

To sum up, the results show an overall preference for non-binder interpretation in all conditions in all three languages. However, the preference differed as a function of (i) pronoun and pronominal possessive adjective and (ii) having one overtly introduced referent and two overtly introduced referents, such that non-binder interpretations were chosen more often for the former rather than the latter (pronouns, one overtly introduced referent). When the two conditions intersected, the results show preference for non-binder interpretation in the context of one overtly introduced referent for pronouns in all three languages.

6. Discussion

The results of our study show that there is an overall preference for non-binder interpretations in all conditions we tested in all three languages. This finding

invalidates the argument that the differences in binding possibilities origi-
nally observed for English and Serbian stem from the nominal structure of
the language: the presence of DP makes it impossible for prenominal posses-
sives to c-command outside DP, allowing for coreferential readings, whereas
the lack of DP allows them to c-command outside of their NP since they are
NP-adjoined. If the binding potentials are determined by the presence or ab-
sence of DP, then we would expect to see differences between Serbian (an
NP-language), on the one hand, and Bulgarian and Macedonian (DP-lan-
guages), on the other. We have not found evidence for this in our study.

There was an overall higher percentage of non-binder interpretations
chosen for pronouns versus pronominal possessive adjectives. This finding
could be attributed to the well-known empirical observation that backward
anaphora between a pronoun and a following R–expression is blocked when
the R-expression bears focus (Chomsky 1976; Williams 1997; Erteschik–Shir
1997; Bianchi 2010):

(15)   a.   *His$_i$ wife loves JOHN$_i$.
       b.   His$_i$ wife LOVES John$_i$.   (Bianchi 2010: 9, (6), (7))

Reinhart (1986) proposes a topic-antecedent hypothesis to account for the con-
trast shown in (15):

(16)   Backward anaphora is possible only if the antecedent is in
       sentence–topic position.   (Reinhart 1986: 138–40)

The R-expression in (15a) cannot be the antecedent of the backward
anaphora, because it bears a new information focus and as such cannot be the
sentence topic (Zubizarreta 1998), hence it fails to satisfy (16).

Since our study was conducted online, where participants read the sen-
tences themselves, we could assume that the participants were putting focus
on R-expressions and hence opting for non-binder interpretations.

We also observed that non-binder interpretations were chosen more often
in the context of one overtly mentioned referent versus two,[17] which could
be explained by contrast between the potential referents. In particular, when
there is only one overtly mentioned referent, participants are more likely to
opt for the interpretation of the relevant elements where their binders are not

---

[17] We are aware that the results for Serbian in Table 3 show no difference with respect
to having one or two referents when possessive adjectives have been used. We will
not speculate whether this ignorance to the number of introduced referents in context
is a strong tendency in Serbian or just a specific output from the current pool of par-
ticipants. Obviously, replications of the present survey have to be envisaged as future
work.

present in the text. However, when there are two overtly mentioned referents, the context seems to be interpreted as contrastive—two referents are "competing" for the role of a binder. The one that is closer to the element needed to be bound (within the same clause) seems to be favored over the one that is further away.

Srdanović and Rinke's (2020) study reports on what we refer to as two overtly mentioned antecedents in a pronoun condition for Serbian. Their findings show that non-binding interpretations are chosen 45% of the time, whereas our study shows 58.3%. Even though the findings do not completely align, we can see that in both studies participants allow for both readings but have a slightly different preference for one reading over the other. This difference could be attributed to the techniques used in the two studies: picture-matching (their study) vs. multiple-choice questions (our study), or reading sentences out loud (their study) vs. not being required to read the sentences out loud (our study). But maybe the most important factor is the introductory context. In particular, in Srdanović and Rinke 2020 (p. 172) the potential antecedents are introduced by an existential construction with the relevant possessive: 'Here are Petar, Petar's bull, and Jovan.' The introductory context in our study focuses more on the situation that the participants are in, such as 'Luka has a parrot. Marko is playing with it.'

