

# **Fine-tuning (in)definiteness in the absence of articles**

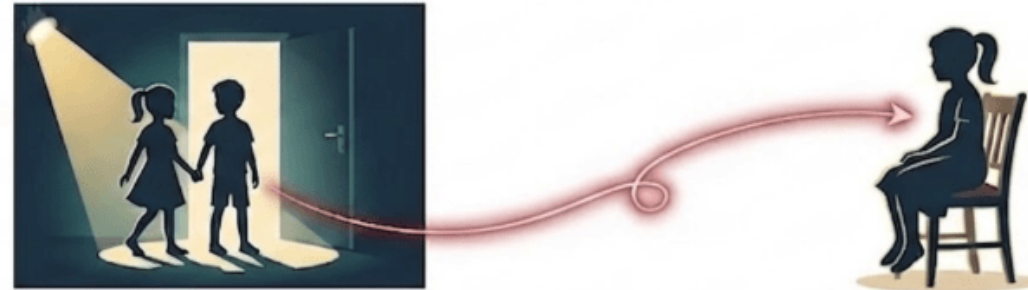
**Experimental investigation of Russian**

Dissertation defense

Daria Bikina, Harvard University

April 22, 2026

In languages with articles, morphology marks when an individual is introduced into the discourse vs. when it is referred back to.



A boy and **a girl** entered the room.      **The girl** sat down.

In languages without articles, the *bare* noun is used in both cases.

Mal'čik i **devočka** zašli v komnatu. **Devočka** sela.  
boy and girl entered in room girl sat.down

Natural assumption:

In the absence of articles, bare nouns are ambiguous between definite and indefinite

But the picture is more nuanced

# Problem 1: Indefinite not always available



A boy and a **girl** entered the room.

Mal'čik i **devočka** zašli v komnatu.

boy and girl entered in room

A **girl** sat down.

\***(Drugaja) devočka** sela.

another girl sat.down

The use of the bare noun does not seem to be completely unrestricted

# Problem 2: Word order

preverbal bare noun can  
only be definite  
(anaphoric)

a. *Devočka* vošla v dom.

girl entered in house

'The girl entered the house.'

b. V dom vošla *devočka*.

in house entered girl

'The / A girl entered the house.'

postverbal bare noun  
can be either definite  
or indefinite

(Geist 2010)

Bare nouns do not seem to shift between definite and indefinite interpretations freely.

## **What drives these restrictions?**

*This dissertation decomposes (in)definiteness into measurable parameters and probes their influence on nominal interpretation through controlled behavioral experiments.*

# What would it mean to be ambiguous when there is no article?

Nouns start as predicates  $\langle e, t \rangle$  and need to be turned into arguments

Definite:  $\langle e, t \rangle \longrightarrow e$

$\llbracket \text{the girl} \rrbracket = \iota x.\text{girl}(x)$

*iota* returns the unique maximal entity satisfying a predicate, if such an entity exists

Indefinite:  $\langle e, t \rangle \longrightarrow \langle \langle e, t \rangle, t \rangle$

$\llbracket \text{a girl} \rrbracket = \exists x.\text{girl}(x)$

$\exists$  asserts the existence of at least one entity satisfying the predicate of the noun

Kind:  $\langle e, t \rangle \longrightarrow e$

$\llbracket \text{girls} \rrbracket = \bigcap \text{girl}$

# Theoretical landscape

## Full Ambiguity

Bare nouns shift freely to *iota*,  $\exists$ , or kind.

$$\{\iota, \exists, \cap\}$$

[Krifka 2003; Liu et al. 2023; LeBruyn et al. 2025]

## Indefinite-Based

Bare nouns are always  $\exists$ . Definite readings arise through pragmatic strengthening.

$$\{\exists\}$$

[Heim 2011; Šimík 2019, Šimík & Demian 2020, Seres & Borik 2021, among others]

## Information-Structure Restricted

Bare nouns are *iota* when topical and ambiguous between *iota* and  $\exists$  otherwise.

$$\begin{array}{l} \text{topic: } \{\iota\}, \\ \text{non-topic: } \{\exists, \iota\} \end{array}$$

[Geist 2010; developed for singulars]

## Neo-Carlsonian (Kind-Based)

Bare singulars are *iota* expressions, bare plurals are ambiguous between *iota* and kind.

$$\{\iota, \cap\} > \exists$$

[Carlson 1989; Chierchia 1998; Dayal 2004, among others]

# Three diagnostics of (in)definiteness

1

**Uniqueness**

Definite expressions require the existence of a unique referent in the relevant domain

2

**Maximality (the plural counterpart of uniqueness)**

Definite plurals refer to the maximal plural entity in the relevant domain

3

**Anaphoric potential**

Definite expressions refer back to already introduced referents; indefinite expressions introduce novel referents.

# Preview of the dissertation and its results

1. The puzzle

2. Uniqueness and its mirrors →

Russian bare singulars systematically prefer a unique referent across syntactic configurations, which aligns them with definites.

3. Bare plurals and maximality →

Both Russian and English bare plurals tend to be interpreted maximally, but an unexpected subject/object asymmetry suggest the two languages achieve this through different mechanisms.

4. Anaphoric potential of bare plurals →

Russian bare plurals have access to anaphoric interpretations in a way that distinguishes them from overt indefinites, but this access is highly context-sensitive, which suggests that they are underspecified for novelty/familiarity.

5. Conclusions and open questions

## Chapter 2

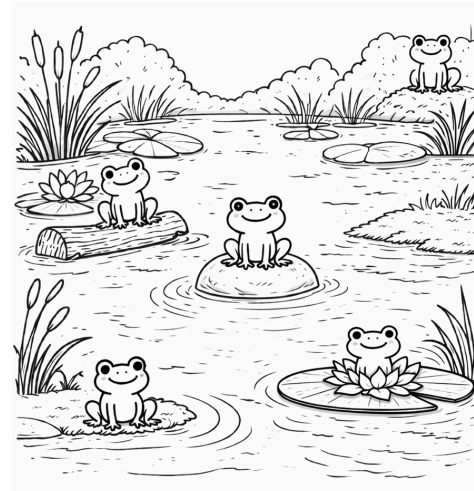
### *Uniqueness and its mirrors*

A series of acceptability-judgment studies  
probing bare singulars for uniqueness

# Uniqueness and definiteness



- ✓ *The frog is sitting on a lily pad.*
- ✓ *A frog is sitting on a lily pad.*



- ✗ *The frog is sitting on a lily pad.*
- ✓ *A frog is sitting on a lily pad.*

What happens in a language without articles?

# Predictions about uniqueness

## Full Ambiguity

Bare nouns shift freely to *iota*,  $\exists$ , or kind.

