LUBLIN STUDIES IN MODERN LANGUAGES AND LITERATURE Vol 50, No 3 (2026)
Maria Curie-Sklodowska University Press

E-ISSN 2450-4580

Matea Andrea Birtić, Institute for the Croatian Language, Croatia
Maja Matijević, Institute for the Croatian Language, Croatia

DOI:10.17951/lsmll.2026.50.3.10-24

Binding Properties of Croatian Dative and Accusative Experiencers: A Corpus-Based Study

SUMMARY
This paper presents the results of a corpus-based study of the binding properties of dative and accusative Experiencers in Croatian. Two Croatian corpora were searched for instances of possible binding of reflexives with non-verbal psychological predicates. Verbal predicates were examined only briefly in a preliminary study. We conclude that Croatian dative and accusative Experiencers with non-verbal predicates can function as antecedents for both the reflexive possessive *svoj* 'self's' and the reflexive pronoun *sebe* 'self'. The same is attested for verbal predicates with dative Experiencers. However, for verbs with accusative Experiencers, further investigation is needed.

KEYWORDS
Croatian; binding; dative Experiencers; accusative Experiencers; non-verbal psychological predicates

1. Introduction

The paper presents the results of a corpus-based study aimed at gaining insight into the binding properties of dative and accusative Experiencers with Croatian psychological predicates. The study focused primarily on non-verbal psychological predicates with dative and accusative Experiencers because their Stimulus[1] argument is realized in the genitive case. Psychological verbs with dative and accusative Experiencers have the same argument in the nominative case, and Croatian reflexives do not appear in the nominative case (Batinić Angster, 2020), as in other languages. Non-verbal predicates were therefore expected to yield more results. For research purposes, we collected a list of non-verbal psychological predicates with dative Experiencers (14 predicates) and a list of non-verbal

[1] Although the nature of the other, non-experiencer argument with psychological verbs is a matter of debate, in this paper, we will follow the authors who call it a Stimulus (Bondaruk, 2020; Croft, 1993).

Matea Andrea Birtić, Odjel za opće jezikoslovlje, Institut za hrvatski jezik, Republike Austrije 16, HR-10000 Zagreb, Phone: 0038513783861, mbirtic@ihjj.hr, http://orcid.org/0000-0001-5927-782X

Maja Matijević, Odjel za hrvatski standardni jezik, Institut za hrvatski jezik,Republike Austrije 16, HR-10000 Zagreb, Phone: 0038513783843, mmatijevic@ihjj.hr, https://orcid.org/0000-0003-3990-0826

This work is licensed under CC BY 4.0

The journal is financed by the Institute of Modern Languages and Literatures of Maria Curie-Sklodowska University.

predicates with accusative Experiencers (5 predicates). We are aware that the dataset is not fully balanced across predicate types and that the distribution of examples reflects differences in lexical frequency and corpus availability rather than a controlled experimental design. Each predicate was examined for binding of the possessive reflexive pronoun *svoj* 'self's' and the reflexive pronoun *sebe* 'self'. Two corpora were searched, *hrWaC* (Ljubešić & Klubička, 2016) and *MaCoCu* (Bañón et al., 2022), using complex CQL queries designed to retrieve targeted examples. Binding properties of dative and accusative Experiencers with verbal predicates were investigated only briefly for possible comparison with non-verbal predicates. In constructing the queries, we used strategies to obviate Anaphor Agreement Effects (AAE)[2], as suggested in Bondaruk (2020) and Witkoś and Łęska (2020), i.e., we tried to build a nominative phrase containing a non-nominative reflexive. The list of verbal predicates consists of 6 verbs with Dative Experiencers and 3 verbs with Accusative Experiencers. The results confirmed that dative and accusative Experiencers with psychological non-verbal predicates can serve as antecedents of reflexives within a genitive or a prepositional phrase. Instances of reflexives embedded under infinitival complements were treated with caution since they are most likely bound by the empty pronoun PRO[3]. Since the set of verbal predicates examined was limited, the only firm conclusion is that the dative Experiencers can function as antecedents of reflexives, while the results for the accusative Experiencers remain inconclusive. In this paper, the term binding is used in a descriptive sense to refer to antecedent-anaphor dependencies involving dative and accusative Experiencers. We do not assume that all corpus examples

[2] The following abbreviations were used in the paper:
AAE = Anaphor Agreement Effect
NOM = Nominative
GEN = Genitive
DAT = Dative
ACC = Accusative
INST = Instrumental
INF = Infinitive
REFL = reflexive
adv. = adverb
sing. = singular
pl. = plural
pres. = present
masc. = masculine
fem. = feminine
cl. = clitic

[3] Although this is primarily a corpus-based study, the authors adopt certain basic principles of generative grammar developed within the Principles and Parameters framework (Chomsky, 1981) and generally accepted in the field, such as control, PRO, binding, and the classification of psychological verbs into syntactic classes.

necessarily instantiate syntactic binding in the narrow technical sense of Binding Theory (Chomsky, 1981, 1986), since some cases may involve PRO, discourse-level coreference, generic interpretation, or other interpretive factors. For this reason, the examples are evaluated as binding-compatible configurations rather than unequivocal evidence of syntactic binding in every case.