Our study also provided invaluable insights into the issues raised by Franks (2019), as discussed in sections 2, 3, and 4 above. First is the issue of full vs. clitic pronominal forms in Bulgarian. The claim is that the coreferential reading in Bulgarian improves when a full pronoun is replaced with a clitic. We included examples that are almost identical to the examples provided in Franks 2019 to test this claim. One such example is the following (cf. (7b)):

(17) Ivanovijat$_i$ papagal   go$_i$ uxapa   včera.   (Bulgarian)
      Ivan.POSS.DEF   parrot   him   bit   yesterday

      'Ivan$_i$'s parrot bit him$_i$ yesterday.'   (Franks 2019: 70, (18))

The only difference between this example cited in Franks 2019 and the example we used in our study, provided in (18) below, is the omission of the adverb *včera* 'yesterday'. We included this example in both conditions: one overtly mentioned referent, (18a), and two overtly mentioned referents, (18b).

(18) a. Ivanovijat$_i$ papagal   go$_i$ uxapa.   (Bulgarian)
          Ivan.POSS.DEF   parrot   him   bit

          Kogo   uxapa   Ivanovijat   papagal?
          who   bit   Ivan.POSS.DEF   parrot

          'Ivan$_i$'s parrot bit him$_i$. Who did Ivan's parrot bite?'

(18) b.   Ivan ima papagal. Martin si   igrae   s   nego.
           Ivan has parrot   Martin REFL plays with him

           Ivanovijat₍ᵢ₎   papagal go₍ᵢ₎   uxapa.
           Ivan.POSS.DEF   parrot   him   bit

           Kogo   uxapa Ivanovijat   papagal?
           who   bit   Ivan.POSS.DEF   parrot

           'Ivan has a parrot. Martin is playing with it. Ivan₍ᵢ₎'s parrot bit
           him₍ᵢ₎. Who did Ivan's parrot bite?'

In both conditions, non-binding interpretations for this particular example were prevalent: for one overtly present referent, non-binder interpretation was chosen 97.2% of the time, and for two overtly present referents, non-binder interpretation was chosen 75% of the time. In addition to this example, we used multiple others to test the claim and observed that non-binder interpretations are favored. This suggests that Bulgarian binding potentials do not seem to relate to the presence of clitic vs. full pronouns, where the clitic makes binding interpretations more viable. Bulgarian, therefore, does not align with English, disproving the claim made in Franks 2019.

This finding ties into the second issue raised in Franks 2019 regarding the difference in acceptability of pronominal and nominal possessive coreferential readings in Bulgarian. Since coreferential readings between a nominal possessive and pronoun have a prevalent non-binding interpretation, there does not seem to be any difference in acceptability between the two structures, contra Franks 2019. Whether it is a structure where coreferential readings are tested between (i) a nominal possessive and pronoun, as in (18), or (ii) a pronominal possessive and R-expression, as shown in (8a), the study shows that non-binder interpretations are preferred in both, with minimal difference between them: for (i) 86.1% and for (ii) 75.69%.

Finally, our study shows that binding data interpretations vary among speakers of all three languages tested. We will focus here on Macedonian and Serbian, as two languages that Franks (2019) discusses in this light. He claims that Serbian binding data is exclusive, that is, the "speakers consistently disallow coreference in comparable sentences", whereas Macedonian speakers both allow and disallow coreference (Franks 2019: 70). We found that there is variation among speakers in both languages. Serbian speakers prefer non-binder interpretations overall, but we see some speakers who do not. The same is true for Macedonian. In other words, there is no absolute judgment but rather preference for one interpretation over the other; and the preference in both Macedonian and Serbian is for non-binder interpretations. This finding confirms that binding is very susceptible to variation.

7. Conclusion

This paper provides new experimental data to contribute to the debate on DP vs. NP and binding in South Slavic. Despić (2011) proposes that prenominal possessives in languages with DP allow coreferential readings with R-expressions or pronouns elsewhere in the clause because they are in SpecPossP position within DP, unable to c-command elements outside DP. On the other hand, prenominal possessives in languages without DP are NP-adjoined and they c-command outside their NP, disallowing coreferential readings. Such a claim predicts that Bulgarian and Macedonian, two South Slavic languages with definite articles, i.e., DP-languages, should exhibit binding potentials different from Serbian, a South Slavic language without articles, i.e., NP-language. LaTerza (2016) tests this claim and concludes that it does not hold true. Franks (2019) brings up a few interesting points regarding the data used in LaTerza 2016: the use of clitics vs full pronouns, the difference in binding potentials of nominal and pronominal possessives in Bulgarian, and the overall acceptability of such structures in Macedonian and Serbian.