*Bare singulars are not sensitive to uniqueness manipulation.*

## Indefinite-Based

Bare nouns are always  $\exists$ . Definite readings arise through pragmatic strengthening.

*Bare singulars are not sensitive to uniqueness manipulation.*

## Information-Structure Restricted

Bare nouns are *iota* when topical and ambiguous between *iota* and  $\exists$  otherwise.

*Topical bare singulars should be sensitive to uniqueness manipulation; others don't have to.*

## Neo-Carlsonian (Kind-Based)

Bare singulars are *iota* expressions, bare plurals are ambiguous between *iota* and kind.

*Bare singulars must be sensitive to uniqueness manipulation.*

# The experimental flow: progressive refinement

Experiment 1



A baseline study confirming that if the referent of a subject NP is familiar, the direct word order (preverbal subject) is preferred, and vice versa (Geist 2010; Slioussar 2007, Šimik&Wierzba 2017, Titov 2017)

Strategy:

Use the word order as a controlled cue to familiarity in the investigation of uniqueness

SV = more likely to be familiar

VS = more likely to be novel

Experiment 2A



Uniqueness manipulation in familiar + preverbal subject NPs

Experiment 2B



Uniqueness manipulation in non-familiar + postverbal subject NPs

Experiment 3



Follow-up study that also fixes potential domain restriction

## Do bare singulars show sensitivity to uniqueness when familiarity is held constant?

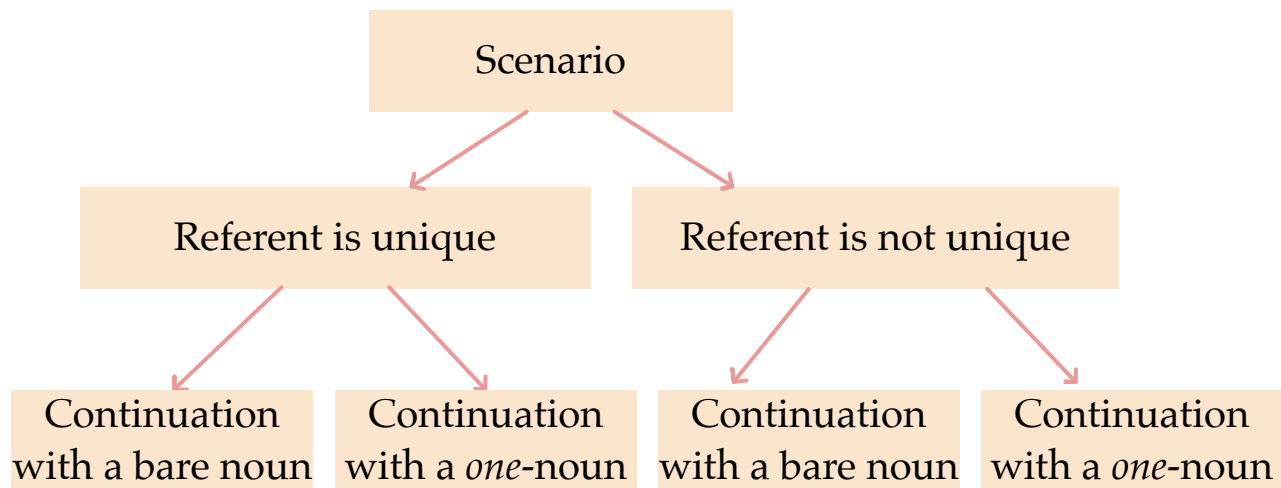
Experiment 2A:

Uniqueness when  
familiarity is supported  
by the context +  
word order is SV

Experiment 2B:

Uniqueness when  
familiarity is suppressed  
by the context +  
word order is VS

2X2 Acceptability-judgment tasks with joint presentation of bare singulars and singulars modified by *odin* 'one'



options were presented in audio format with neutral prosody (IK-1, Bryzgunova 1980)

У Маши и Андрея есть два хомячка, Буся и Пятачок. Они живут в клетке в гостиной. Как-то раз Маша и Андрей сидели за ужином. Маша пошла в комнату достать салфетки и увидела, что Пятачок сидит в клетке один, а Буси нет в клетке и дверь в клетку открыта. Маша вскрикнула.

Андрей спрашивает из кухни:  
- Что такое?

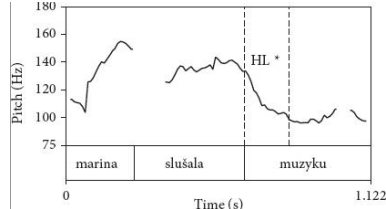
Насколько подходяще звучит каждый из этих ответов Вари в данной ситуации?

- ▶ 0:00 | 0:01
- ▶ 0:00 | 0:01

Совсем неподходящий ответ Отлично подходит как ответ на этот вопрос

Аудио 1

Аудио 2



An example of IK-1 intonation contour from Jasinskaja (2014)

# Experiment 2A: Familiar + Preverbal

+ Uniqueness

Masha and Andrey have a hamster named Pyatachok. He lives in a cage in the living room. One time, Masha and Andrey were sitting at dinner. Masha went into the room to get some napkins and saw that Pyatachok was not in his cage and the cage door was open. Masha screamed. Andrey calls from the kitchen: What happened?



How appropriate is each of these potential answers?

**Xomjak** sbežal iz kletki. *bare noun*

hamster ran from cage

**Odin xomjak** sbežal iz kletki. *one-noun*

one hamster ran from cage

# Experiment 2A: Familiar + Preverbal

- Uniqueness

Masha and Andrey have two hamsters, Busya and Pyatachok. They live in a cage

in the living room. One time, Masha and Andrey were sitting at dinner. Masha went into the room to get some napkins and saw that Pyatachok was sitting alone in the cage, and Busya was not in the cage and the door was open. Masha screamed.

Andrey calls from the kitchen: What happened?



How appropriate is each of these potential answers?

