



Syntactic Structure of the Nominal Complex in Russian Sign Language

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Introduction, Russian Sign Language

- **122 000** speakers by 2010
- mostly in **Russian Federation**
- first school opened in **1806** in Pavlovsk
- possible relation to French Sign Language

Introduction, Universal 20

(Greenberg 1963) first definition:

"When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite"

Dem Num A N | N Dem Num A | N A Num Dem

Introduction, Universal 20

(Cinque 2005) definition - **14** orders out of **24**:

1. Dem Num A N: very many languages
2. Dem Num N A: many languages
3. Dem N Num A: very few languages
4. N Dem Num A: few languages
5. Num Dem A N: *
6. Num Dem N A: *
7. Num N Dem A: *
8. N Num Dem A: *
9. A Dem Num N: *
10. A Dem N Num: *
11. A N Dem Num: very few languages
12. N A Dem Num: few languages
13. Dem A Num N: *
14. Dem A N Num: very few languages
15. Dem N A Num: many languages
16. N Dem A Num: very few languages
17. Num A Dem N: *
18. Num A N Dem: very few languages
19. Num N A Dem: few languages
20. N Num A Dem: few languages
21. A Num Dem N: *
22. A Num N Dem: *
23. A N Num Dem: very few languages
24. N A Num Dem: very many languages

Introduction, Universal 20

(Cinque 2005) definition - **14** orders out of **24**:

1. Dem Num A N: very many languages
2. Dem Num N A: many languages
3. Dem N Num A: very few languages
4. N Dem Num A: few languages
5. Num Dem A N: *
6. Num Dem N A: *
7. Num N Dem A: *
8. N Num Dem A: *
9. A Dem Num N: *
10. A Dem N Num: *
11. A N Dem Num: very few languages
12. N A Dem Num: few languages
13. Dem A Num N: *
14. Dem A N Num: very few languages
15. Dem N A Num: many languages
16. N Dem A Num: very few languages
17. Num A Dem N: *
18. Num A N Dem: very few languages
19. Num N A Dem: few languages
20. N Num A Dem: few languages
21. A Num Dem N: *
22. A Num N Dem: *
23. A N Num Dem: very few languages
24. N A Num Dem: very many languages

Introduction, Adjectives hierarchy

Scott (2002) 's hierarchy:

Subjective Evaluation > **Size** > Length > Height > Speed > Depth > Width > Weight > Temperature > Wetness > Age > Shape > **Color** > Nationality/Origin > Material > Typing Attribute

Cinque (1994) 's hierarchy:

Evaluating > Size > Color > Noun

Aims

- which orders are acceptable and which are not
- explain variability
- underlying word order