This paper tests the relevant data using an online platform for distribution and recruiting native speakers who have no prior linguistic training. The results of the study show that the three languages do not exhibit differences in binding potentials, with preference for non-binder interpretations. This finding disproves the original claim that binding potentials differ between languages because of the nominal structure (DP vs. NP), as argued by the proponents of the Parameterized DP Hypothesis.

References

Abney, Steven Paul. (1987) *The English noun phrase in its sentential aspects*. Doctoral dissertation, MIT.

Bailyn, John Frederick. (2012) *The syntax of Russian*. Cambridge: Cambridge University Press.

Barwise, Jon and Robert Cooper. (1981) "Generalized quantifiers and natural language". *Linguistics and philosophy* 4: 159–219.

Bašić, Monika. (2004) *Nominal subextractions and the structure of NPs in Serbian and English*. Master's thesis, UiT The Arctic University of Norway.

Bianchi, Valentina. (2010) "A note on backward anaphora". *Rivista di grammatica generativa – Research in generative grammar* 34: 3–34.

Bošković, Željko. (2003) "On left branch extraction". Peter Kosta, Joanna Blaszczak, Jens Frasek, Ljudmila Geist, and Marzena Zygis, eds. *Investigations into formal Slavic linguistics: Contributions of the Fourth Conference on Formal Description on Slavic Languages – FDSL 4*. Frankfurt am Main: Peter Lang, 543–77.

Bošković, Željko. (2005) "On the locality of left branch extraction and the structure of NP". *Studia linguistica* 59: 1–45.

———. (2008) "What will you have, DP or NP?" Emily Elfner and Martin Walkow, eds. *NELS 37: Proceedings of the 37th annual meeting of the North East Linguistic Society.* Amherst: Graduate Linguistic Student Association of the University of Massachusetts at Amherst, 101–14.

———. (2012) "Phases in NPs/DPs". Ángel L. Gallego, ed. *Phases: Developing the framework.* Berlin: Mouton de Gruyter, 343–84.

Brame, Michael. (1982) "The head-selector theory of lexical specifications and the nonexistence of coarse categories". *Linguistic analysis* 10: 321–25.

Caruso, Đurđica Željka. (2011) "Nominal phrases in Croatian as DPs". Koichi Otaki, Hajime Takeyasu, and Shin-ichi Tanigawa, eds. *Online Proceedings of GLOW in Asia Workshop for Young Scholars 2011.* Available at: https://citeseerx. ist.psu.edu/document?repid=rep1&type=pdf&doi=209220f5e40c8f8967b0e4789d-3c919859b9eca7#page=21.

Cheung, Candice Chi-Hang and Richard K. Larson. (2018) "'Make' causatives in English and Mandarin". *Lingua Sinica* 4: 4. DOI 10.1186/s40655-018-0036-9

Chomsky, Noam. (1976) "Conditions on rules of grammar". *Linguistic analysis* 2(4): 303–51.

———. (1981) *Lectures on government and binding.* Dordrecht: Foris.

Cinque, Guglielmo. (2005) *Comparative syntax.* Oxford: Oxford University Press.

Corver, Norbert. (1992) "On deriving certain left branch extraction asymmetries: A case study in parametric syntax". *North East Linguistics Society* 22(1): 67–84.

Delsing, Lars-Olof. (1993) *The internal structure of Noun Phrase in the Scandinavian languages.* Doctoral dissertation, University of Lund.

Despić, Miloje. (2009) "On the structure of Serbo-Croatian NP: Evidence from binding". Jodi Reich, Maria Babyonyshev, and Darya Kavitskaya, eds. *Proceedings of FASL 17: The Yale meeting 2008.* Ann Arbor: Michigan Slavic Publications, 17–32.