**Xomjak** sbežal iz kletki. *bare noun*

hamster ran from cage

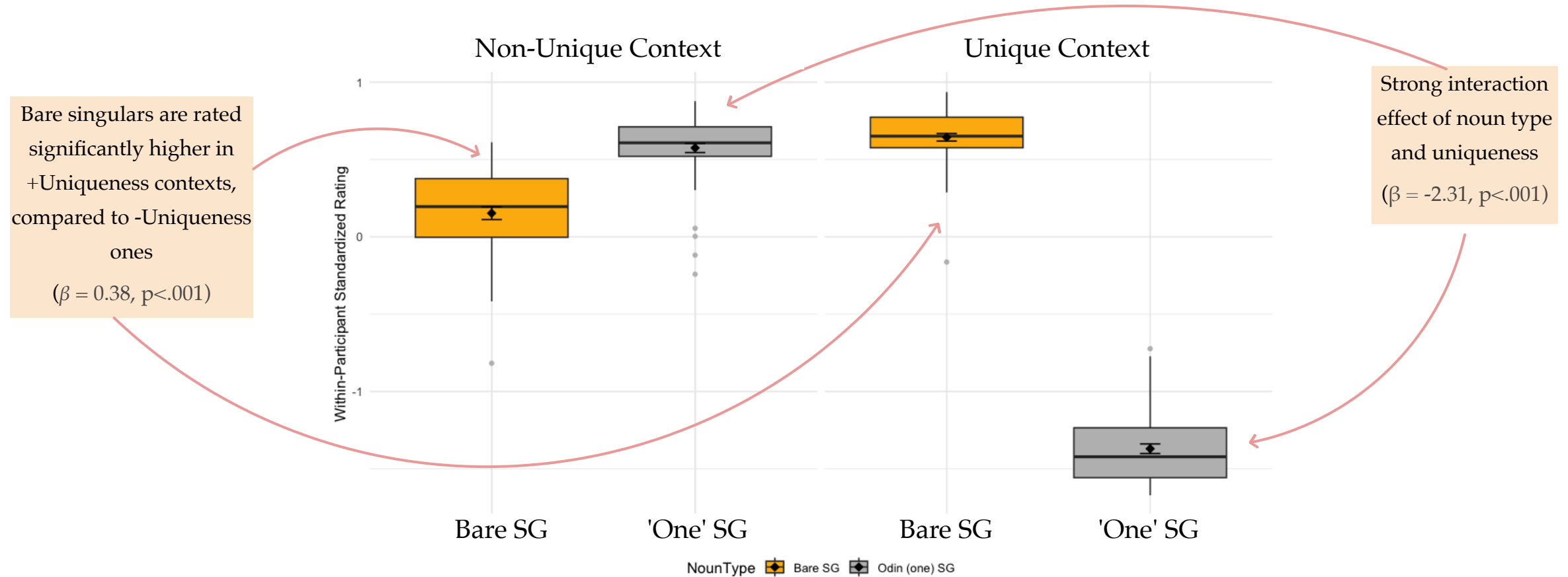
**Odin xomjak** sbežal iz kletki. *one-noun*

one hamster ran from cage

16 experimental contexts were prepared (8 pairs of ±Uniqueness)

# Experiment 2A results:

## Clear uniqueness effect when familiarity is supported



*When the referent of the subject NP is familiar and that subject NP is preverbal, a uniqueness interpretation is preferred.*



# Experiment 2B: Non-Familiar + Postverbal

- Uniqueness

Mom is watching the news. Today's segment is about a zoo in a small town. The story reports that this morning an employee came to feed two raccoons and found that the cage was open and one of the raccoons had disappeared. The other one was still asleep in its little house.

Dad asks: *What did they say on the news?*



How appropriate is each of these potential answers?

Iz odnogo zooparka sbežal **enot**. *bare noun*

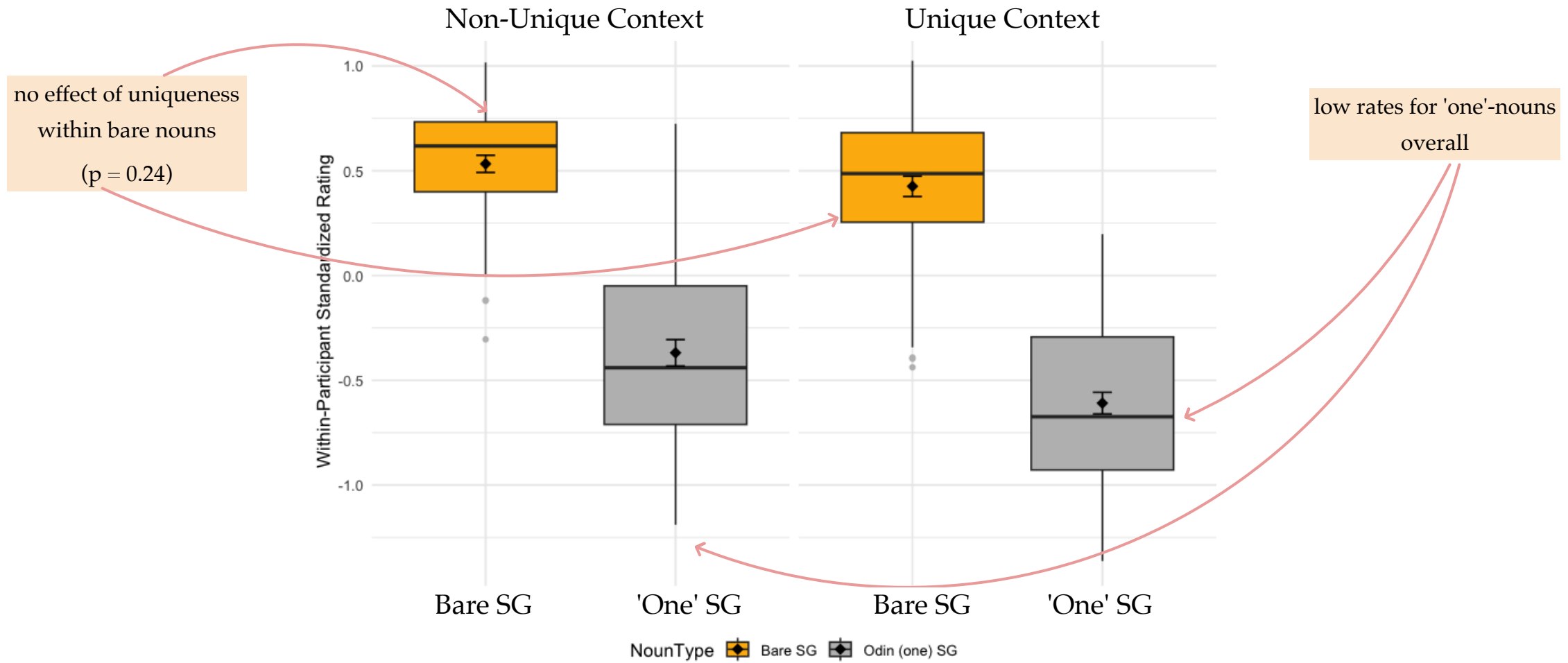
from one zoo ran raccoon

Iz odnogo zooparka sbežal **odin enot**. *one-noun*

from one zoo ran one raccoon

# Experiment 2B results:

## No sensitivity to uniqueness



*Stimuli with postverbal subject NPs with non-familiar referents were equally acceptable no matter whether the referent was unique or not.*

*LMER: Rate ~ Uniqueness \* NounType + (1 | ResponseId) + (1 | Item)*

## Interim summary

- When familiarity is supported by the context and the bare singular subject is preverbal, **non-uniqueness of the referent reduces acceptability**
- When familiarity is suppressed by the context and the bare singular subject is postverbal **non-uniqueness of the referent does not reduce acceptability**

Why the difference between the two configurations?