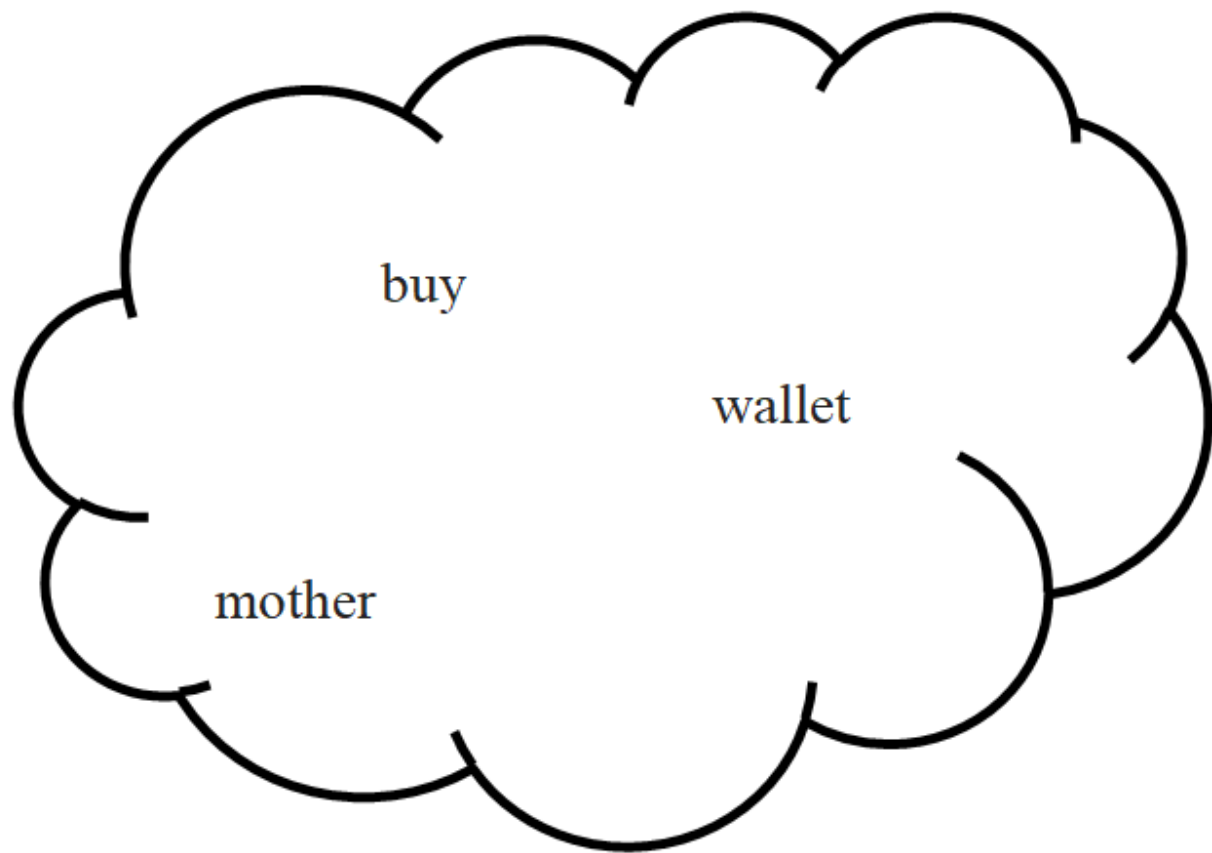
Methodology, Modifiers

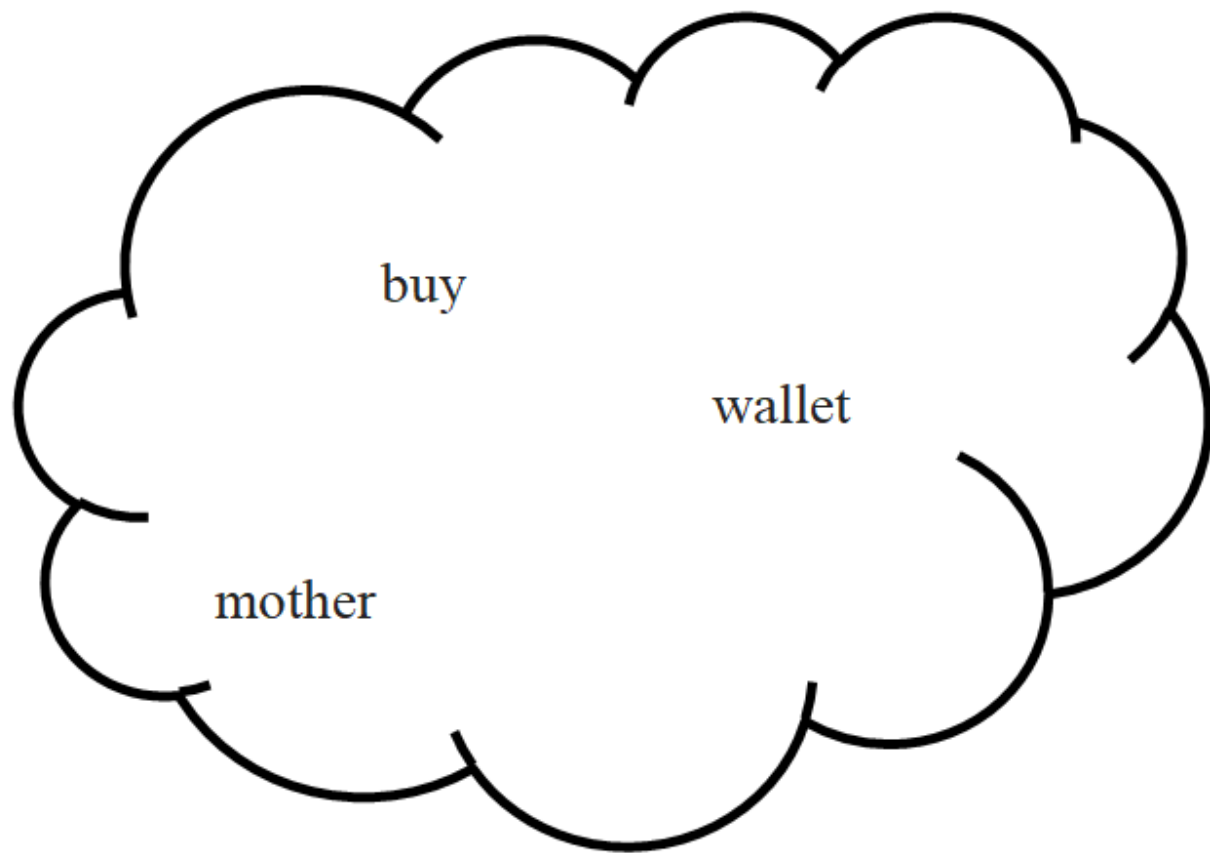
- Numeral
- Demonstrative
- Adjective

Adjectives types:

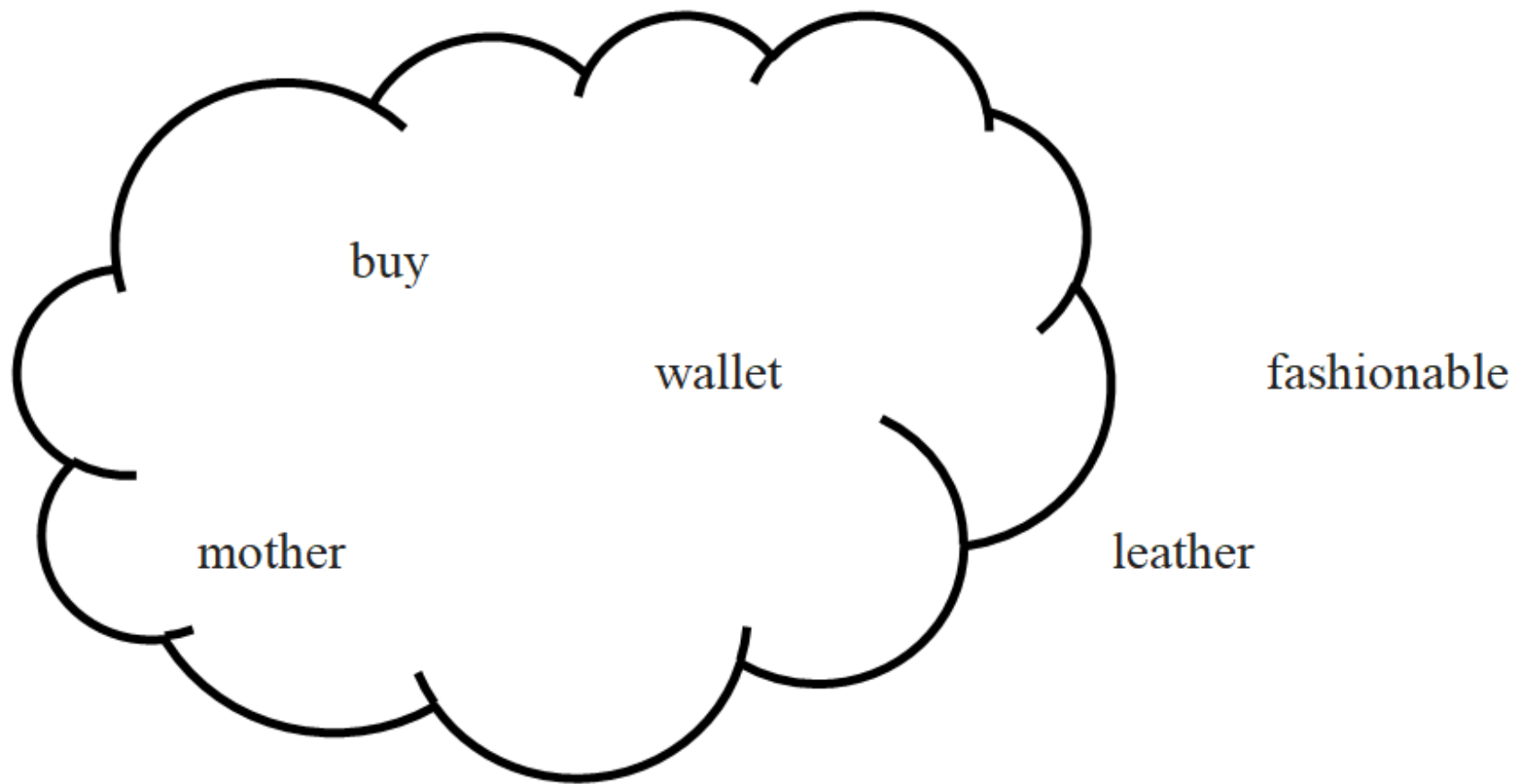
- Adjective of color
- Adjective of size
- Adjective of material
- Adjective of evaluation