The paper is organized as follows. Chapters 2 and 3 provide a brief overview of Croatian psychological predicates and reflexive pronouns. Chapter 4 presents a concise review of previous Croatian research on reflexives, as well as an overview of the relevant literature whose hypotheses motivated the corpus analysis. Chapter 5 outlines the corpus methodology and query design. The results concerning binding by dative and accusative Experiencers with non-verbal predicates are presented in Chapters 6 and 7. Chapter 8 presents the findings for verbal predicates, and Chapter 9 provides the concluding remarks.

2. Psychological predicates in Croatian

The Croatian psychological predicates can be verbal and non-verbal. Among Croatian psychological verbs, as in other languages (Belletti & Rizzi, 1988), we can distinguish three classes of verbs – Subject Experiencer Verbs, Object Experiencer Verbs, and Dative Experiencer Verbs as attested in works by Birtić and Runjaić (2019) and Birtić and Brač (2021). Examples of an Object Experiencer Verb and a Dative Experiencer Verb are given in (1) and (2).

(1) *Psi* *plaše* *Ivana.*
dog.NOM.pl. frighten.3.pl.pres. Ivan.ACC.
Stimulus Experiencer
'Dogs frighten Ivan.'

(2) *Ivanu* *se* *sviđa* *taj* *pas.* (Birtić & Brač, 2021)
Ivan.DAT. REFL like.3.sg.pres. this.NOM.sing. dog.NOM.sing.
Stimulus Experiencer
'Ivan likes this dog.'

As the examples show, the Experiencer with psychological verbs in Croatian, in addition to being realized as a nominative subject with Subject Experiencer verbs, can also be realized as a dative and accusative NP. The Stimulus of Object Experiencer and Dative Experiencer Verbs is always a nominative NP. The Croatian non-verbal psychological predicates usually show two patterns. In the first pattern, the predicate consists of an adverb (e.g., *žao* 'sorry') and the verb *biti* 'be' with a dative Experiencer and a genitive Stimulus, as illustrated in (3). In the second pattern, the predicate consists of an NP (e.g., *strah* 'fear') and the verb *biti* 'be', which takes an accusative Experiencer and a genitive Stimulus (example in (4)).

(3) *Ivanu* *je* *žao* *prijatelja.*
Ivan.DAT.sing. is sorry.adv. friend.GEN.sing.
Experiencer Stimulus
'Ivan is sorry for his friend.'

(4) *Djevojčicu* *je* *strah* *mraka.*
little girl.ACC.sing. is fear.noun dark.GEN.sing.
Experiencer Stimulus
'The little girl is afraid of the dark.'

With some non-verbal predicates, a Stimulus argument can take the form of a prepositional phrase.

3. Reflexive pronouns in Croatian

The Croatian language, like other Slavic languages, has two reflexive pronouns: the possessive reflexive pronoun *svoj* 'self's' and the reflexive pronoun *sebe* 'self'. Batinić Angster (2020) introduced a third reflexive, which she calls a complex anaphora[4] (*samog sebe* 'oneself'). Both reflexives are unspecified with regard to number, person, and gender. The possessive reflexive pronoun *svoj* 'self's' is adjective-like and agrees with the noun it modifies in number, gender, and case. It needs an antecedent NP in the nominative case in order to express a relation of possession, as in example (5):

(5) *Ivan*$_i$ *voli* *svoju*$_i$ *majku.* (Batinić Angster, 2020)
Ivan.NOM loves self's.ACC.sing. mother.ACC.sing.
'Ivan loves his mother.'

Therefore, it is often said that anaphora *svoj* 'self's' cannot be case-marked with the nominative (and the vocative) and that it is subject-oriented (Batinić Angster, 2020, p. 142; Despić, 2011). The reflexive pronoun *sebe* 'self' is invariable in number, gender, and case. It lacks the nominative and vocative case too (Batinić Angster, 2020). It is sometimes accompanied by the pronominal adjective *sam* 'on one's own, alone'[5]. In Despić (2011) and Birtić and Oraić (2013), the pronominal adjective *sam* 'alone' is defined as an intensifier, but Batinić Angster (2020) considers the construction in which *sam* 'alone' precedes the reflexive pronoun *sebe* and agrees in case with the reflexive rather than with a subject to be an instance of complex anaphora (*samog sebe* 'oneself'). In cases where *sam* follows the reflexive pronoun, it is an intensifier. Whether we analyze the examples with *samog sebe* ('oneself') as instances of complex anaphora or a combination of an

[4] Batinić Angster (2020) calls it "anaphora" (not "anaphor").

[5] A description *on one's own* probably better describes the content of *sam* than translation *alone*, but for brevity's sake, we will use translation *alone* later in a text.

intensifier and a reflexive pronoun is irrelevant here. In both cases we observe that dative and accusative Experiencers can function as antecedents of either complex anaphora or the reflexive *sebe* 'self'.

