The sensitivity of persistence to subject animacy in AAVE third singular /s/

Meredith Tamminga & Brittany McLaughlin
University of Pennsylvania

UKLVC 9 – University of Sheffield

Introduction

Persistence effect: tendency to re-use a recently used variant of a linguistic variable

What factors determine the strength of the persistence effect?

- inverse frequency
- similarity

Test case: animacy conditioning of AAVE 3 sg. -s

Introduction

Strength of persistence effect varies inversely with variant rates: rare variant = strong effect

But variant rates are themselves sensitive to many other conditioning factors

Is the inverse frequency effect sensitive to grammatical conditioning of a variable?

Introduction

Strength of persistence increased by similarity: "lexical boost"

Other aspects of similarity besides lexical identity: linguistic conditioning context

Is persistence strength increased by overlap in the grammatical context?

Background: third singular –s

Variability in 3sg agreement on verbs

Same speaker, same interview:

a. […] as long as he stay∅ out of my way.
b. […] before September ends.

Range from 65-76% absence

(Wolfram 1969; Fasold 1972; Labov 1972; Rickford & McNair-Knox 1994)

Background: third singular –s

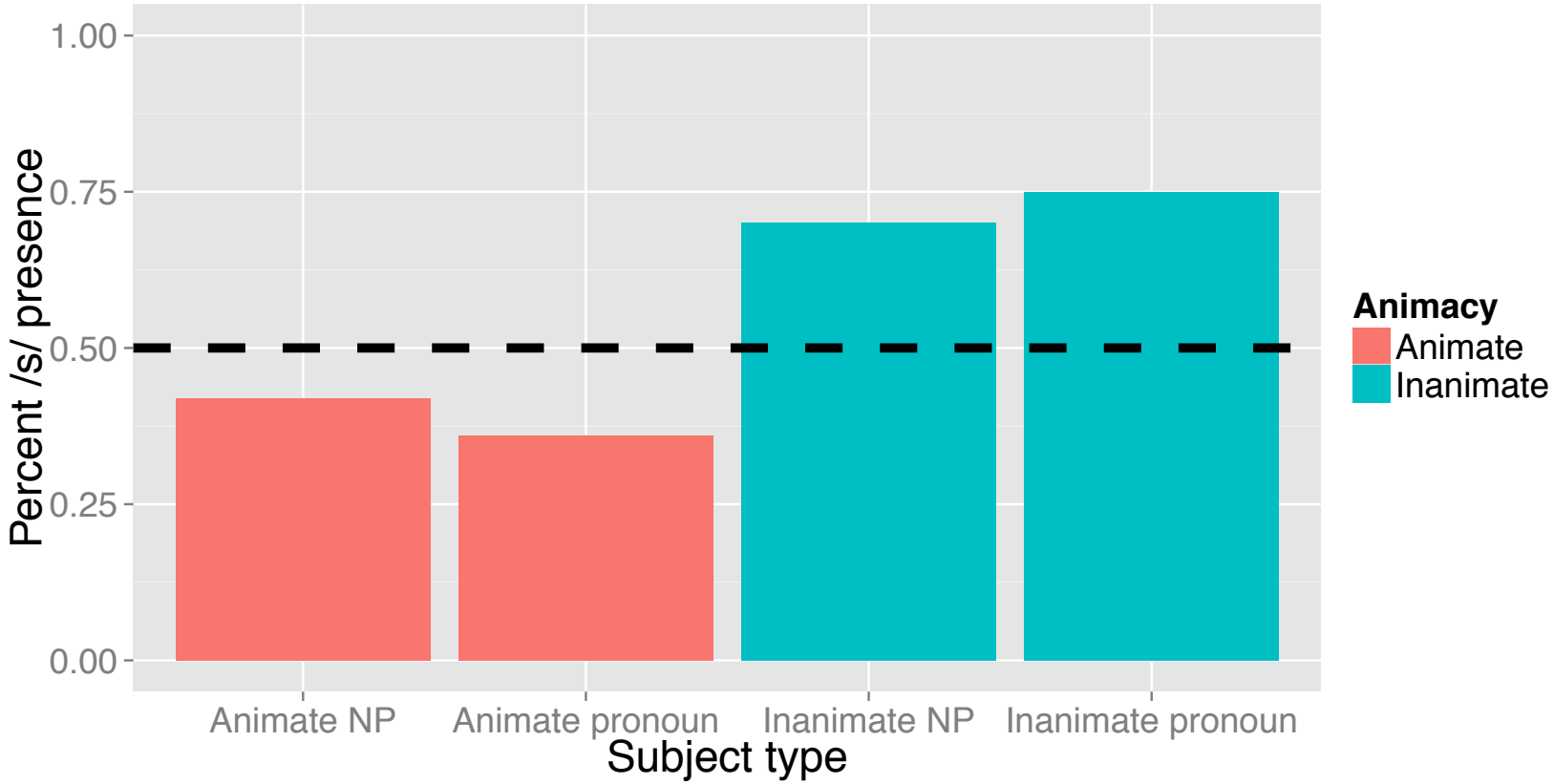
Rates of –s variants conditioned by subject animacy