## Postverbal position and domain restriction

- Uniqueness is always evaluated relative to a relevant domain
- Perhaps, the combination of the QUD (*What did they say on the news?*) and the postverbal position restricted the domain to a singleton

$$\llbracket \text{raccoon} \rrbracket_s = \{\text{Boris, Gennady}\}$$

$$D_C = \{\text{Boris}\}$$

$$\llbracket \text{raccoon} \rrbracket_s \cap D_C = \{\text{Boris, Gennady}\} \cap \{\text{Boris}\} = \{\text{Boris}\}$$

$$|\llbracket \text{raccoon} \rrbracket \cap D_C| = 1$$



# The ultimate test: Blocking domain restriction

- A presentational context with incompatible predicates makes the domain restriction impossible

*What do you see outside?*

#The dog is sleeping and the dog is running around.

A dog is sleeping and a dog is running around.

*(Dayal 2004)*

# *Sobaka spit i sobaka begaet po krugu.*

dog sleeps and dog runs in circles

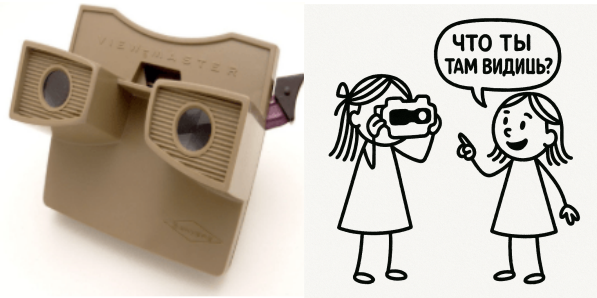
#'The dog is sleeping and the dog is running around.'

*(Soloveva et al., in press.)*

No systematic data about postverbal bare singulars yet

## Experiment 3: Blocking domain restriction

Are bare singulars sensitive to uniqueness manipulation if they are (i) postverbal, (ii) non-familiar, and (iii) the domain restriction is blocked?



+ Unique

Liza looks into the toy and sees a dog and a bunny.

Masha asks: What do you see there?

*Na kartinke spit **sobačka** i begaet po krugu zajčik.*

in picture sleeps dog and runs in circles bunny

*bare + postverbal*

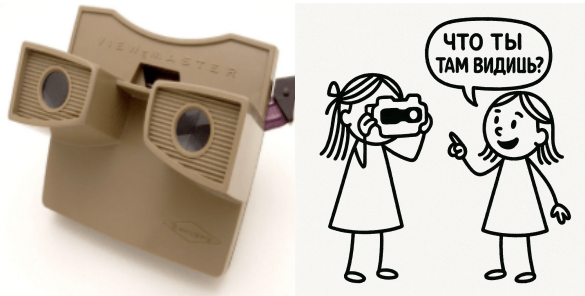
*Na kartinke odna **sobačka** spit i odin zajčik begaet po krugu.*

in picture one dog sleeps and one bunny runs in circles

*odin + preverbal; "control"*

## Experiment 3: Blocking domain restriction

Are bare singulars sensitive to uniqueness manipulation if they are (i) postverbal, (ii) non-familiar, and (iii) the domain restriction is blocked?



- Unique

Liza looks into the toy and sees two dogs.

Masha asks: What do you see there?

*Na kartinke spit **sobačka** i begaet po krugu **sobačka**.*

*in picture sleeps dog and runs in circles dog*

*bare + postverbal*

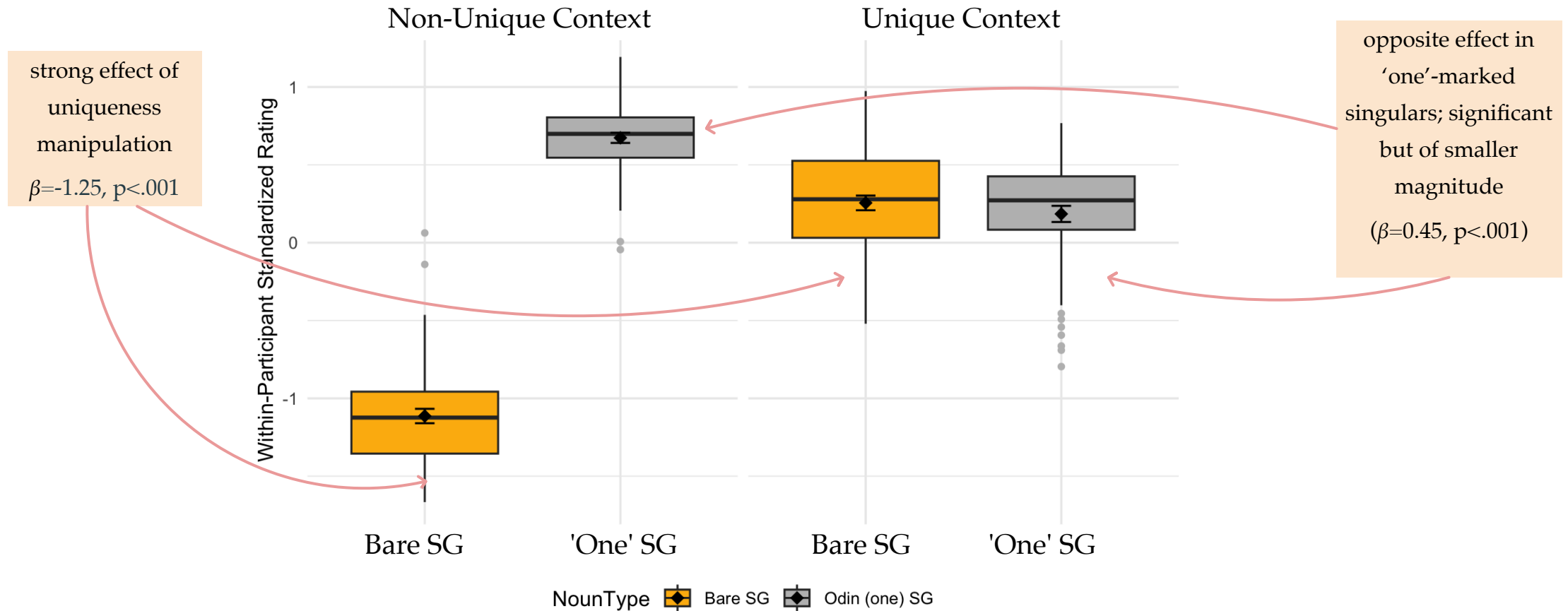
*Na kartinke odna **sobačka** spit i odna **sobačka** begaet po krugu.*

*in picture one dog sleeps and one dog runs in circles*

*odin + preverbal; "control"*

# Experiment 3 results:

The uniqueness effect reappears in postverbal NPs  
if domain restriction is blocked



# Conclusions from Chapter 2

## **1. Bare singulars show systematic sensitivity to uniqueness**

Across experiments, bare singulars are penalized when the context forces reference to more than one equally salient individual, provided that trivial satisfaction of uniqueness through domain restriction is blocked.