4. Previous investigations

One of the earliest discussions of binding in Croatian is Mihaljević (1990), who observes that accusative NPs can bind anaphors in small clauses, and that the direct object in trivalent structures, when preceded by the quantifier *svaki* 'every', can bind into the third PP complement. Kučanda (1998) and Belaj and Kučanda (2007) investigate datives as possible binders of reflexives and conclude that datives cannot bind reflexives. In contrast, Kuna (2008) provides examples showing that datives, especially dative Experiencers, can bind the reflexive *svoj* 'self's'. Interestingly, his examples are very similar to ours (e.g., *Ivanu je žao svoje sestre* 'Ivan is sorry for his sister'; *Ivanu je udobno u svojoj kući* 'Ivan feels comfortable in his house').

Batinić Angster (2020) provides a very thorough investigation of reflexives in Croatian and Italian. Regarding the possessive reflexive, the author starts from the assumption that *svoj* 'self's' is subject-oriented and can only have nominative antecedents. After examining corpus examples, she concludes that with certain psychological predicates, non-nominative Experiencers can serve as antecedents for the reflexive *svoj 'self's'*, noting that dative Experiencers are more likely antecedents than accusative ones. She also observes that dative R-expressions with psychological predicates are more likely as antecedents than pronominal expressions, and that *svoj* 'self's' cannot be part of nominative subjects. Furthermore, she lists several additional contexts in which Croatian *svoj* 'self's' can have non-nominative antecedents: direct objects which are modified by the distributive quantifier *svaki*[6], direct objects which are generically interpreted or involve inalienable possession, and small clause subjects realized as accusative-marked NPs. Finally, her analysis of infinitival complements shows that dative pronominals can bind the possessive reflexive in restructuring infinitival constructions. Concerning the reflexive *sebe* ('self'), the author suggests that it is also subject-oriented, with one exception: it can take dative and accusative NPs as antecedents when they have the thematic role of Experiencer. Batinić Angster (2020) also suggested that the complex anaphora *sam sebe* 'oneself' can have object orientation.

Following the work of Bondaruk (2020) and Witkoś and Łęska (2020), who analyze binding by dative (and accusative) Experiencers in Polish, we attempted to apply their findings to Croatian. They argue that the impossibility of a dative Experiencer to bind a reflexive within a nominative subject is due to the Anaphor

[6] As previously noted by Mihaljević (1990) and Kuna (2008).

Agreement Effect (AAE), which states that "Anaphors do not occur in syntactic positions construed with agreement" (Bondaruk, 2020, p. 149)[7]. However, if an element within a nominative subject in constructions with a Dative-Experiencer Verbs bear a case other than nominative, binding becomes possible (Bondaruk 2020, p. 156; Witkoś & Łęska 2020, p. 263):

(6) *Nowakom*$_2$ spodobały się [nowe książki Kowalskich$_1$ o sobie$_{1/2}$]
Nowaks.DAT.pl. please.3.pl.past. REFL new book.NOM (Kowalskis') about self.
'The Nowaks liked Kowalskis'new books about themselves/each other.'

Bondaruk (2020) investigates the binding properties and passivization possibilities of dative and accusative Experiencers with stative psychological verbs in Polish, in order to determine their structural positions. The author finds that Polish dative and accusative Experiencers do not exhibit uniform behaviour, which results in different structural positions (Spec,*v*P and Spec,VP). While Polish dative Experiencers can bind a reflexive within a nominative subject, accusative Experiencers cannot. Building on the proposals of the authors mentioned above, we also examine whether we could control AAE to find out whether Croatian dative and accusative Experiencers of psychological verbs can bind anaphors. Finally, we draw on the findings of Batinić Angster (2024), who analyzes the monoclausal and biclausal properties of sentences with infinitival complements. The author tests the structures with infinitival complements using seven well-known diagnostics and finds that Croatian infinitives can either form a unity with the verb that selects them or retain biclausal properties. She also discusses emotive factives, to which the predicates examined in this paper belong. Under emotive factives, the author mentions Croatian psychological verbs *mrziti* 'hate', *voljeti* 'love', and *bojati se* 'fear', as well as two non-verbal predicates *(biti) žao* 'be/feel sorry' and *(biti) drago* 'be/feel glad'. The assumption is that emotive factives are biclausal, which means that infinitives as complements of these predicates have PRO as their subjects. Therefore, a reflexive pronoun or possessive reflexive embedded in an infinitival complement would be bound by PRO rather than by a dative or accusative Experiencer, and its occurrence within the infinitive complement would not constitute evidence for binding. However, the author suggests that emotive factives do not exhibit biclausal properties according to one diagnostic, namely, temporal uniformity. In later work, Batinić Angster (2026, in press) further argues that emotive factives require additional investigation, as their behaviour with respect to the monoclausal/biclausal distinction is not consistent. This implies that we must be cautious when interpreting evidence for binding within infinitival complements, although they should not be disregarded entirely.

[7] The AAE is formulated by Rizzi (1990).

5. Methods

The data were collected by searching the *hrWaC* and *MaCoCu* corpora using CQL queries in Sketch Engine. *hrWaC* is a large Croatian web corpus compiled predominantly from texts collected from the Croatian web domain (Ljubešić & Klubička, 2016), whereas *MaCoCu* is a more recent web corpus consisting of web-crawled, automatically cleaned and linguistically processed texts (Bañón et al., 2022). Both corpora are lemmatized and morphosyntactically annotated, allowing searches based on lemmas, part-of-speech categories and grammatical features.