- more absence with animates, more presence with inanimates

  (McLaughlin 2013)

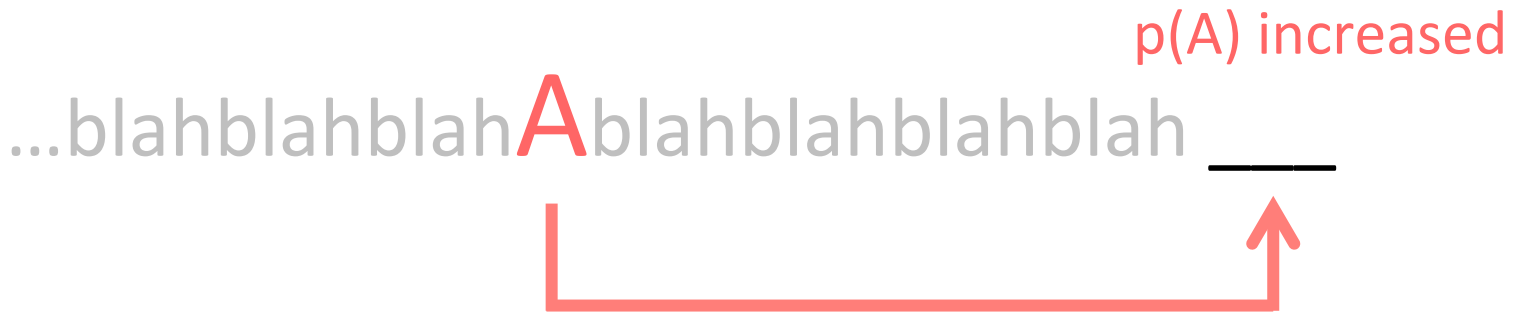
Background: third singular –s

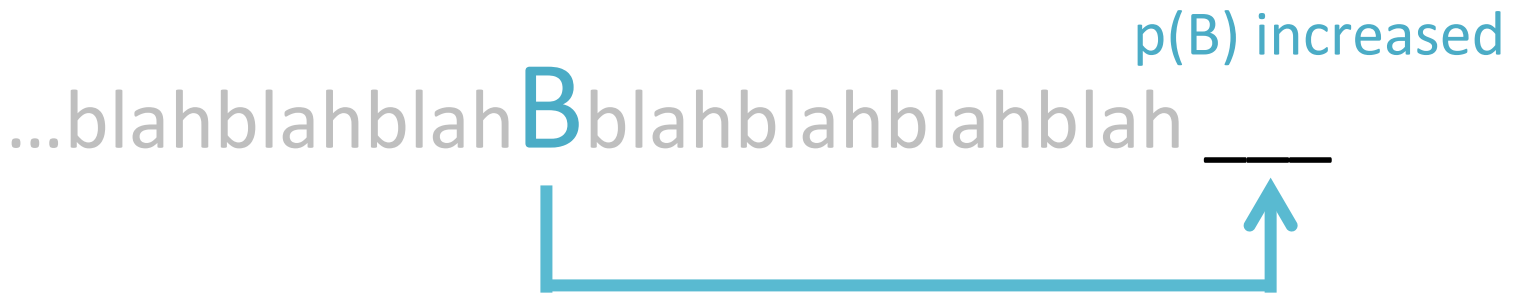
Rates of –s variants conditioned by subject animacy