## **2. Apparent counterexamples are not enough evidence for existential meaning**

Postverbal configurations and information structure can restrict the domain of interpretation so that uniqueness is satisfied vacuously

# Conclusions from Chapter 2

## Full Ambiguity

Our data do not support a fully flexible ambiguity account: otherwise there is no explanation for the sensitivity to uniqueness.

## Indefinite-Based

Not supported: we see no genuine existential behavior, unless we build additional cardinality restrictions on top of the existential quantifier.

## Information-Structure restricted

Since this approach allows both *iota* and existential readings in non-topical environments, and we tested non-topical environments, our data does not rule out this approach.

## Neo-Carlsonian Approach

Bare singulars are predicted to be *iota* expressions; the behavior we observed is compatible with this analysis.

# Downward-entailing environments and number contrasts

- So far, two analyses are possible for bare singulars
- They can be *iota*-expressions exempt from Novelty-Familiarity (Dayal, in press)
- Or they can be existentials over a domain restricted to a singleton
- **Preliminary evidence in favor of the former approach**

?*Na trave ne sidit sobaka.*

on grass NEG sits dog

- a. 'A (particular) dog is not sitting on the grass.'
- b. '\*There is no dog sitting on the grass.'
- c. '\*There is a dog such that it is not sitting on the grass.'

(Dayal, in press)

*Na trave ne sidjat sobaki.*

on grass NEG sit dogs

- a. 'The dogs are not sitting on the grass.'
- b. 'There are no dogs sitting on the grass.'
- c. '\*There some dogs such that they are not sitting on the grass.'

(Dayal, in press)

## Chapter 3

### *Bare plurals and Maximality in episodic contexts*

Helen bought a car. **The wheels** needed to be replaced

↪ all the four wheels need to be changed

Helen bought a car. **Some wheels** needed to be replaced.

↯ all the four wheels need to be changed

*(Dayal, in press)*

Do bare plurals require maximality, like definites, or are they compatible with non-maximal interpretations?

Experiment 4 investigates maximality in preverbal bare plural subjects in Russian vs. definite and bare plural subjects in English

Smaller-scale dataset with judgments about bare plural objects in Russian and definite vs. bare plural objects in English

# Two families of approaches

## Accounts involving $\exists$ -quantification

*Bare plurals are predicted to not be sensitive to maximality manipulation*

Episodic bare plurals involve existential quantification, either over instantiations of a kind through Derived Kind Predication (Chierchia 1998) or straightforwardly over individuals (Seres et al. 2019, Seres 2020)

## Accounts claiming maximality in bare plurals

*Bare plurals are predicted to be sensitive to maximality manipulation*

Maximality is encoded explicitly into the denotation of bare plurals: either through a modification to Derived Kind Predication (Dayal 2013), or through a covert definite analysis (Berulava & Mayr 2024)

# Experiment 4: Maximality in plural subject NPs

- Russian bare plurals vs. English bare plurals vs. English definite plurals
- Maximal vs. non-maximal contexts (pictures)
- 12 experimental pictures
- 24 participants in the Russian task,  
42 participants in the English task

*+Maximal*



Ellie says:  
**"Girls are playing the violin."**

Not natural at all

Perfectly natural

How natural does her response sound to you?