Evaluating > Size > Color > Material





fashionable



Methodology, Acceptability judgments task

Survey layout



⋮

Насколько правильное предложение? (7)

Is this sentence correct?

totally ungrammatical!

1

2

3

4

5

Absolutely correct!

Совсем
неправильно!



Абсолютно
правильно!

Methodology, Informants

20 informants (or pairs of informants):

- 12 in the acceptability judgments task
- 8 in the 'clouds' task

Methodology, Annotation

- Video annotation with ELAN
- Graphs and statistics with R

Abbreviations:

N	Noun
A	Adjective
Dem	Demonstrative
Ac	Adjective of color
As	Adjective of size
Am	Adjective of material
Ae	Adjective of evaluation

Clouds, frequent orders

Ac Am N > Am Ac N, N Ac Am, Ac N Am

Ae Ac N > Ae N Ac

Num Ac N > Ac Num N

As Ac N > Ac As N

Ae Am N > Am Ae N, N Am Ae, Am N Ae, Ae N Am, N Ae Am


As Am N > N Am As, Am As N, N As Am, N.As Am, Am N As

Ae Num N > Num N Ae

(As) Ae (As) Num (As) Ac Am N

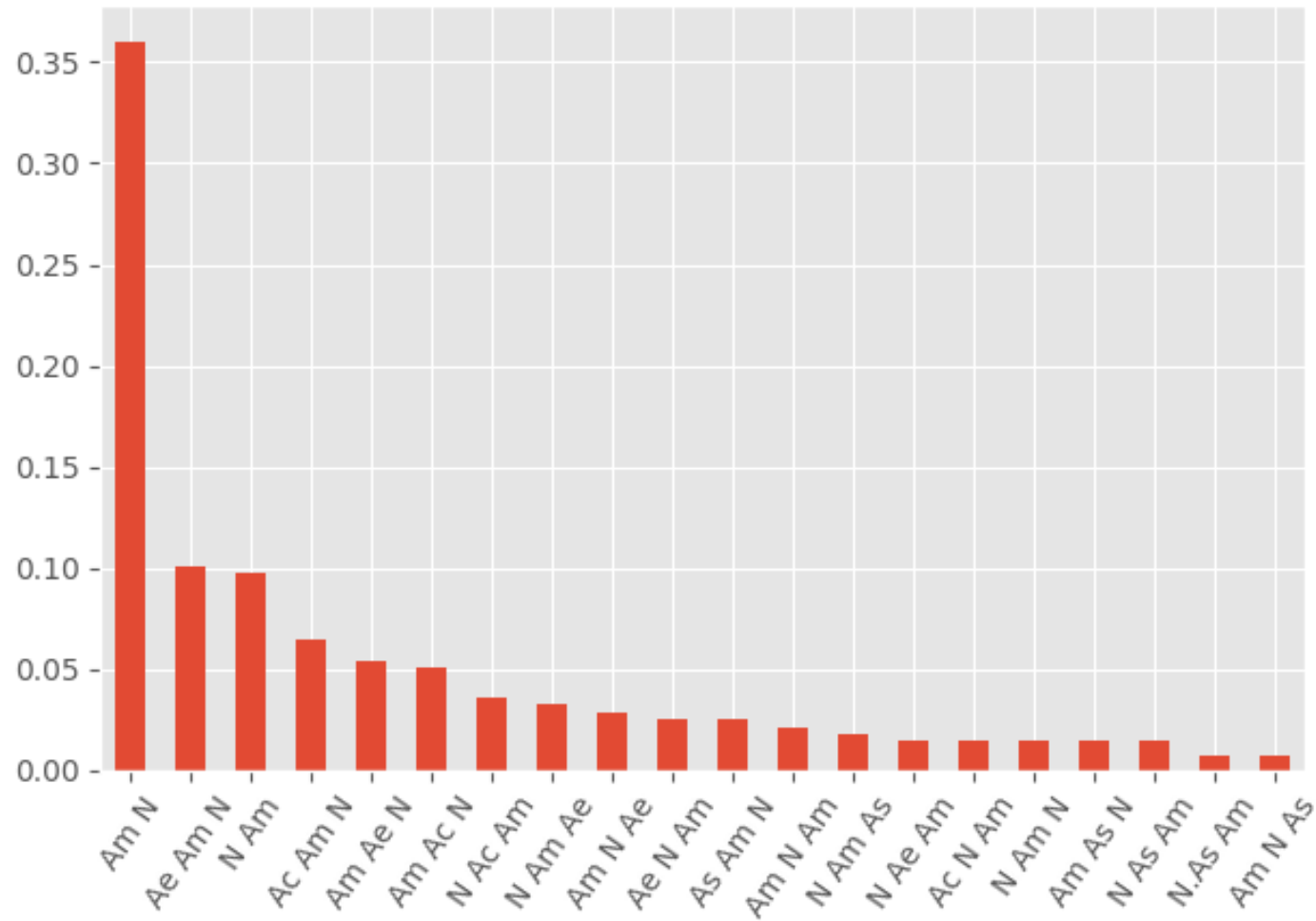
Clouds

General tendency for the preposition



preposition	0.68
postposition	0.21
_ N _	0.08
N _ N	0.03

Position of adjectives of material



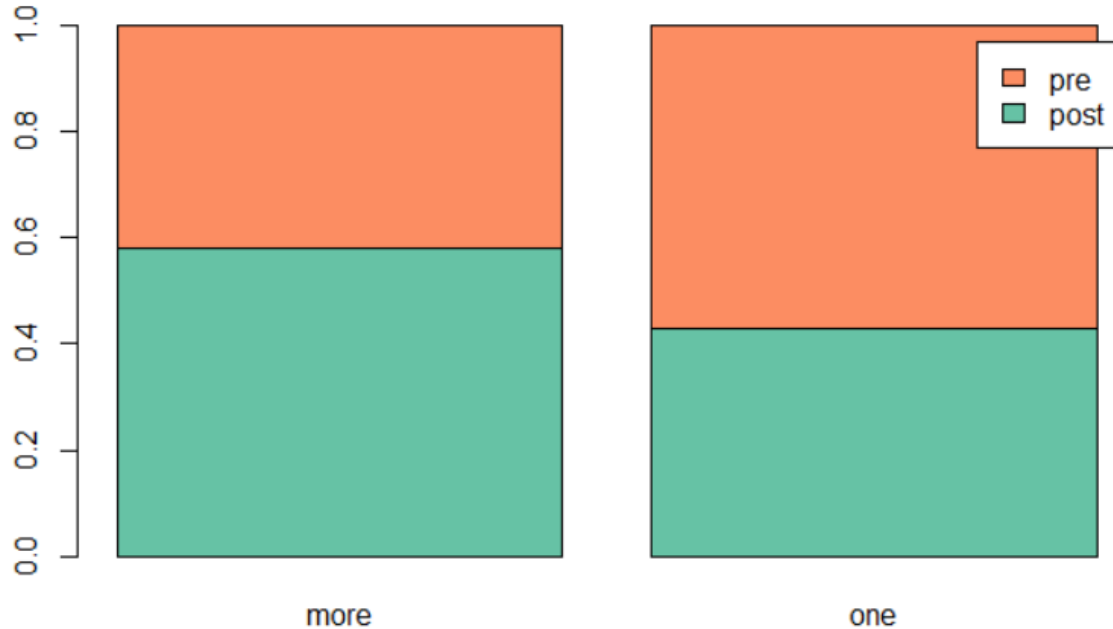
Clouds

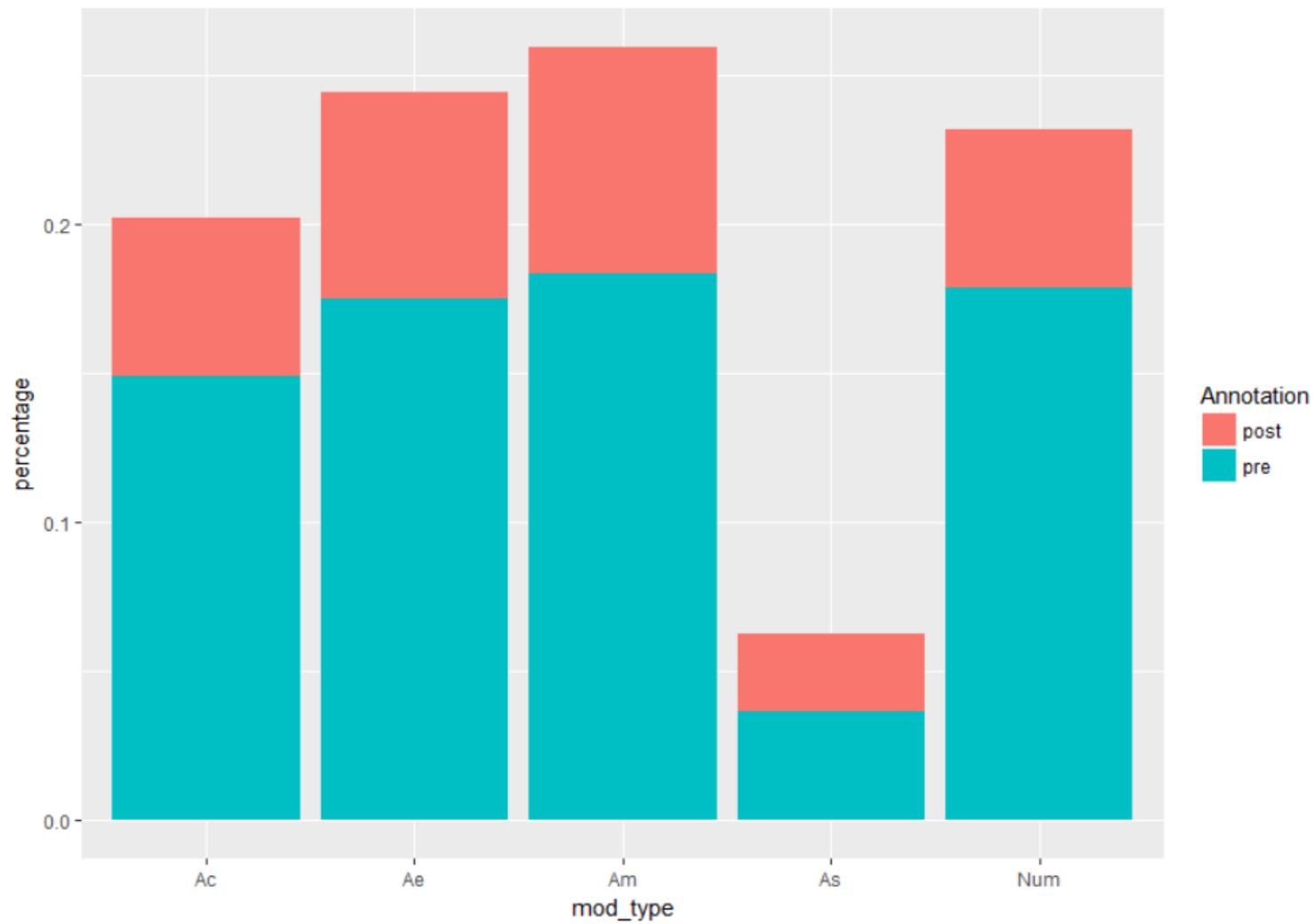
Dependency on the number of modifiers by noun.

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	0.8136	0.1869	4.353	1.34e-05 ***
modifiers+ 1-many	0.7887	0.2102	3.751	0.000176 ***

Clouds

Dependency on the number of modifiers by noun.