Background: persistence

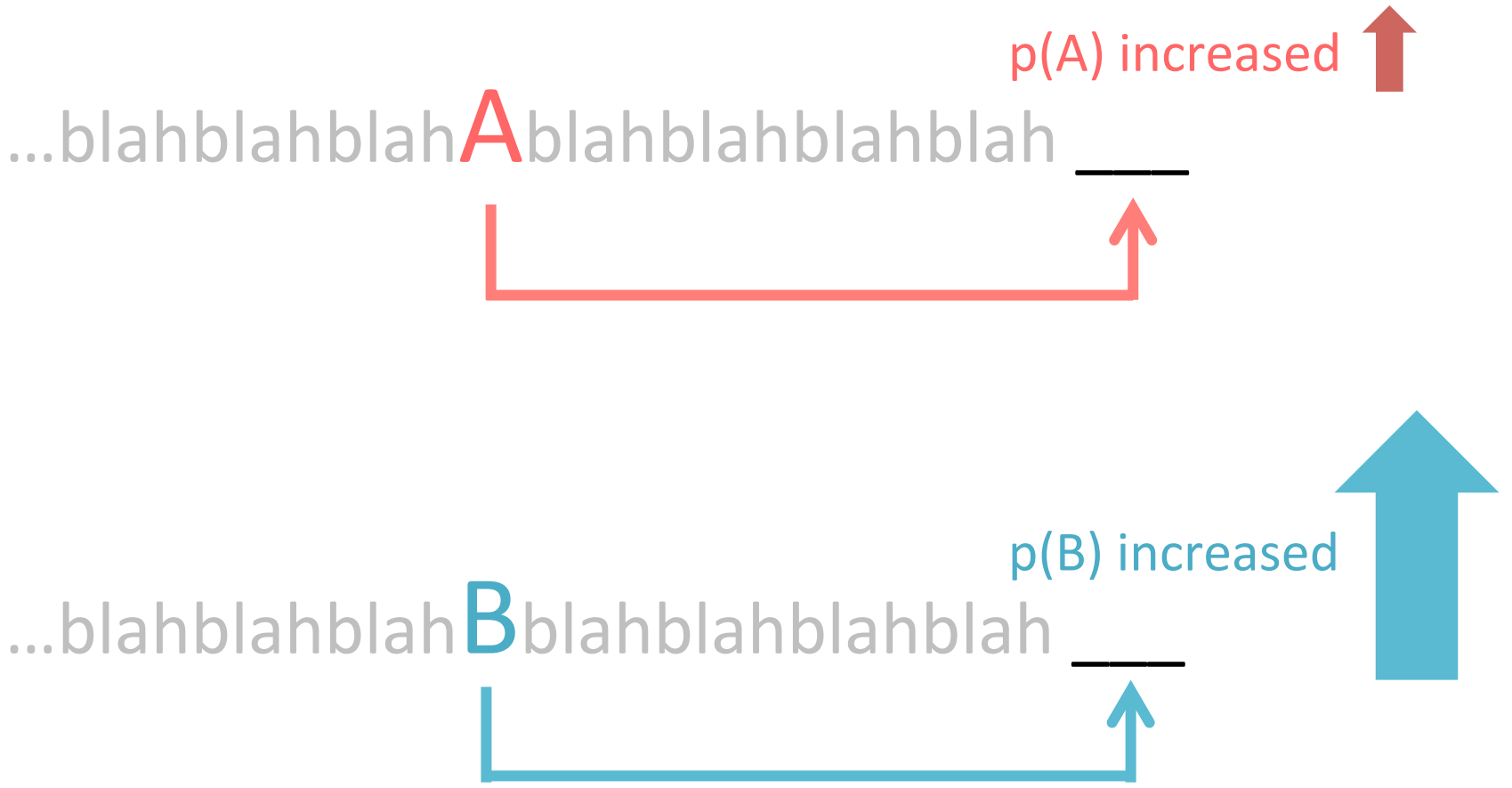
Tendency to re-use a recently-used option





Background: persistence

Tendency to re-use a recently-used option



Background: inverse frequency

Inverse frequency effect: stronger persistence with less probable variants (Ferreira 2003, Szmrecsanyi 2006, Jaeger & Snider 2013, Reitter, Keller & Moore 2011)

Simple example: passives show strong and reliable persistence, actives barely any (Bock 1986)

Jaeger and Snider (2013) point out that "less probable" may be context-dependent

Background: inverse frequency

Is this type of persistence strength sensitivity apparent across contexts conditioning rates of sociolinguistic variation?

Does the direction of the inverse frequency effect depend on which variant is rare in context, i.e. subject animacy?

Background: similarity

Lexical boost: reuse of same verb in target as in prime strengthens effect of priming

(Pickering & Branigan 1998; Hartsuiker et al. 2008; Snider 2008)

Possible for grammatical context to be the same (e.g. prime and target both have animate subject) without being identical

Background: similarity

Is there a boost in persistence magnitude from overlap in grammatical context of a variable?