*-Maximal*



Ellie says:  
**"Girls are playing the violin."**

Not natural at all

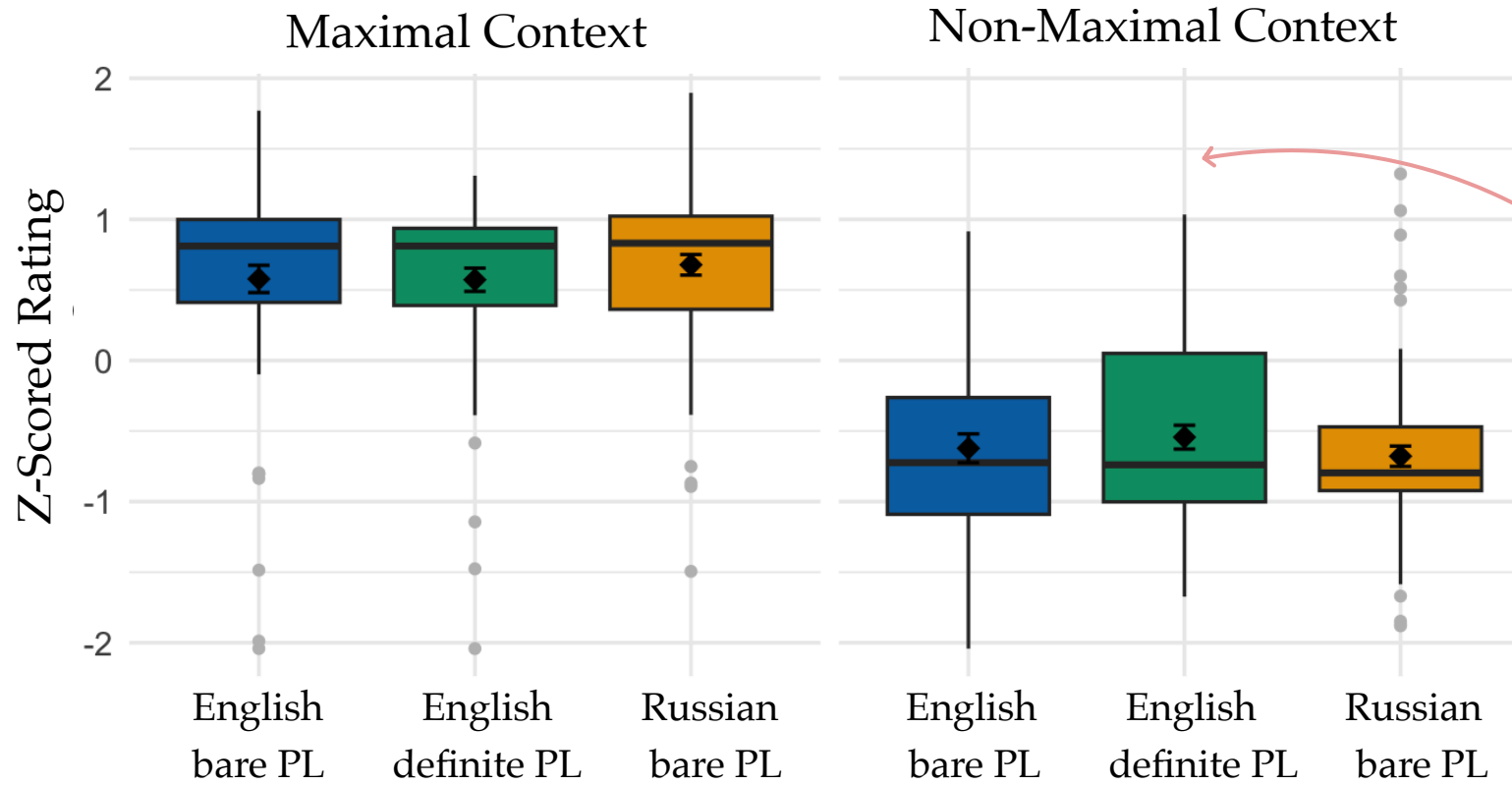
Perfectly natural

How natural does her response sound to you?



# Experiment 4 Results

Both English and Russian bare plurals demonstrated a tendency towards maximal interpretation, comparable to English definite plurals

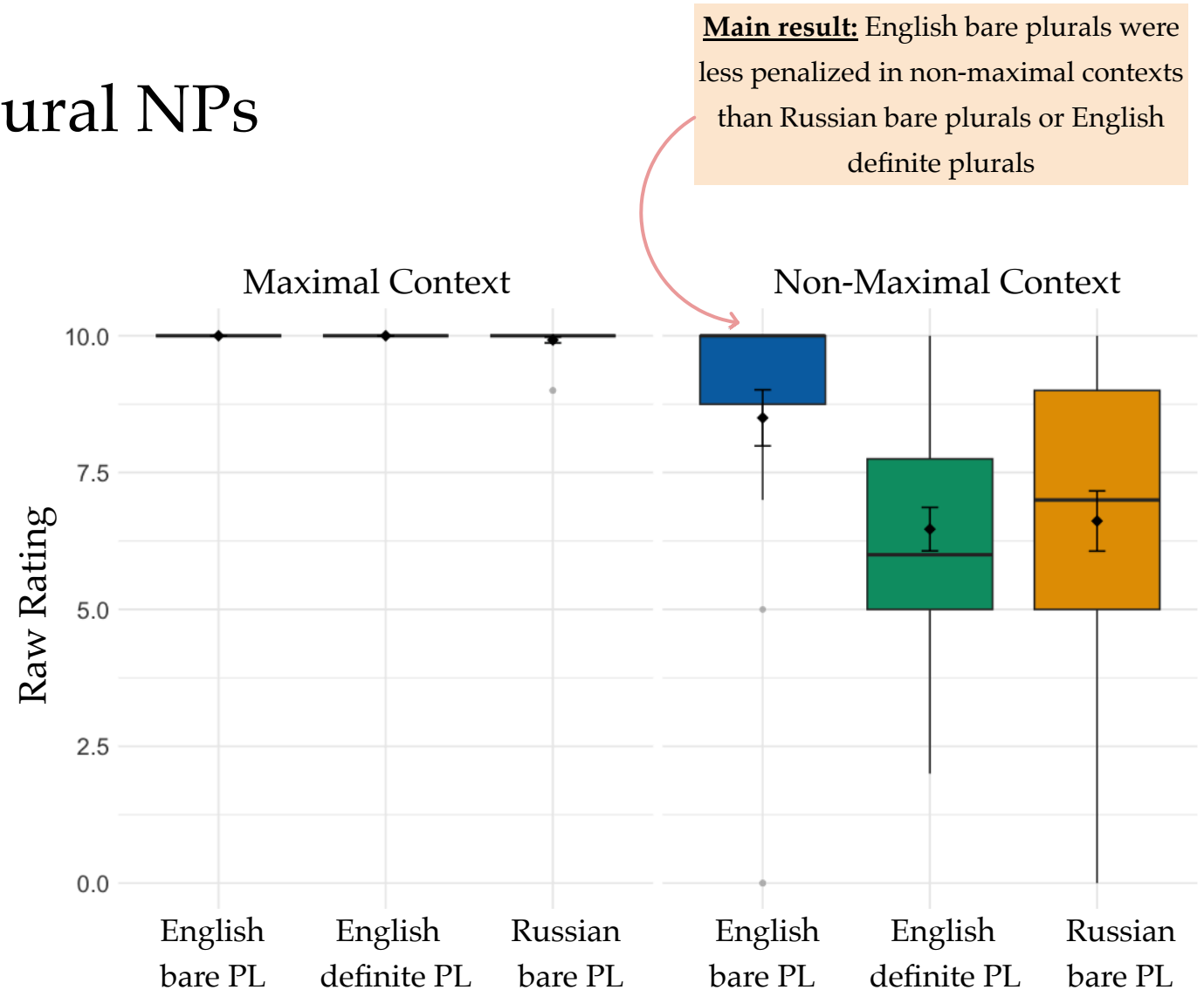
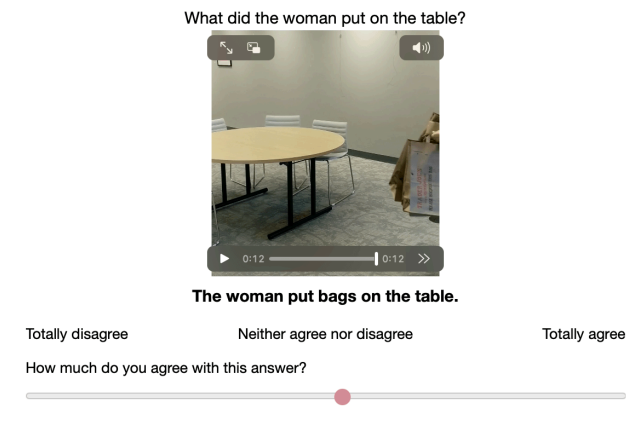


And were penalized in non-maximal contexts in a similar way

*Preverbal bare plurals in Russian and English are as sensitive to maximality manipulation as English definite plurals are.*

# Object dataset: Object plural NPs

- Preliminary data were collected for object NPs in a task with a similar design (with videos instead of pictures)
- Smaller-scale: 2 items, 60 participants in English and 27 in Russian



## Conclusions from Chapter 3

- An adequate account of bare plurals must account for maximality
- This can be achieved through DKP + maximization (Dayal 2013), a pragmatic mechanism over DKP (Chierchia 2022), or a weak definite analysis (Berulava & Mayr 2024)
- The subject/object asymmetry suggests that Russian bare plurals in the tested contexts might have had a different construal blocked in English

## Chapter 4

### *Anaphoric potential of bare plurals*

Some children came in. \***Children** sat down.