———. (2011) *Syntax in the absence of Determiner Phrase.* Doctoral dissertation, University of Connecticut.

———. (2013) "Binding and the structure of NP in Serbo-Croatian". *Linguistic inquiry* 44: 239–70.

Dubinsky, Stanley and Mila Tasseva-Kurktchieva. (2014) "On the NP/DP language frontier: Bulgarian as a transitional case". Talk given at the Linguistic Society of America Annual Meeting, Minneapolis, MN, 4 January 2014.

Erteschik–Shir, Nomi. (1997) *The dynamics of focus structure.* Cambridge: Cambridge University Press.

Franks, Steven. (2019) "Binding and phasehood in South Slavic revisited". *Studies in Polish linguistics* 14(2): 61–80.

Fukui, Naoki. (1986) *A theory of category projection and its applications*. Doctoral dissertation, MIT.

————. (1988) "Deriving the differences between English and Japanese". *English linguistics* 5: 249–70.

Fukui, Naoki and Margaret Speas. (1986) "Specifiers and projections". *MIT working papers in linguistics.* Vol. 8. Cambridge, MA: MIT Press, 128–72.

Heim, Irene. (2002) "File change semantics and the familiarity theory of definiteness". Paul Portner and Barbara H. Partee, eds. *Formal semantics: The essential readings*. Oxford: Blackwell, 223–48.

Ivšić, Kristina. (2008) *The structure of Serbian nominal phrase*. Master's thesis, University of Nova Gorica.

Jackendoff, Ray. (1977) *X-bar syntax*. Cambridge, MA: MIT Press.

Julien, Marit. (2002) "Determiners and word order in Scandinavian DPs". *Studia Linguistica* 56: 265–315.

Kayne, Richard. (1994) *The antisymmetry of syntax*. Cambridge, MA: MIT Press.

LaTerza, Ivana. (2014) *The DP category and Serbian nominal structure*. Doctoral dissertation, Stony Brook University, New York.

————. (2016) "Binding in English and South Slavic and the Parameterized DP Hypothesis". *Linguistic inquiry* 47(4): 741–53.

Nicolova, Ruselina. (2008) *Bâlgarska gramatika: Morfologija* [Bulgarian grammar: Morphology]. Sofia: Universitetsko izdatelstvo "Sv. Kl. Ohridski".

Pereltsvaig, Asya. (2013) "Noun Phrase structure in article-less Slavic languages: DP or not DP?" *Language and linguistics compass* 7: 201–19.

Pesetsky, David. (1994) *Zero syntax*. Cambridge, MA: MIT Press.

Progovac, Ljiljana. (1998) "Determiner Phrase in a language without determiners". *Journal of linguistics* 34: 165–79.

Rappaport, Gilbert. (2001) "Extraction from nominal phrases in Polish and the theory of determiners". *Journal of Slavic linguistics* 8(1–2): 159–98.

Reinhart, Tanya. (1986) "Center and periphery in the grammar of anaphora". Barbara Lust, ed. *Studies in the acquisition of anaphora*. Vol 1. *Defining the constraints*. Dordrecht: D. Reidel Publishing Company, 123–50.

Runić, Jelena. (2006) "On the syntax of determiners in Serbian and Romanian". *Filološki pregled* 33: 75–93.

Schoorlemmer, Erik. (2012) "Genitive noun complements in Serbo-Croatian: Extraction and case". Handout from presentation at FASL 21, Bloomington, IN, 11–13 May 2012.

Schwarz, Florian. (2009) *Two types of definites in natural language*. Doctoral dissertation, University of Massachusetts, Amherst.

Smith, Carlota S. (1964) "Determiners and relative clauses in a generative grammar of English". *Language* 40: 37–52.

Srdanović, Sanja and Esther Rinke. (2020) "Possessive modifiers in Serbian: Coreference with clitics and strong pronouns". *Journal of Slavic linguistics* 28(2): 163–82.

Stanković, Branimir. (2013) "DP or NP? The case of Serbian southeastern dialects and Macedonian language". Paper presented at SinFonIJa 6, University of Niš, 26–28 September 2013.