Is the persistence effect stronger when the prime and subject have either both animate or both inanimate subjects?

Data subsets

- Comparison across subsets: mismatched

		Target type	
		Animate subj.	Inanimate subj.
Prime type	Animate subj.	Prev. –s present	Prev. –s present
		Prev. –s absent	Prev. –s absent
	Inanimate subj.	Prev. –s present	Prev. –s present
		Prev. –s absent	Prev. –s absent

Data subsets

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Predictions

- With animate subjects, –s is usually absent so presence of –s is the rare variant → strong persistence for –s presence
- With inanimate subjects, –s is usually present so absence of –s is the rare variant → strong persistence for –s absence

In each case, the rare variant *given the prime's subject type* should be facilitated more strongly

Predictions

If the lexical boost effect is the strong version of the more general tendency of similarity:

We should see greater persistence in cases where the prime and target overlap in subject animacy than in cases where they do not

The data

Frank Porter Graham corpus: longitudinal data from 17 years in Chapel Hill, NC

88 African Americans recruited in 1990 at age 6-12 months

Here: subset of ages 4-17

Coding animacy

- Human vs inanimate verbal subjects
- Based on previous animacy studies, e.g. Rosenbach 2005

Human: But everyday, **my mama** make me clean up.

Inanimate: I want **a stretch doll** that stretches and get my size.

Coding persistence

Each token coded for value of previous token within the same interview

Previous tokens not coded across interruption by interlocuter

Compare –s presence in tokens with preceding –s presence to tokens with preceding –s absence (i.e. subset by prime)