Clouds

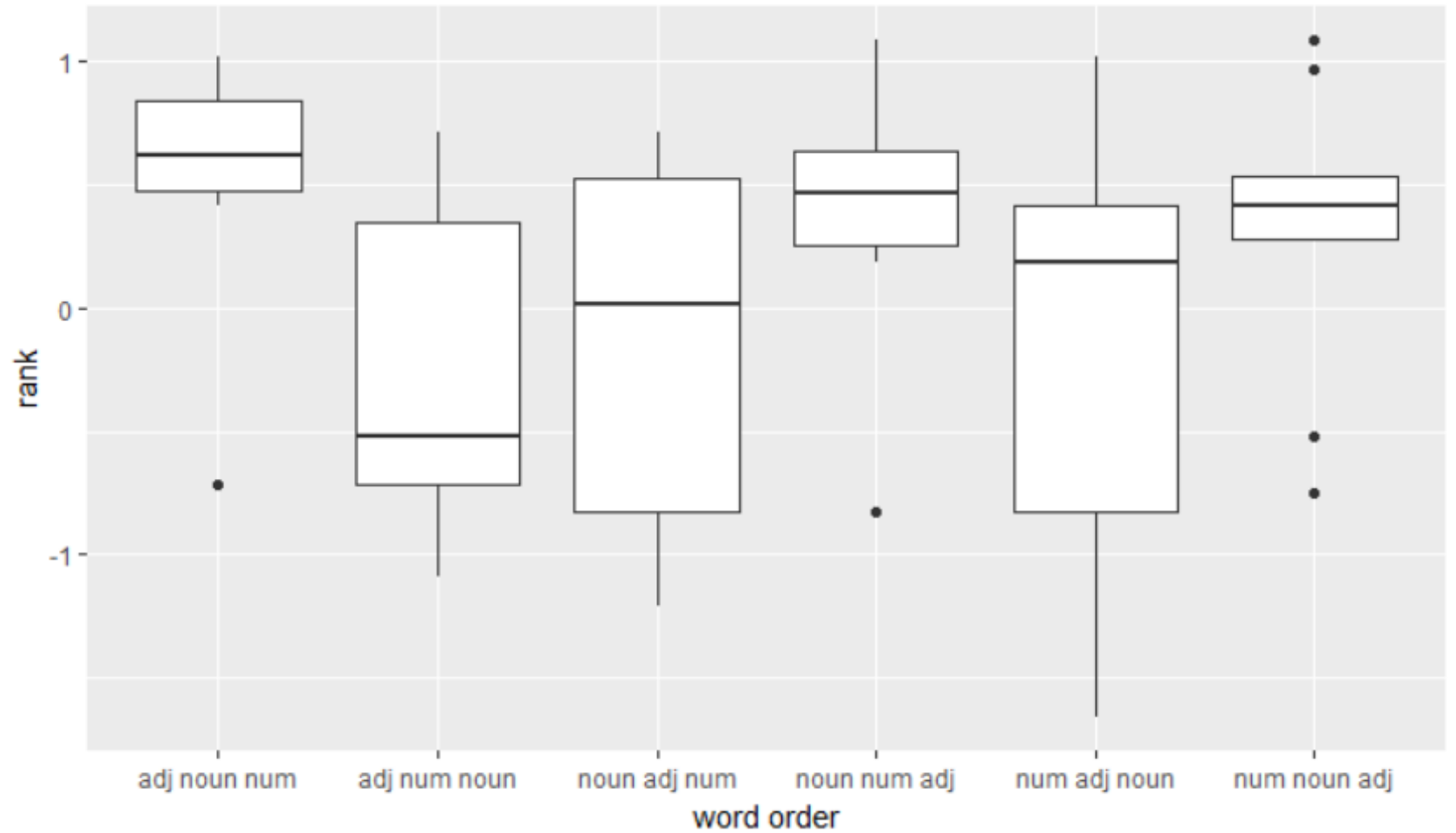
Correspondence with the informants.

signers	post	pre		
S1	0.217	0.783		
S2		0.200	0.800	
S3			0.353	0.647
S4	0.347	0.653		
S5		0.280	0.720	
S6		0.480	0.520	
S7		0.194	0.806	
S8	0.201	0.799		