Stjepanović, Sandra. (1998) "Extraction of adjuncts out of NPs". Paper presented at the workshop "Comparative Slavic Morphosyntax: 'The State of the Art'", Spencer, IN, 5–7 June 1998.

Szabolcsi, Anna. (1983) "The possessor that ran away from home". *Linguistic review* 3: 89–102.

Talić, Aida. (2013) "Extraordinary complement extraction". Handout from presentation at LSALAA 2013, Paris, 28 February 2013.

———. (2020) "Affixal-article languages and structural parallelism in Slavic and beyond". Peter Kosta and Teodora Radeva-Bork, eds. *Current developments in Slavic linguistics: Twenty years after*. Frankfurt am Main: Peter Lang.

Trenkić, Danijela. (2004) "Definiteness in Serbian/Croatian/Bosnian and some implications for the general structure of the nominal phrase". *Lingua* 114: 1401–27.

Vergnaud, Jean-Roger. (1974) *French relative clauses*. Doctoral dissertation, MIT.

Williams, Edwin. (1997) "Blocking and anaphora". *Linguistic inquiry* 28: 577–628.

Zlatić, Larisa. (1997) *The structure of the Serbian Noun Phrase*. Doctoral dissertation, University of Texas at Austin.

Zubizarreta, Maria Luisa. (1998) *Prosody, focus and word order*. Cambridge, MA: MIT Press.

Ivana LaTerza
Stony Brook University
New York, NY, USA
ivana.laterza@alumni.stonybrook.edu

Petya Osenova
Sofia University "St. Kl. Ohridski"
Sofia, Bulgaria
osenova@uni-sofia.bg

Boban Karapejovski
Blaže Koneski Faculty of Philology
Ss. Cyril and Methodius University in Skopje
Skopje, Macedonia
karapejovski@flf.ukim.edu.mk

Appendix

The survey sentences from all three languages are provided below. The first line represents the sentence used for Serbian, the second one Bulgarian, and the third one Macedonian.

The survey items below are equipped with English translations. Note, however, that while the translations of the context-setting sentences and the questions are true English translations, the meaning of the target sentence (i.e., *X's NOUN V-ed him/her/it*) was what this study actually set out to determine, so translations such as 'Marija's friend pushed her' are not used below in the function of a true English translation but rather of a simplified gloss, which is why this part of the translation is set in italics. (The names used in the Serbian, Macedonian, and Bulgarian version of an example may differ. For convenience, the English translation always uses the name provided in the Serbian version.)

1. Marijin prijatelj ju je gurnuo. Koga je Marijin prijatelj gurnuo?

    Мариният приятел я бутна. Кого бутна Мариният приятел?

    Мариниот пријател ја турна. Кого турна Мариниот пријател?

    '*Marija's friend pushed her.* Who did Marija's friend push?'

2. Marija i Jelena se igraju na dvorištu ispred kuće. Marijin prijatelj ju je gurnuo. Koga je Marijin prijatelj gurnuo?

    Мария и Елена си играят в двора пред къщата. Мариният приятел я бутна. Кого бутна Мариният приятел?

    Марија и Елена си играа во дворот пред куќата. Мариниот пријател ја турна. Кого турна Мариниот пријател?

    'Marija and Jelena are playing in the yard in front of the house. *Marija's friend pushed her.* Who did Marija's friend push?'

3. Jelenina mačka ju je ogrebala. Koga je Jelenina mačka ogrebala?

    Еленината котка я одраска. Кого одраска Еленината котка?

    Еленината мачка ја изгреба. Кого изгреба Еленината мачка?

    '*Jelena's cat scratched her.* Who did Jelena's cat scratch?'

4. Jelena ima mačku. Zoran je došao u posetu kod Jelene. Jelenina mačka ju je ogrebala. Koga je Jelenina mačka ogrebala?

    Елена има котка. Иван е дошъл на гости на Елена. Еленината котка я одраска. Кого одраска Еленината котка?

Елена има мачка. Зоран дојде на гости кај Елена. Еленината мачка ја изгреба. Кого изгреба Еленината мачка?

'Jelena has a cat. Zoran is visiting Jelena. *Jelena's cat scratched her.* Who did Jelena's cat scratch?'