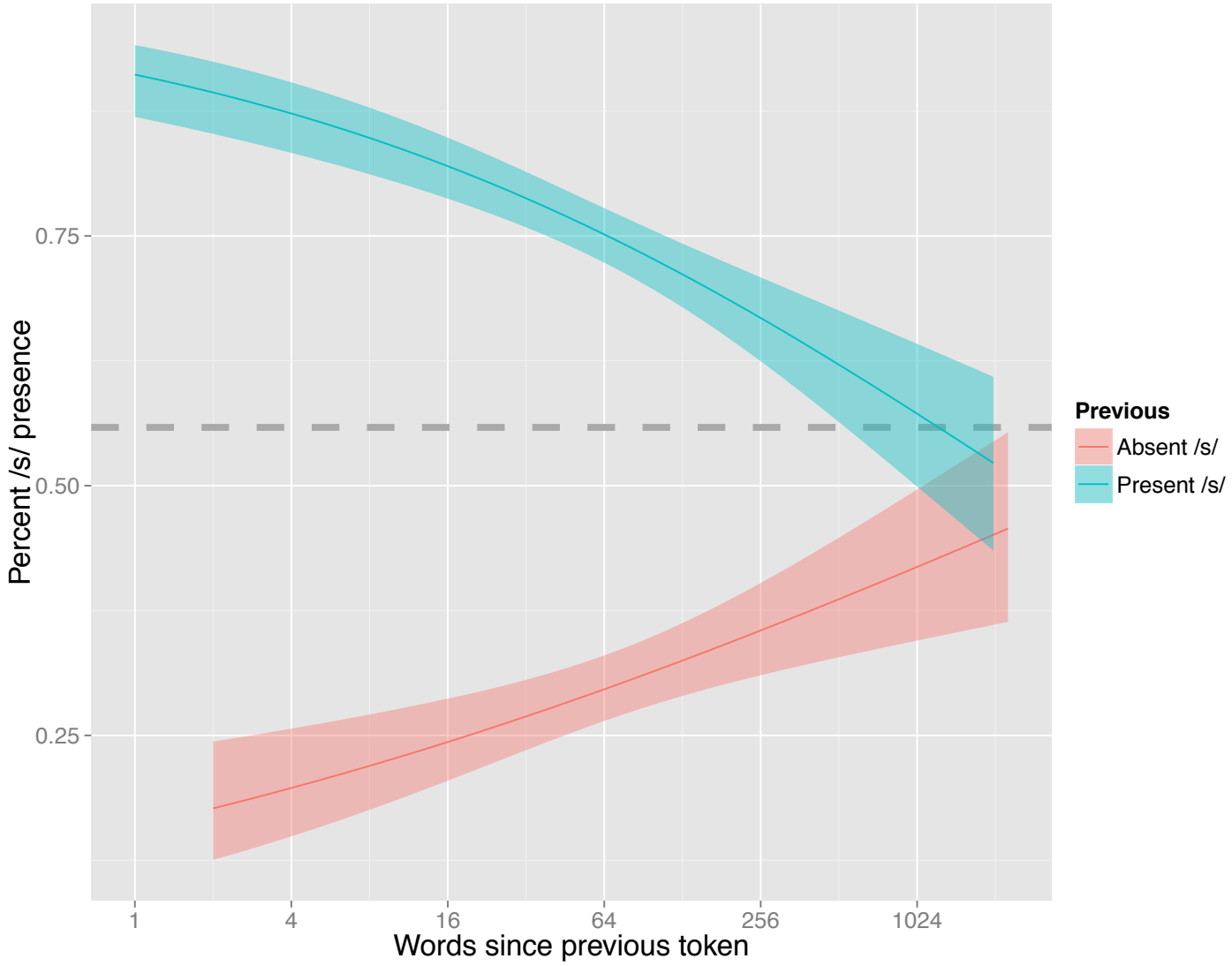
Persistence strength

- Persistence strength is calculated as:

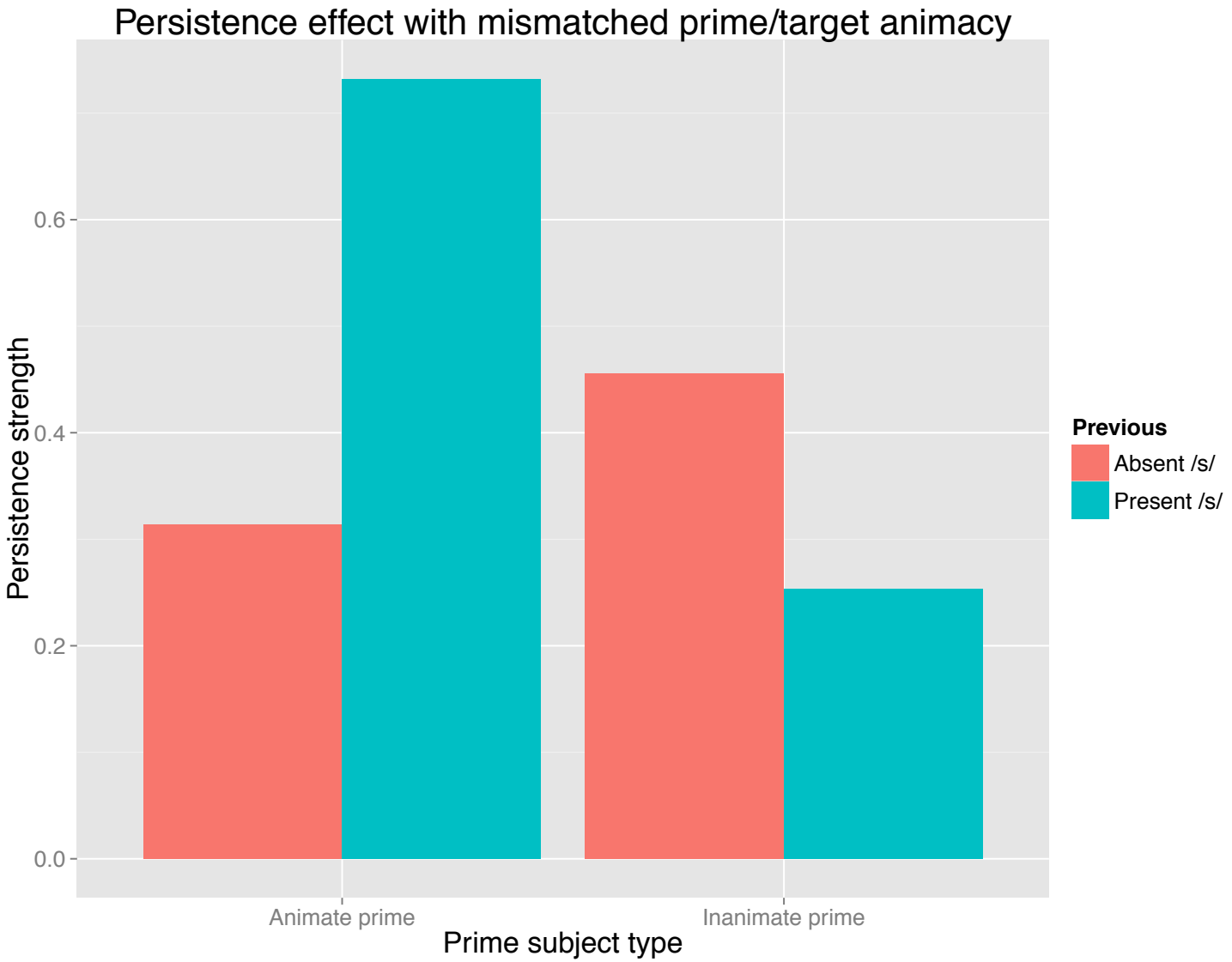
For any given subset, relative change with respect to the unprimed variant:

$$\text{persistence strength} = -\log\left(\frac{\text{subset (primed) rate}}{\text{baseline (unprimed) rate}}\right)$$