(Dayal 2013)

*Kakie-to deti zašli. **Deti** seli za stol.*

which-INDEF children entered children sat at table

'Some children entered. The children sat at the table.'

Blocking Principle (Chierchia 1998)

*Don't do covertly what you can do overtly*

For any type shifting operation  $\tau$  and any  $X$ :

$^*\tau(X)$ ,

if there is a determiner  $D$  such that for any set  $X$  in its domain,

$D(X) = \tau(X)$

Prediction:

English definite plurals should insist on the anaphoric interpretation,  
even if the context biases against it;

English bare plurals should resist anaphoric construals, even if we bias  
the context towards them;

Russian bare plurals should be compatible with anaphoric construals

## Experiment 5A:

Contexts biased towards anaphoricity

Ethan ordered plates and cups online. When the delivery arrived, he put the stuff in the kitchen. Later, he washed plates.

Choose which best matches the context:

- Ethan washed the plates he ordered.
- Ethan washed other plates he had in the kitchen.

## Experiment 5B:

Contexts biased against anaphoricity

Ethan ordered plates and cups online. When the delivery arrived, he opened the packages in the kitchen. Later that evening, his grandma was cleaning up after dinner and noticed some dishes in the sink. She washed plates.

Choose which best matches the context:

- Ethan's grandma washed other plates
- Ethan's grandma washed the same plates Ethan had ordered.

Three pairwise comparisons:

- English bare plurals vs. English definite plurals
- English bare plurals vs. English *some*-plurals
- Russian bare plurals vs. Russian plurals with *to*-pronouns

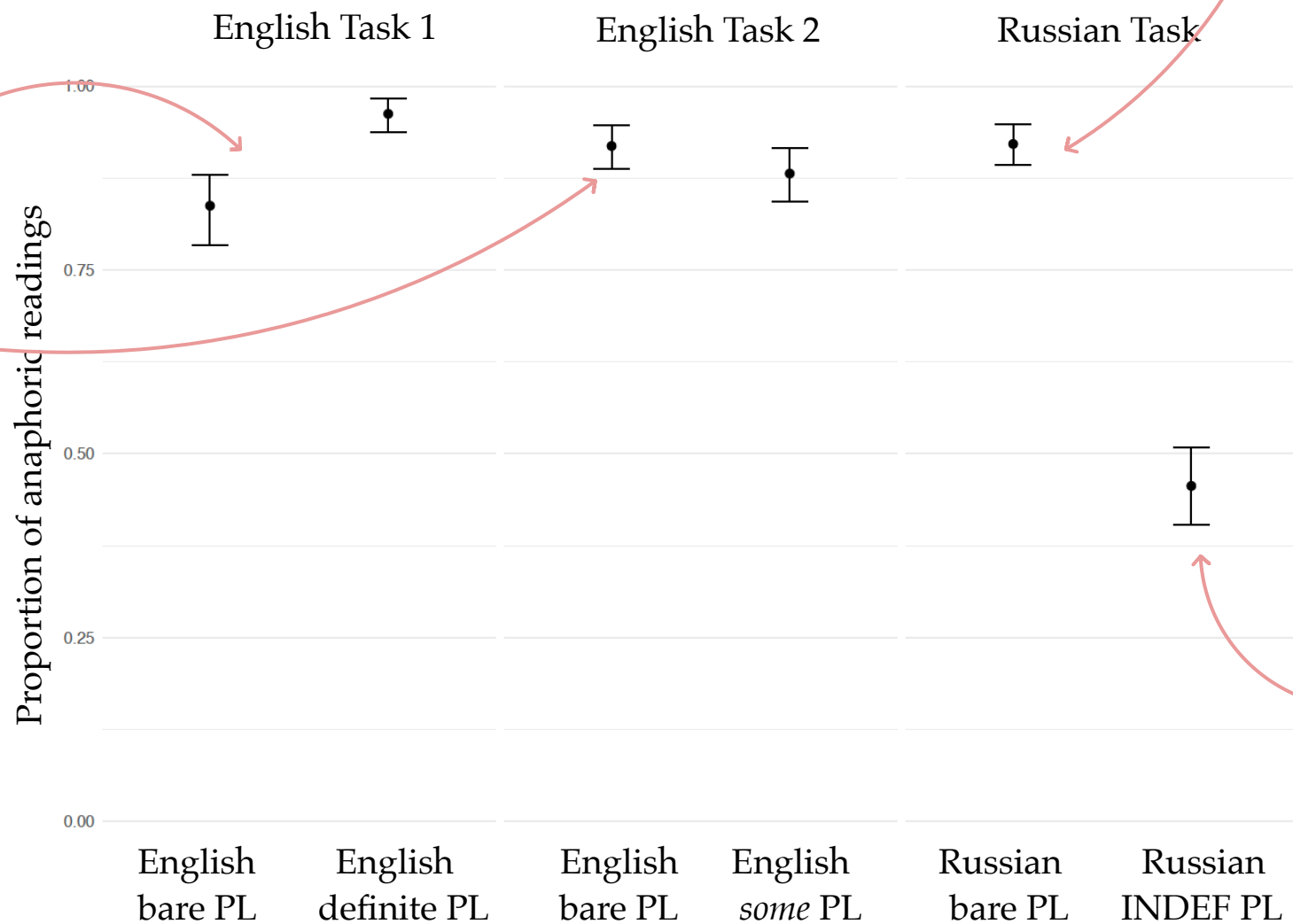
(within each pairwise task)

# Experiment 5A: main results

Contexts biased towards anaphoricity

English bare plurals showed significantly lower anaphoric rates when contrasted with definite plurals, cf. when contrasted with *some*