5. Lanina mama ju je zagrlila. Koga je Lanina mama zagrlila?

Борянината майка я прегърна. Кого прегърна Борянината майка?

Анината мајка ја прегрна. Кого прегрна Анината мајка?

'*Lana's mother hugged her.* Who did Lana's mother hug?'

6. Mila je došla kod Lane da se igraju. Lanina mama ju je zagrlila. Koga je Lanina mama zagrlila?

Мила е дошла да си играе с Боряна. Борянината майка я прегърна. Кого прегърна Борянината майка?

Мила дојде кај Ана да си играат. Анината мајка ја прегрна. Кога прегрна Анината мајка?

'Mila came to play with Lana. *Lana's mother hugged her.* Who did Lana's mother hug?'

7. Lukin papagaj ga je ugrizao. Koga je Lukin papagaj ugrizao?

Ивановият папагал го ухапа. Кого ухапа Ивановият папагал?

Ивановиот папагал го гризна. Кого гризна Ивановиот папагал?

'*Luka's parrot bit him.* Who did Luka's parrot bite?'

8. Luka ima papagaja. Marko se igra s njim. Lukin papagaj ga je ugrizao. Koga je Lukin papagaj ugrizao?

Иван има папагал. Мартин си играе с него. Ивановият папагал го ухапа. Кого ухапа Ивановият папагал?

Иван има папагал. Марко си игра со него. Ивановиот папагал го гризна. Кого гризна Ивановиот папагал?

'Luka has a parrot. Marko is playing with him/it. *Luka's parrot bit him/it.* Who did Luka's parrot bite?'

9. Markov brat ga je udario. Koga je Markov brat udario?

Стояновият брат го удари. Кого удари Стояновият брат?

Марковиот брат го удри. Кого го удри Марковиот брат?

'*Marko's brother hit him.* Who did Marko's brother hit?'

10. Marko i Lana su se posvadjali oko igračke. Markov brat ga je udario. Koga je Markov brat udario?

Стоян и Боряна се скараха за играчките. Стояновият брат го удари. Кого удари Стояновият брат?

Марко и Ана се скараа за играчките. Марковиот брат го удри. Кого го удри Марковиот брат?

'Marko and Lana quarreled about a toy. *Marko's brother hit him*. Who did Marko's brother hit?'

11. Danilova sestra ga je poljubila. Koga je Danilova sestra poljubila?

Пенчовата сестра го целуна. Кого целуна Пенчовата сестра?

Зорановата сестра го бакна. Кого бакна Зорановата сестра?

'*Danilo's sister kissed him*. Who did Danilo's sister kiss?'

12. Goran i Danilo su nacrtali crtež za rodjendanski poklon. Danilova sestra ga je poljubila. Koga je Danilova sestra poljubila?

Васил и Пенчо нарисуваха картичка за подаръка за рождения ден. Пенчовата сестра го целуна. Кого целуна Пенчовата сестра?

Горан и Зоран нацртаа цртеж како роденденски подарок. Зорановата сестра го бакна. Кого бакна Зорановата сестра?

'Goran and Danilo did a drawing as a birthday present. *Danilo's sister kissed him*. Who did Danilo's sister kiss?'

13. Njen prijatelj je gurnuo Mariju. Čiji prijatelj je gurnuo Mariju?

Нейният приятел бутна Мария. Чий приятел бутна Мария?

Незиниот пријател ја турна Марија. Чиј пријател ја турна Марија?

'*Her friend pushed Marija*. Whose friend pushed Marija?'

14. Marija i Jelena se igraju na dvorištu ispred kuće. Njen prijatelj je gurnuo Mariju. Čiji prijatelj je gurnuo Mariju?

Мария и Елена си играят на двора пред къщата. Нейният приятел бутна Мария. Чий приятел бутна Мария?

Марија и Елена си играа во дворот пред куќата. Незиниот пријател ја турна Марија. Чиј пријател ја турна Марија?

'Marija and Jelena are playing in the yard in front of the house. *Her friend pushed Marija*. Whose friend pushed Marija?'