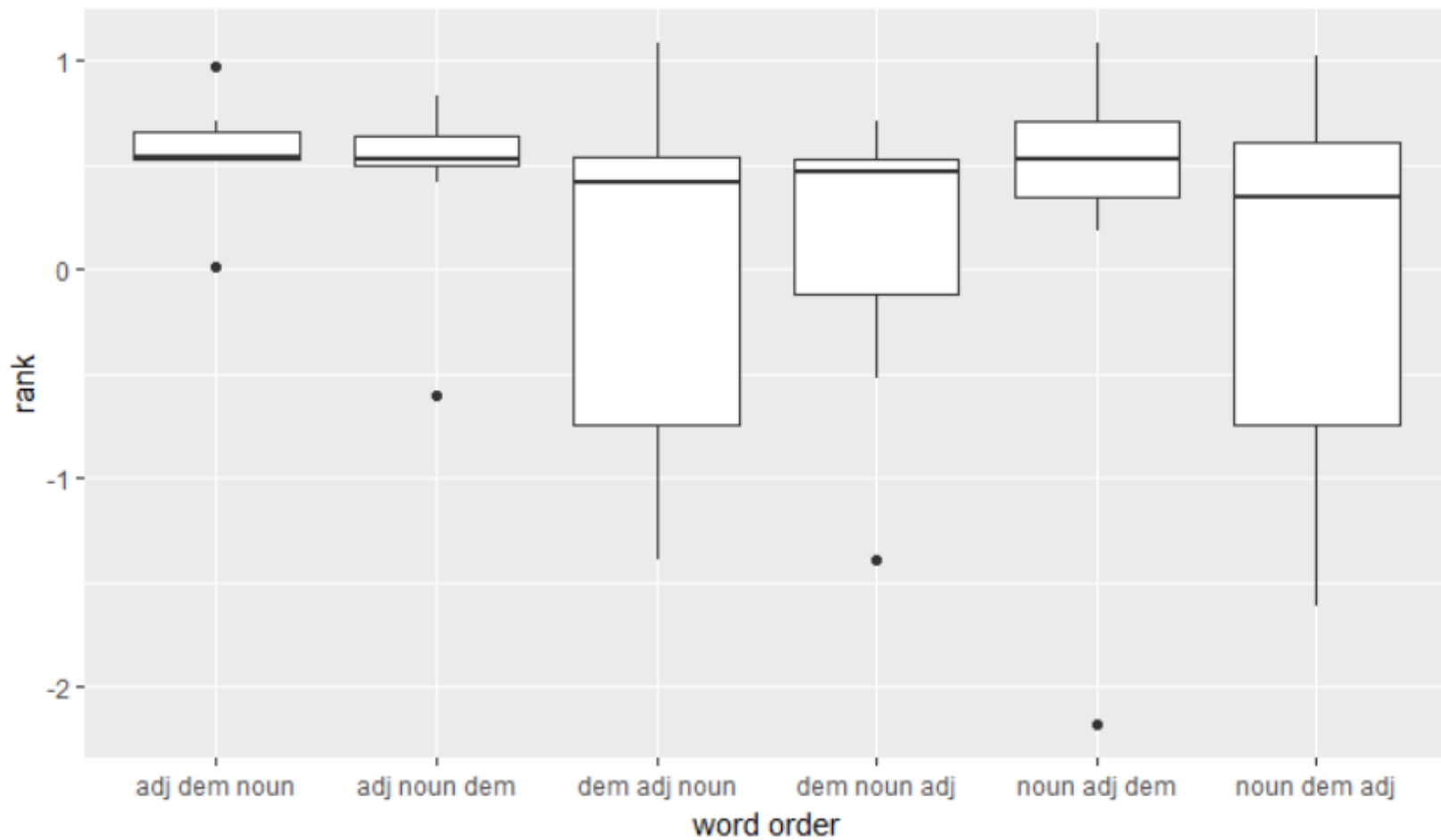
Acceptability judgments

- adjective + numeral
- adjective + demonstrative
- demonstrative + numeral
- (adjective of evaluation + adjective of size)