Russian bare plurals support the anaphoric construal

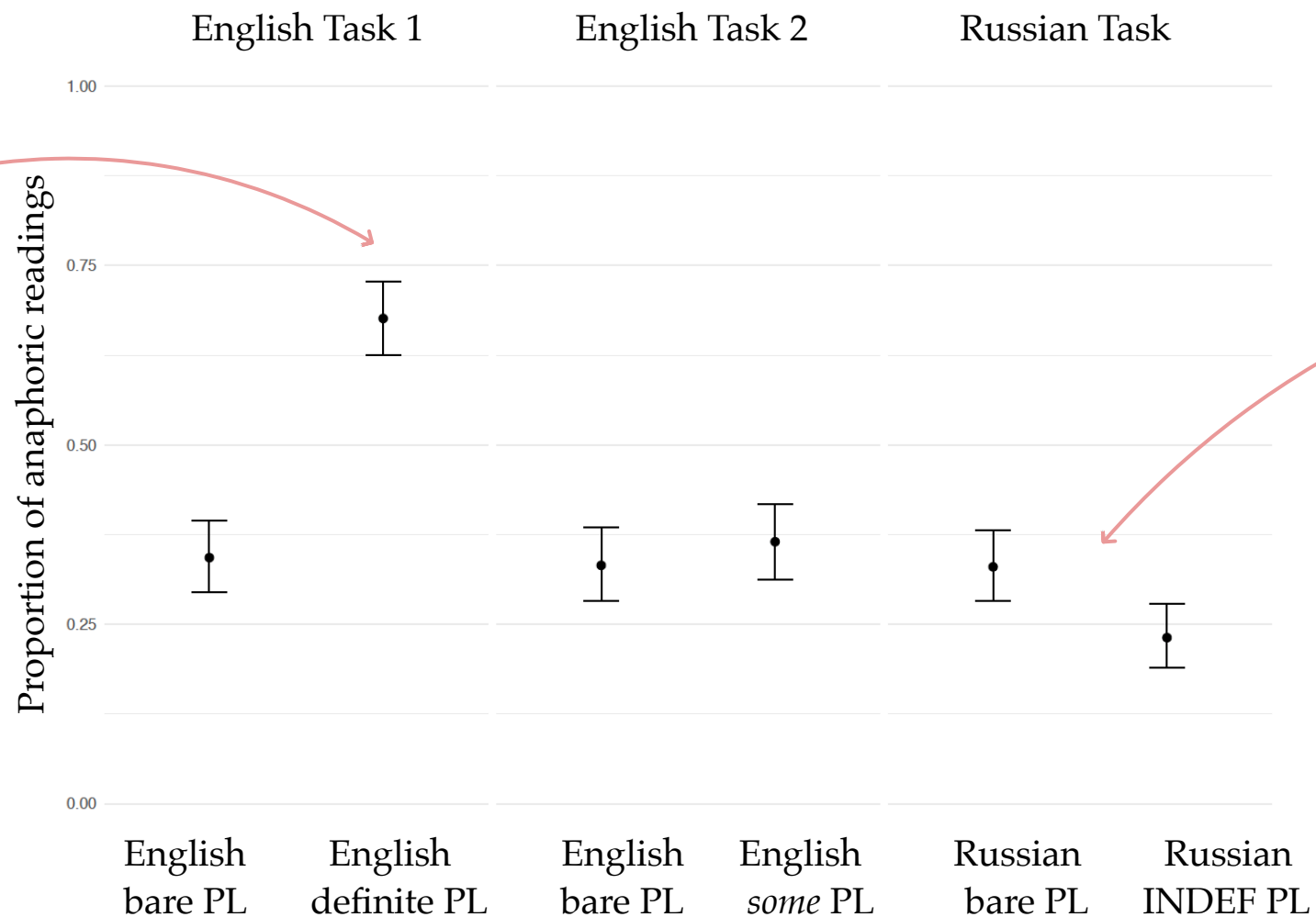


Russian plurals modified by the indefinite pronoun (*kakie-to*) resist the anaphoric construal

(within each pairwise task)

# Experiment 5B: main results

Contexts biased against anaphoricity



Only English definite plurals resisted a non-anaphoric construal

Russian bare plurals still demonstrated higher anaphoric rates than Russian plurals modified by the indefinite pronoun (*kakie-to*) resist the anaphoric construal; this suggests the latter involve an ignorance implicature (Degano & Aloni 2025)

## Conclusions from Chapter 4

- Russian bare plurals are not grammatically anaphoric but genuinely underspecified for anaphoricity
- The Blocking Principle should be understood as preferential rather than categorical

# Anaphoric potential of bare singulars

- The neo-Carlsonian analysis suggests that bare plurals in Russian are ambiguous between definite and kind
- Bare singulars must realize through *iota*
- If that is true, bare singulars must be stronger in terms of anaphoricity than bare plurals
- Elicitation supports this, but no controlled experimentation has been run yet

# Chapter 5

*Conclusions and open questions*

# Cross-chapter synthesis

1

## **Uniqueness**

Bare singulars require uniqueness, but domain restriction can mask it. This makes them definite-like rather than existential-like, unless further restrictions on existential semantics are imposed.

2

## **Maximality**

Bare plurals in a system without articles are strongly maximal

3

## **Anaphoric potential**

Bare plurals in a system without articles are underspecified for in terms of anaphoricity.

*This dissertation provides quantitative evidence from controlled experimentation to support these points.*

# What Russian bare nouns are and aren't

- The results demonstrate that the standard existential analysis of bare arguments (Seres et al. 2019, Seres 2020, Seres & Borik 2021) requires additional modifications in order to be applicable
- At least uniqueness and maximality must be implemented into the analysis
- A simpler solution goes along the way of Dayal (in press): bare arguments are realized through an *iota*-like operator or kind formation, but exempt from the Novelty-Familiarity condition (Heim 1982) due to the absence of overt (in)definiteness morphology

# Limitation and a future direction: syntax-semantics interface

- I adopt the idea that Russian bare arguments generally project up to the DP level (Pereltsvaig 2006, Lyutikova 2018)
- The presence of D is visible from elements like demonstratives or possessives that yield definite-like (maximal) readings when placed above NumP but not when below it
- I hypothesize that the D-zone in Russian hosts a variable null operator that embodies the Meaning Preservation Hierarchy (Dayal 2004), ranges over *iota* and kind formation, and is subject to Blocking (Chierchia 1998)

$$ARG = \begin{cases} \iota x. P(x) \\ \lambda P. \hat{P} \end{cases}$$

- The exact mechanics and syntax are subject to future research

# Take away

This dissertation provides empirical evidence about how different dimensions of (in)definiteness show up in systems without articles

In languages like that, bare nouns are not standard existential quantifiers, but they are also not simply covert definites.

- In episodic contexts, they are sensitive to uniqueness / maximality, which aligns them with definites.
- With respect to anaphoricity, bare nouns demonstrate flexible behavior, unlike overt definites / indefinites.
- A modified neo-Carlsonian approach (Dayal, in press), where iota and kind are privileged + there is an exemption from Novelty / Familiarity, provides a promising explanation, as it accounts for scopal behavior, uniqueness / maximality, and the contrast between singulars and plurals.

# Thank you!



Meaning & Modality Linguistics Laboratory



WOLF Lab @ Harvard



*My family: my parents Julia and Alexander, my siblings Masha, Andrey, and Egor, my partner Daniel, and my large extended family, mostly in Moscow, but also in Omsk, Barcelona, Seoul, Antalya, São Paulo, and NYC.*