15. Njena mačka je ogrebala Jelenu. Čija mačka je ogrebala Jelenu?

Нейната котка одраска Елена. Чия котка одраска Елена?

Нејзината мачка ја изгреба Елена. Чија мачка ја изгреба Елена?

'*Her cat scratched Jelena.* Whose cat scratched Jelena?'

16. Jelena ima mačku. Zoran je došao u posetu kod Jelene. Njena mačka je ogrebala Jelenu. Čija mačka je ogrebala Jelenu?

Елена има котка. Иван е дошъл на гости на Елена. Нейната котка одраска Елена. Чия котка одраска Елена?

Елена има мачка. Зоран дојде на гости кај Елена. Нејзината мачка ја изгреба Елена. Чија мачка ја изгреба Елена?

'Jelena has a cat. Zoran is visiting Jelena. *Her cat scratched Jelena.* Whose cat scratched Jelena?'

17. Njena mama je zagrlila Lanu. Čija mama je zagrlila Lanu?

Нейната майка прегърна Боряна. Чия майка прегърна Боряна?

Нејзината мајка ја прегрна Ана. Чија мајка ја прегрна Ана?

'*Her mother hugged Lana.* Whose mother hugged Lana?'

18. Mila je došla kod Lane da se igraju. Njena mama je zagrlila Lanu. Čija mama je zagrlila Lanu?

Мила е дошла да си играе с Боряна. Нейната майка прегърна Боряна. Чия майка прегърна Боряна?

Мила дојде кај Ана да си играат. Нејзината мајка ја прегрна Ана. Чија мајка ја прегрна Ана?

'Mila came to play with Lana. *Her mother hugged Lana.* Whose mother hugged Lana?'

19. Njegov papagaj je ugrizao Luku. Čiji papagaj je ugrizao Luku?

Неговият папагал ухапа Иван. Чий папагал ухапа Иван?

Неговиот папагал го гризна Иван. Чиј папагал го гризна Иван?

'*His parrot bit Luka.* Whose parrot bit Luka?'

20. Luka ima papagaja. Marko se igra s njim. Njegov papagaj je ugrizao Luku. Čiji papagaj je ugrizao Luku?

Иван има папагал. Мартин си играе с него. Неговият папагал ухапа Иван. Чий папагал ухапа Иван?

Иван има папагал. Марко си игра со него. Неговиот папагал го гризна Иван. Чиј папагал го гризна Иван?

'Luka has a parrot. Marko is playing with him/it. *His parrot bit Luka.* Whose parrot bit Luka?'

21. Njegov brat je udario Marka. Čiji brat je udario Marka?

Неговият брат удари Стоян. Чий брат удари Стоян?

Неговиот брат го удри Марко. Чиј брат го удри Марко?

'His brother hit Marko. Whose brother hit Marko?'

22. Marko i Lana su se posvadjali oko igračke. Njegov brat je udario Marka. Čiji brat je udario Marka?

Стоян и Боряна се скараха за играчките. Неговият брат удари Стоян. Чий брат удари Стоян?

Марко и Ана се скараа за играчките. Неговиот брат го удри Марко. Чиј брат удри Марко?

'Marko and Lana quarreled about a toy. *His brother hit Marko.* Whose brother hit Marko?'

23. Njegova sestra je poljubila Danila. Čija sestra je poljubila Danila?

Неговата сестра целуна Пенчо. Чия сестра целуна Пенчо?

Неговата сестра го бакна Зоран. Чија сестра го бакна Зоран?

'His sister kissed Danilo. Whose sister kissed Danilo?'

24. Goran i Danilo su nacrtali crtež za rodjendanski poklon. Njegova sestra je poljubila Danila. Čija sestra je poljubila Danila?

Васил и Пенчо нарисуваха картичка за подаръка за рождения ден. Неговата сестра целуна Пенчо. Чия сестра целуна Пенчо?

Горан и Зоран нацртаа цртеж како подарок за роденден. Неговата сестра го бакна Зоран. Чија сестра го бакна Зоран?

'Goran and Danilo did a drawing as a birthday present. *His sister kissed Danilo.* Whose sister kissed Danilo?'