The search procedure was constructed on the basis of predefined model sentences representing the target syntactic patterns (e.g. *Mene je strah svojega psa* 'I am afraid of my dog', *Strah me je svojega psa* 'I am afraid of my dog', *Teško mi je opisati svoje osjećaje* 'It is difficult for me to describe my feelings'). Based on these models, CQL queries were designed by combining the target predicates with the relevant pronominal forms, reflexive elements (*sebe* 'self', *svoj* 'self's') and nominal constituents. For instance, patterns such as *Mene je strah svojega psa* 'I am afraid of my dog.' were retrieved using queries including both stressed and clitic forms of personal pronouns (*mene* 'me', *tebe* 'you.acc.', *njega* 'him', *me* 'me.cl.', *te* 'you.acc.cl.', *ga* 'him.acc.cl.', etc.), nominal groups identified through morphosyntactic tags, and the predicates *strah* 'fear', *sram* 'shame' and *stid* 'embarrassment', together with the obligatory occurrence of the lemma *svoj* 'self's' within the same sentence.

Given the relatively free word order of Croatian, alternative query variants were developed for individual patterns in order to capture different linear arrangements of constituents. Thus, patterns such as *Mene je strah svojega psa* (me is fear self's dog) and *Strah me je svojega psa* (fear me is self's dog) were searched separately using appropriately adapted CQL expressions (e.g. *[word="mene|tebe|..."] [word="je"][]{0,2}[word="strah|sram|stid"]* versus *[lemma="strah|sram|stid"] [word="me|te|..."][word="je"]*). The searches were further refined through distance constraints between elements *([]{0,2}, []{0,4}*) and by restricting the search span to sentence boundaries (*within <s/>*). To illustrate the query design and retrieval procedure, Table 1 presents representative model sentences, corresponding CQL queries and selected corpus examples. For individual constructions, additional query variants were used to account for alternative word orders, morphosyntactic variation and annotation inconsistencies.

The queries were designed to retrieve attested instances of the target constructions across different syntactic configurations. While the searches were not evaluated using formal precision or recall measures, iterative query refinement and manual inspection were used to maximize the retrieval of structurally relevant examples. The queries also incorporated morphosyntactic variation and potential annotation inconsistencies in the corpora.

Table 1. Representative model sentences, CQL queries and selected corpus examples

Model sentence	CQL query	Representative corpus examples
Mene je strah svojega psa. (‘I am afraid of my dog.’)	([word=”mene|tebe|njega|nju |nas|vas|njih” | tag=”N...a.*” | tag=”N...g.*” | word=”me|te|ga|ju|j e|nas|vas|ih”][word=”je”]?[]{0,2} [word=”strah|sram|stid”]) ([lemma=”svoj”] within <s/>)	*Pa mene je strah svojih misli.* (‘I am afraid of my thoughts.’) – *MaCoCu, Nije me sram svoje bolesti (...)*. (‘I am not ashamed of my illness (…).’) – hrWaC, …
Strah me je svojega psa. (‘I am afraid of my dog.’)	([lemma=”strah|sram|stid”] [word=”me|te|ga|ju|je|nas| vas|ih”][word=”je”]?)[]{0,2} ([lemma=”svoj”] within <s/>)	*(...) sram me svoje buduće struke*. (‘ (…) I am ashamed of my future profession.’) – hrWaC, …
Mene je strah samoga sebe. (‘I am afraid of myself.’)	([word=”mene|tebe|njega|nju|nas|v as|njih” | tag=”N...a.*” | word=”m e|te|ga|ju|je|nas|vas|ih”] [word=”je”][]{0,2} [word=”strah|sram|stid|sramota| briga”])[]{0,3}([word=”sebe”] within <s/>)	*Provincijalce je uvijek stid sebe samih*. (‘Provincial people are always ashamed of themselves.’) – hrWaC, …
Teško mi je opisati svoje osjećaje. (‘It is difficult for me to describe my feelings.’)	[lemma=”blago|dobro|dosadno|… |žao|žalosno”] [word=”mi|ti|joj|mu|nam|vam|im”] [word=”je”]?[]{0,2} ([lemma=”svoj”] within <s/>)	*Teško mi je opisati svoje osjećaje (...)*. (‘It is difficult for me to describe my feelings (…).’) – hrWaC, *Žao mi je samo svoje obitelji (...)*. (‘I just feel sorry for my family (…).’) – hrWaC, …
Godi mi rad sa svojim učenicima. (‘I enjoy working with my students.’)	[word=”meni|tebi|njoj|njemu|nama |vama|njima”] tag=”....d”][]{0,2}[lemma=”goditi |gaditi|sviđati|faliti| nedostajati|brinuti|radovati|uzru javati|trebati” & tag=”Vmr3s”] [tag!=”Vmn.*”]{0,4} ([lemma=”svoj”] within <s/>)	*Fali nam hrabrosti i vjere u svoje mogućnosti (...)*. (‘We lack courage and faith in our abilities (…).’) – MaCoCu, *(...) nedostaje im razumijevanje za svoju djecu*. (‘ (…) they lack understanding for their children.’) – MaCoCu, …

All retrieved concordances were manually examined and checked in context. False positives, irrelevant constructions and examples resulting from morphosyntactic tagging errors were excluded from further analysis. Whenever systematic annotation inconsistencies or insufficient query precision were identified, the queries were further refined.