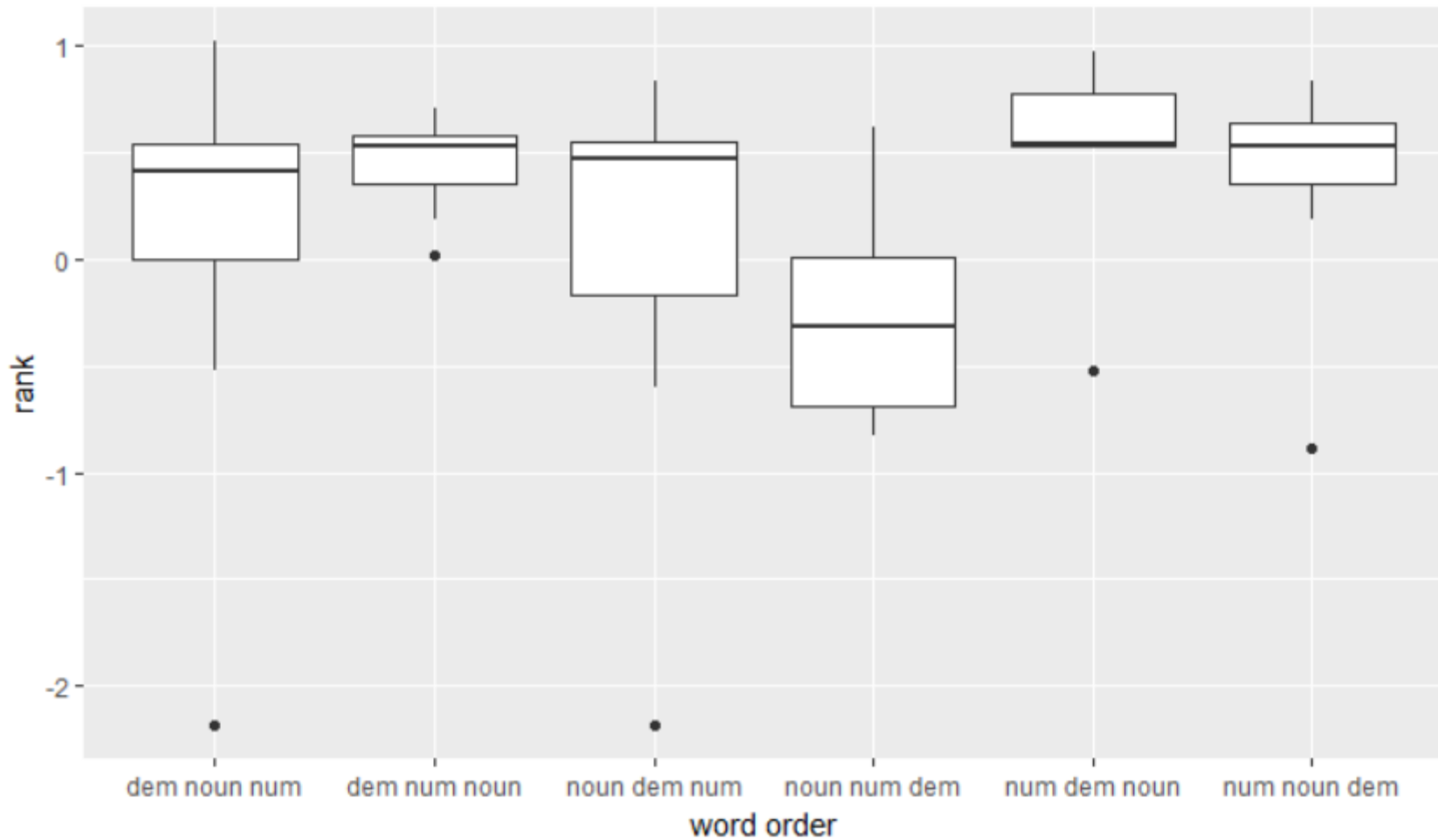
Position of numeral and adjective



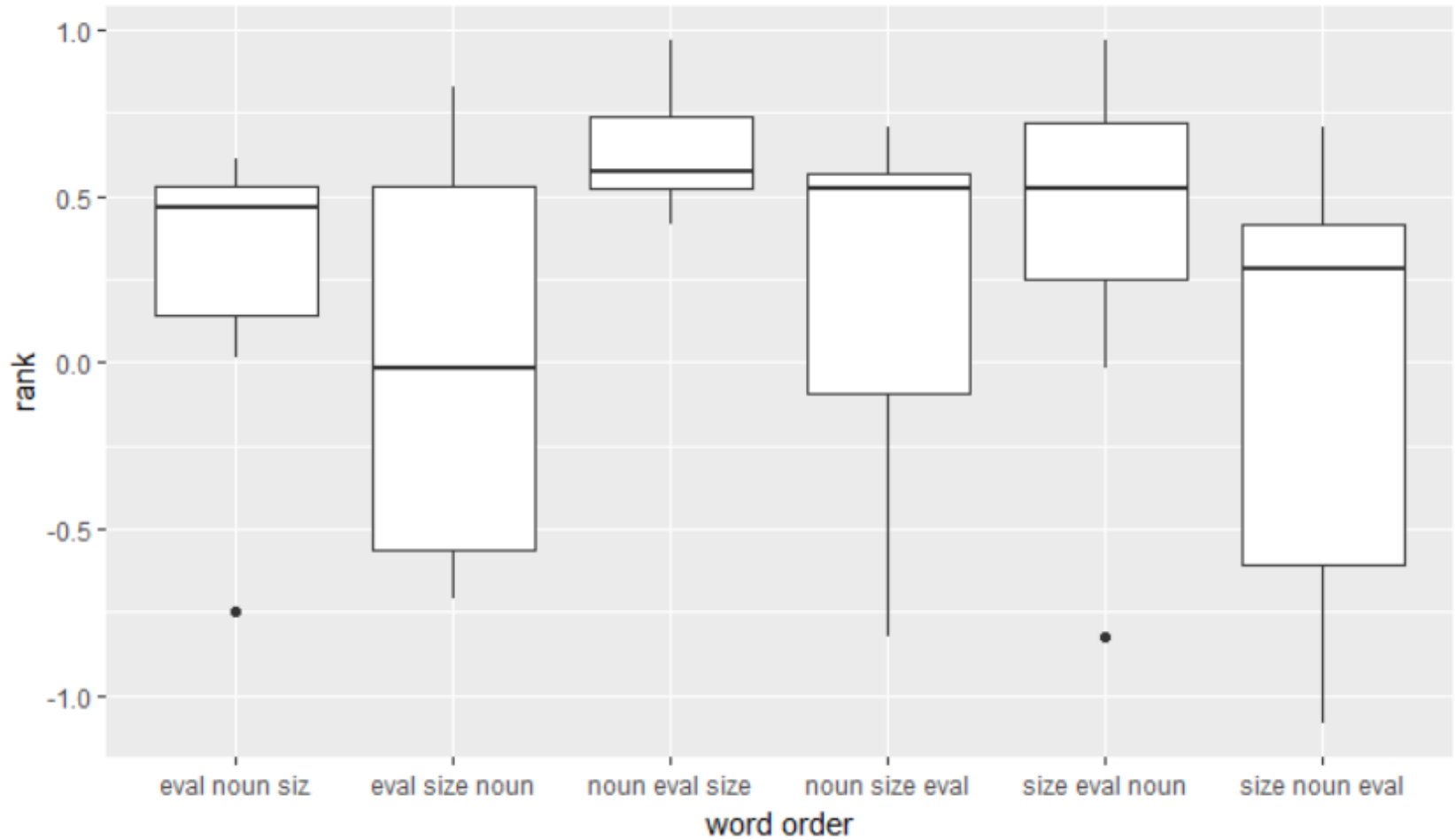
Position of demonstrative and adjective



Position of numeral and demonstrative



Position of adjectives of evaluation and size



Acceptability judgments

Unacceptable order:

- at least one grade “1”
- significantly lower median

Acceptable order:

- all respondents graded it with “5”
- correction

Acceptability judgments

A N Dem (w)	N Ae As (w)	Num Dem N (w)	Num N A (w)
* N Dem A	* As N Ae	* Dem N Num	* A N Num
Dem N A	N As Ae	Dem Num N	* Num A N
A Dem N			* N A Num
			* A Num N
			N Num A

Acceptability judgments

A N Dem (w)	N Ae As (w)	Num Dem N (w)	Num N A (w)
* N Dem A	* As N Ae	* Dem N Num	* A N Num
Dem N A	N As Ae	Dem Num N	* Num A N
A Dem N			* N A Num
			* A Num N
			N Num A

Num Dem N A

Acceptability judgments

A N Dem (w)	N Ae As (w)	Num Dem N (w)	Num N A (w)
* N Dem A	* As N Ae	* Dem N Num	* A N Num
Dem N A	N As Ae	Dem Num N	* Num A N
A Dem N			* N A Num
			* A Num N
			N Num A