6. Results for dative Experiencers with non-verbal predicates

Our list of non-verbal psychological predicates included the following items: *biti žao* ‘be/feel sorry’, *biti drago* ‘be glad’, *biti draže* ‘be more glad, prefer’, *biti najdraže* ‘be most liked’, *biti teško* ‘be difficult’, *biti teže* ‘be more difficult’, *biti najteže* ‘be the most difficult’, *biti dobro* ‘be well’, *biti ugodno* ‘be pleasant’, *biti*

neugodno ‘be unpleasant’, *biti muka* ‘be sick’, *biti milo* ‘be glad’, *biti zlo* ‘feel sick’, and *biti dosadno* ‘be bored’.

Regarding the possessive reflexive pronoun *svoj* ‘self’s’, most examples were found with the expression *biti* žao ‘be sorry’ if we exclude infinitives containing *svoj* ‘self’s’ with the predicate *biti teško* ‘be difficult’. We found 16 examples in which a dative Experiencer functions as an antecedent for the possessive reflexive in the Stimulus argument. In four examples, the possessive reflexive occurs within an infinitival complement. Infinitival constructions are not considered as evidence for binding. The examples are given in (7) and (8):

(7) *Djedu* *je bilo* žao *svoga* *unuka.*[8]
grandfather.DAT.sing. is been sorry self’s.GEN.sing. grandson.GEN.sing.
‘The grandfather felt sorry for his grandson.’

(8) *Ljudima* *je* žao *trošiti* *toliko* *svog* života *samo na rad.*
people.DAT.pl. is sorry spend.INF. so much self’s.GEN. sing. life. GEN.sing. exclusively on work
‘People are sorry to spend so much of their lives just working.’

With the predicate *biti teško* ‘be difficult’, we found 71 examples of bound possessive reflexives within infinitival complements.

(9) *Teško* *mi* *je* *opisati* *svoju* *sreću.*
difficult me.DAT.sing. is describe.INF self’s.ACC.sing. happiness.ACC.sing.
‘It’s hard for me to describe my happiness.’

Although there is a semantic dependency between the reflexive possessive pronoun *svoj* ‘self’ within the infinitival clause and the dative Experiencer in the main clause, there is no evidence that *svoj* ‘self’ is bound by the dative argument in the main clause; rather, it is more plausibly bound by the PRO subject of the infinitival clause if we adopt the classical approach to infinitives and control structures proposed in Chomsky (1981, 1986).

With the other predicates, we found up to ten examples, and the possessive reflexives were mostly embedded within infinitival complements. Regarding dative Experiencers as antecedents of the reflexive pronoun *sebe* ‘self’ with the predicates mentioned above, the number of examples was considerably smaller. The reflexive

[8] One of the reviewers suggested that corpus data should be approached with caution and noted that examples such as *Ivanu je žao svoje sestre* ‘Ivan is sorry for his sister’, cited by Kuna (2008) and confirmed in our corpus data, are not grammatical for them. We agree that the data should be verified with native speakers. However, I would point out that one of the authors of this paper heard the sentence *Strah me za svoju obitelj* ‘I fear for my family’ in spontaneous speech on the TV programme *Provjereno* (NovaTV, approximately 45 minutes into the broadcast, https://dnevnik.hr/vijesti/hrvatska/provjereno-policija-im-je-svaki-dan-kuca-na-vrata-zbog-ubojstava-nasilja-svadja---972533.html)

pronoun is attested with the following predicates: *biti* žao 'feel/be sorry', *biti drago* 'be glad', *biti teško* 'be difficult', *biti neugodno* 'be unpleasant', *biti muka* 'be sick', *biti zlo* 'be sick', *biti dosadno* 'be bored'. Twelve examples were found with the predicate *biti* žao 'feel/be sorry', seven with the predicate *biti dosadno* 'be bored', and up to three examples with other predicates. With the predicate *biti* žao 'feel/be sorry', the pronoun *sebe* 'self' is often accompanied by the intensifier *sam* 'alone', which can either follow or precede the reflexive pronoun.

(10) *...a* *žao* *mi* *je* *i* *sebe* *samog.*[9]
…and sorry me.DAT.sing. is and self.GEN. alone.GEN.sing.masc.
'… and I feel sorry for myself too.'

(11) *Žao* *mi* *je* *same* *sebe.*
sorry me.DAT.sing. is alone.GEN.sing.fem. self.GEN.sing.
'I feel sorry for myself.'
In three examples, *sebe* 'self' appears without an intensifier.

With the predicate *biti drago* 'to be glad', *sebe* 'self' always occurs within a prepositional phrase with a causal meaning (12).

(12) *Mislim,* *drago* *mi* *je* *zbog* *sebe.*
think.1.sing. glad me.DAT.sing. is because self.GEN.
'I mean, I'm happy for myself.'

With the predicate *biti dosadno* 'be bored', the reflexive pronoun is always accompanied by the intensifier *sam* 'alone' and forms part of a prepositional phrase headed by the preposition *s(a)* 'with' which requires instrumental case.

(13) *Ako* *je* *čovjeku* *dosadno* *sa* *sobom* *samim …*
if is man.DAT.sing. bored with self.INST. alone.INST.sing.masc.
'If man (person) is bored with himself (themselves)…'

7. Results for Accusative Experiencer with non-verbal predicates

Given that Croatian psychological predicates with accusative Experiencers are less frequent than those with dative Experiencers, we have so far investigated only five predicates: *biti strah* 'be afraid', *biti sram* 'be ashamed', *biti sramota* 'be ashamed', *biti stid* 'be embarrassed' and *biti briga* 'care for'. The accusative Experiencer as an antecedent of the reflexive possessive pronoun *svoj* 'self's' is mostly attested with the predicate *biti sram* 'be ashamed'. There are 44 examples found in both corpora. Some examples are given in (14) and (15).

[9] One of the reviewers asked what is the function of *i* 'and' in the example (10). In this case *i* does not function as conjuction (its main function), rather as an intensifier (intensifying particle).

(14) *Elitiste* *je* *u biti* *sram* *svojega* *porijekla.*
elitists.ACC.pl. is in core ashamed self's.GEN.sing. origin.GEN.sing.
'The elitists are essentially ashamed of their origins.'

(15) *Kako* *te* *nije* *sram* *svoje* *gluposti?*
How you.ACC.sing.cl. not ashamed self's.GEN.sing. stupidity.GEN.sing.
'How are you not ashamed of your stupidity?'

With the other predicates, the number of examples is relatively small. There are nine examples with the predicate *biti stid* 'be embarrassed', six examples with the predicate *biti strah* 'be afraid', and only two examples with *biti sramota* 'be ashamed'.

Regarding the reflexive pronoun *sebe* 'self', there are 14 examples with the predicate *biti strah* 'be afraid' in which the reflexive is bound by an accusative Experiencer. Two patterns are attested: the reflexive pronoun is either case-marked with the genitive (16), or it occurs as part of a prepositional phrase, as illustrated in (17) with the preposition *od* ('of'):

(16) *... jedino* *me* *je* *strah* *samoga* *sebe.*
only me.ACC.sing.cl. is fear alone.GEN.sing. self.GEN.sing.
'… I'm only afraid of myself.'

(17) *Svaki put kada prijeđem most,* *strah* *me* *je* *od* *sebe* *samog…*
every time when I cross a bridge, fear me.ACC.sing.cl. is of self.GEN. alone.GEN.sing.
'Every time I cross a bridge, I'm afraid of myself...'

It is worth noting that *sebe* 'self' is almost always accompanied by the intensifier *sam* 'alone'. There is only one example of *sebe* (with *biti strah* 'be afraid') with an accusative Experiencer antecedent, that it is not preceded or followed by *sam* 'alone'.

With the predicate *biti sram* ('be ashamed'), we found eleven examples in which *sebe* 'self' is bound by an accusative Experiencer. Again, the pronoun *sebe* 'self' is in most cases preceded or followed by the intensifier *sam* 'alone', although there are also two examples without the intensifier. With the predicate *biti briga* 'care for', we found seven examples. All instances of the reflexive pronoun are found within a prepositional phrase headed by the preposition *za* 'for'. In four examples, *sebe* 'self' is accompanied by the intensifier *sam* 'alone'. With the predicate *biti sramota* 'be ashamed', we found four examples, and with the predicate *biti stid* 'be embarrassed', we found three examples in which the accusative Experiencer is antecedent of the reflexive *sebe* 'self'.

8. Preliminary findings for Dative and Accusative Experiencers with verbal predicates

The binding properties of psychological verbs with dative and accusative Experiencers have not been exhaustively investigated. Our research on dative and accusative antecedents in the verbal context is only a small preliminary study. Taking into account the observations made in Batinić Angster (2020) that Croatian dative and accusative Experiencers cannot bind a possessive reflexive in the nominative Stimulus, and following Bondaruk (2020) and Witkoś and Łęska (2020), who provide evidence that in Polish a reflexive inside a Stimulus can be bound by a dative Experiencer of a psychological predicate when the reflexive is not in the nominative case, we attempted to construct similar syntactic environments for corpus searches to test the same pattern in Croatian.

We examined six Croatian psychological verbs with dative Experiencer (*goditi* 'please', *gaditi se* 'nauseate, disgust', *sviđati se* 'like, appeal', *nedostajati* 'miss, lack', *faliti* 'lack, miss', *trebati* 'need') and three with accusative Experiencer (*brinuti* 'take care', *radovati* 'make happy, please', *uzrujavati* 'upset') to determine whether they can bind a reflexive. We investigated only the binding of the possessive reflexive *svoj* 'self's'. In the two corpora, we found only 22 examples for all the verbs mentioned above in which a dative Experiencer binds the possessive reflexive.

In (18), there is an example in which Dative Experiencer functions as antecedent of reflexive possessive *svoj* 'self's' with reflexive verb *sviđati se* 'like, appeal to'. The dative Experiencer serves as antecedent for the genitive possessive reflexive *svog* 'self's.gen.' inside the nominative Stimulus argument. The possessive reflexive precedes the genitive NP *mišljenja* 'opinion' with which it agrees. The genitive phrase is a complement of the nominative NP *iznošenje* 'bringing out'.