Num Dem N A → **Dem Num N A**

Comparison of results

N Ae As

(As) Ae (As) Ac Am N

Ae As Ac Am N



Comparison of results

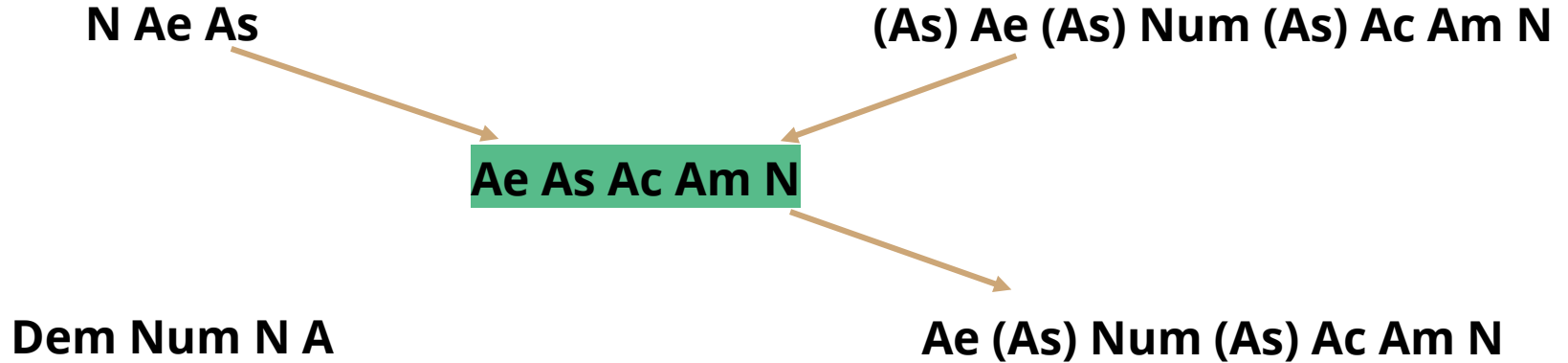
N Ae As

(As) Ae (As) Ac Am N

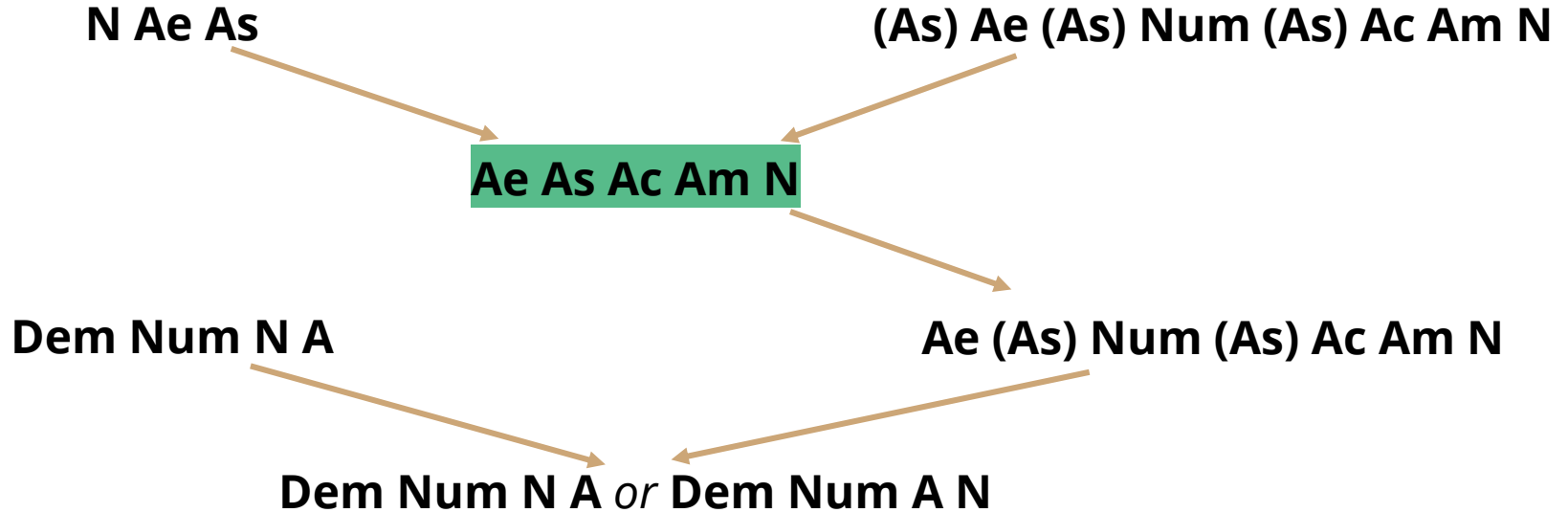
Ae As Ac Am N

Ae (As) Num (As) Ac Am N

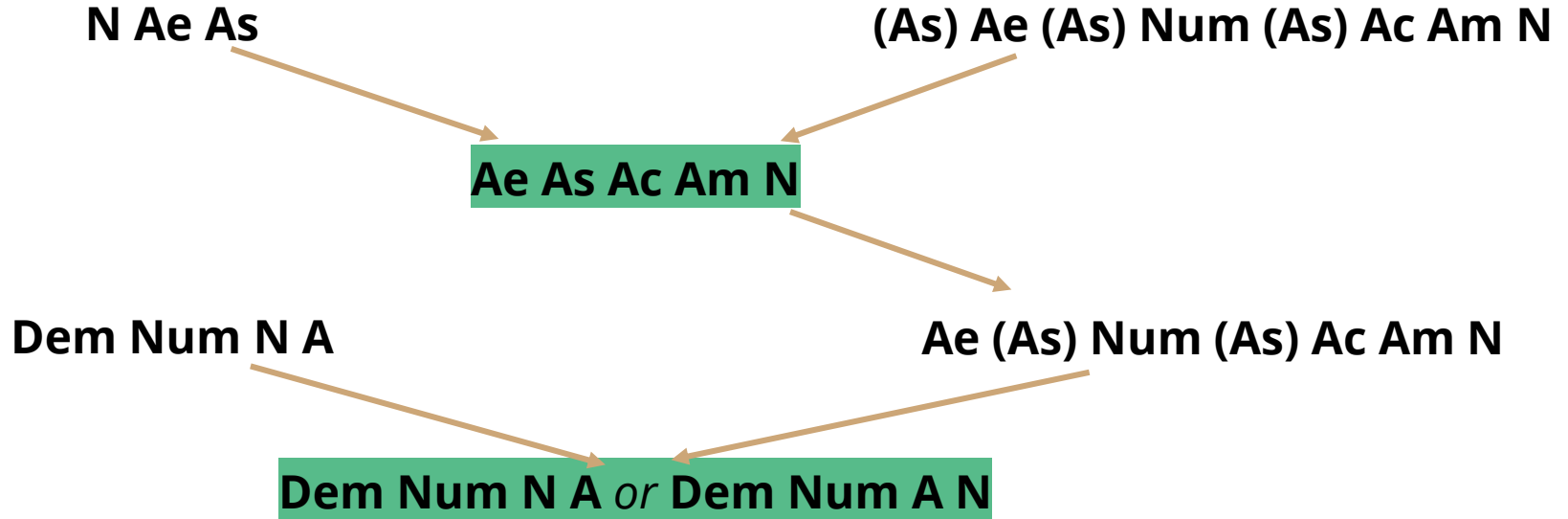
Comparison of results



Comparison of results



Comparison of results



Conclusions

- We obtained lists of acceptable orders and some unacceptable orders for combinations of pairs of modifiers
- Variability
 - is partially explained by a number of modifiers accompanying noun
 - Position with respect to noun does *not* depend on type of the modifier
- underlying order
 - relative ordering of adjectives: **Ae As Ac Am N**
 - underlying order: **Dem Num N A** or **Dem Num A N**

Future perspective

- influence of lexical items
- dependency on sociolinguistic factors
- extend with other possible NP constituents (possessives, quantifiers, ordinal numerals ...)
- explore tendency to parceling

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