(18) … *sviđa* *mi* *se* *iznošenje* *svog* *mišljenja*
likes.3.sing.pres. me.DAT. sing.cl. refl bringing-out. NOM.sing. self's. GEN.sing. opinion.GEN.sing.
na nacionalnoj TV.
on national.LOC.sing TV
'I like voicing my opinion on national TV.'

With accusative Experiencers, the results are far more limited. We found only two examples with the verb *radovati* 'make happy, please' in which accusative Experiencers serve as antecedent for a possessive reflexive *svoj* 'self's':

(19) *Raduje* *ih* *i* *objavljivanje* *svojih* *privatnih fotki.*
please.3.sing.pres. them.ACC.pl.cl. and publishing.NOM.sing. self's.GEN.pl private.GEN.pl. photos.GEN.pl.
'They also enjoy publishing their private photos.'

9. Conclusion

Our investigation of data from two Croatian corpora has shown that both dative and accusative Experiencers can serve as antecedents of the reflexives *svoj* 'self's' and *sebe* 'self' within psychological non-verbal constructions. The 44 examples of accusative Experiencers with the predicate *biti sram* 'to be ashamed of' and the 16 examples of dative Experiencers with the predicate *biti žao* 'be/feel sorry', serving as antecedents of the possessive reflexive *svoj* 'self's', cannot be regarded as mere coincidences. Some cases can certainly be interpreted as instances of binding. The 71 instances with the predicate *biti teško* 'be difficult', in which the possessive reflexive is embedded within the infinitival complement and depends for its interpretation on the dative Experiencer, should not be interpreted straightforwardly as syntactic binding. If the predicate *biti teško* 'be difficult' and the infinitive are shown to form a monoclausal structure, this would provide evidence for dative Experiencers functioning as binders of reflexives, but according to current available analysis (e.g. Batinić Angster, 2024), their binder is PRO. Theoretical approaches that do not assume empty categories as subjects of infinitives (PRO) would interpret the occurrence of reflexives within the infinitival complement as straightforward evidence that datives function as binders and display subject-like properties (see, for example, Gnjatović & Matasović, 2013). Examples involving the reflexive pronoun *sebe* 'self' are less numerous but more evenly distributed across predicates with dative and accusative arguments. It can be observed that the reflexive pronoun is very often accompanied by the intensifier *sam* 'alone', which either precedes or follows it. The data involving psychological verbs are used here only as a preliminary test to examine whether the Anaphor Agreement Effect (AAE) can also be obviated in Croatian. The results suggest that dative Experiencers with psych verbs can serve as antecedents of the possessive reflexive, whereas for verbs with accusative Experiencers, a broader range of verbs remains to be investigated. In Bondaruk (2020) and Witkoś & Łęska (2020), it is shown that Polish dative Experiencers with stative verbs and non-verbal predicates can bind anaphors, whereas accusative Experiencers with stative verbs cannot. With respect to the dative Experiencer, Croatian appears to be similar to Polish. However, for the accusative Experiencer, it is difficult to draw firm conclusions based on the limited data available in this paper, and in this respect Croatian is not comparable to Polish.

Our results do not agree with the conclusions in Kučanda (1998) and Belaj & Kučanda (2007), but are in accordance with Kuna (2008). At the same time, our results partially align with Batinić Angster (2020). We agree that dative and accusative NPs can serve as antecedents of reflexives when their thematic role is Experiencer. Unlike the observations reported in the same work, our data on non-verbal psychological predicates do not indicate that dative antecedents are more plausible than accusative ones. With respect to the distinction between

pronominal and R-expressions as antecedents, our results show a higher frequency of pronominal antecedents, contrary to Batinić Angster's findings for antecedents in verbal constructions. It is worth noting that *sebe* 'self' is often accompanied by *sam* 'alone, on one's own', either preceding or following it. In Batinić Angster (2020), the former construction is analysed as complex anaphora, which is object-oriented. When *sam* 'alone' follows the reflexive pronoun *sebe* 'self', *sam* 'alone' is considered as intensifier. Whether one treats the first word order as an instance of complex anaphora and the second as an instance of a reflexive pronoun combined with an intensifier, or treats both word orders as combinations of a reflexive pronoun and an intensifier, the overall picture remains the same. Instead, it is important to note that the combination of a reflexive *sebe* 'self' and *sam* 'alone' is more acceptable in constructions with potential antecedents than a bare reflexive pronoun, as observed in our data. Accusative NPs can function as binders in several additional contexts, as noted by Batinić Angster (2020), Mihaljević (1990), and Kuna (2008): as subjects of small clauses, as direct objects when preceded by the distributive quantifier *svaki* 'every', when they have a generic interpretation, and involve inalienable possession. Taken together, these findings suggest that there is no general ban on binding by accusative or dative arguments, but rather that the acceptability depends on the properties of the bindee (Bondaruk, 2020; Witkoś & Łęska, 2020). Further research should focus on a broader set of Object Experiencer Verbs and on the potential of their accusative Experiencers to function as binders. It should also examine additional constructions with dative arguments in order to assess their binding potential more generally.

Announcement

This work has been supported by the Croatian Science Foundation under the project *Semantic-Syntactic Classification of Croatian Verbs* (SEMTACTIC) (IP-2022-10-8074) and by the European Union – NextGenerationEU (*Croatian Verb Valencies – Verbion* and *Psychological predicates with dative and accusative Experiencer in Croatian*). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

References

Bañón, M., Esplà-Gomis, M., Forcada, M. L., García-Romero, C., Kuzman, T., Ljubešić, N., ... Zaragoza, J. (2022). Croatian web corpus MaCoCu-hr 1.0. *Slovenian language resource repository CLARIN.SI*. http://hdl.handle.net/11356/1516

Batinić Angster, M. (2020). *Rečenična anafora: Morfologija i sintaksa povratnih imenskih izraza u hrvatskom i talijanskom jeziku* [Sentential anaphora: Morphology and syntax of reflexive nominal expressions in Croatian and Italian]. Institut za hrvatski jezik i jezikoslovlje.

Batinić Angster, M. (2024). Monoclausal configurations with infinitives in Croatian. In M. Angster & M. Batinić Angster (Eds.), *The verbal kaleidoscope: Perspectives on the syntax and semantics of verbs*. University of Zadar.

Batinić Angster, M. (2026, in press). *Complex predicates: The case of Croatian Vfinite + Vnon-finite constructions*.

Belaj, B., & Kučanda, D. (2007). On the syntax, semantics and pragmatics of some subject-like NPs in Croatian. *Suvremena lingvistika*, *63*(1), 1–12.

Belletti A., & Rizzi, L. (1988). Psych-verbs and θ theory. *Natural Language and Linguistic Theory*, *6*, 291–352.

Birtić, M., & Brač, I. (2021). Basic characteristics and aspectual properties of the Croatian ObjExp Verbs. *Rasprave:* Časopis *Instituta za hrvatski jezik i jezikoslovlje*, *47*(2), 265–284. https://doi.org/10.31724/rihjj.47.2.1

Birtić, M., & Oraić Rabušić, I. (2013). Položaj zamjeničkoga pridjeva *sam* unutar povratnih konstrukcija [The position of the pronoun adjective *sam* in reflexive constructions]. *Rasprave:* Časopis *Instituta za hrvatski jezik i jezikoslovlje*, *39*(2), 345–358.

Birtić, M., & Runjaić, S. (2019). Sintaktičko-semantička podjela psiholoških glagola u hrvatskome jeziku [The syntacticosemantic classification of psychological verbs in the Croatian language]. *Filologija*, *73*, 1–25. http://doi.org/10.21857/mjrl3ux709

Bondaruk, A. (2020). The syntax of accusative and dative Experiencers in Polish. In B. Rozwadowska & A. Bondaruk (Eds.), *Beyond Emotions in Language: Psychological verbs at the interfaces* (pp. 141–205). John Benjamins. https://doi.org/10.1075/la.263.05bon

Chomsky, N. (1981). *Lectures on Government and Binding*. Dordrecht. Foris.

Chomsky, N. (1986). *Knowledge of Language: Its Nature, Origin, and Use*. Praeger.

Croft, W. (1993). Case marking and the semantics of mental verbs. In J. Pustejovsky (Ed.), *Semantics and Lexicon* (pp. 55–77). Kluwer Academic Publisher.

Despić, M. (2011). *Syntax in the Absence of Determiner Phrase* [Doctoral dissertation, University of Connecticut]. UConn Digital Commons. https://digitalcommons.lib.uconn.edu/dissertations/AAI3485260/

Gnjatović, T., & Matasović, R. (2013). Some observations on verbs with obligatory control in Croatian. *Rasprave: Časopis Instituta za hrvatski jezik i jezikoslovlje*, *39*(2), 405–422.

Kučanda, D. (1998). Is dative subject a viable syntactic notion? *Suvremena lingvistika*, *24*(1/2), 3–16.

Kuna, B. (2008). O antecedentu povratno-posvojne zamjenice *svoj* u hrvatskom jeziku [On the antecedent of the reflexive possessive pronoun *svoj* in Croatian]. In M. Sarnowski & W. Wysoczański (Eds.), *Slavica Wratislaviensia CXLVII. Wyraz i zdanie w językach słowiańskich: Opis, konfrontacja, przekład* [Words and Sentences in Slavic Languages: Description, Comparison, Translation] (pp. 199–208). Wydawnictwo Uniwersytetu Wrocławskiego.

Ljubešić, N., & Klubička, F. (2016). Croatian web corpus hrWaC 2.1. *Slovenian language resource repository CLARIN.SI*. http://hdl.handle.net/11356/1064

Mihaljević, M. (1990). Upotreba povratnoposvojne zamjenice *svoj* u hrvatskom ili srpskom jeziku [The use of the reflexive possessive pronoun *svoj* in Croatian or Serbian]. In G. Holzer (Ed.), *Croatica. Slavica. Indoeuropaea: Wiener Slavistiches Jahrbuch*. *VIII.* (pp. 145–156).

Rizzi, L. (1990). On the anaphor-agreement effect. *Rivista di Linguistica*, *2*, 27–42.

Witkoś, J., & Łęska, P. (2020). Dative antecedents for reflexives and pronouns. *Acta Linguistica Academica*, *67*(3), 261–318. https://doi.org/10.1556/2062.2020.00014