Basic persistence result



Effect with mismatched animacy



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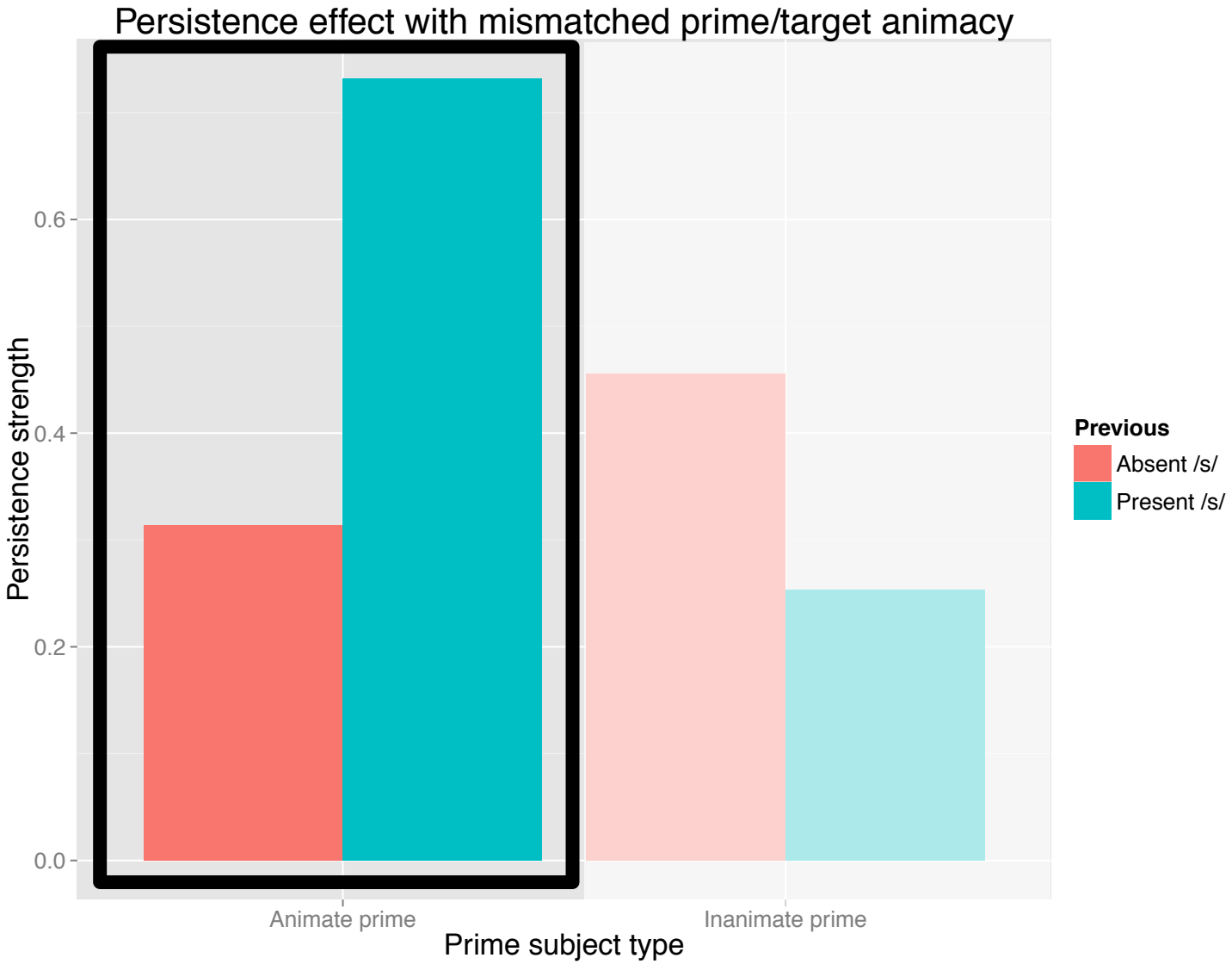

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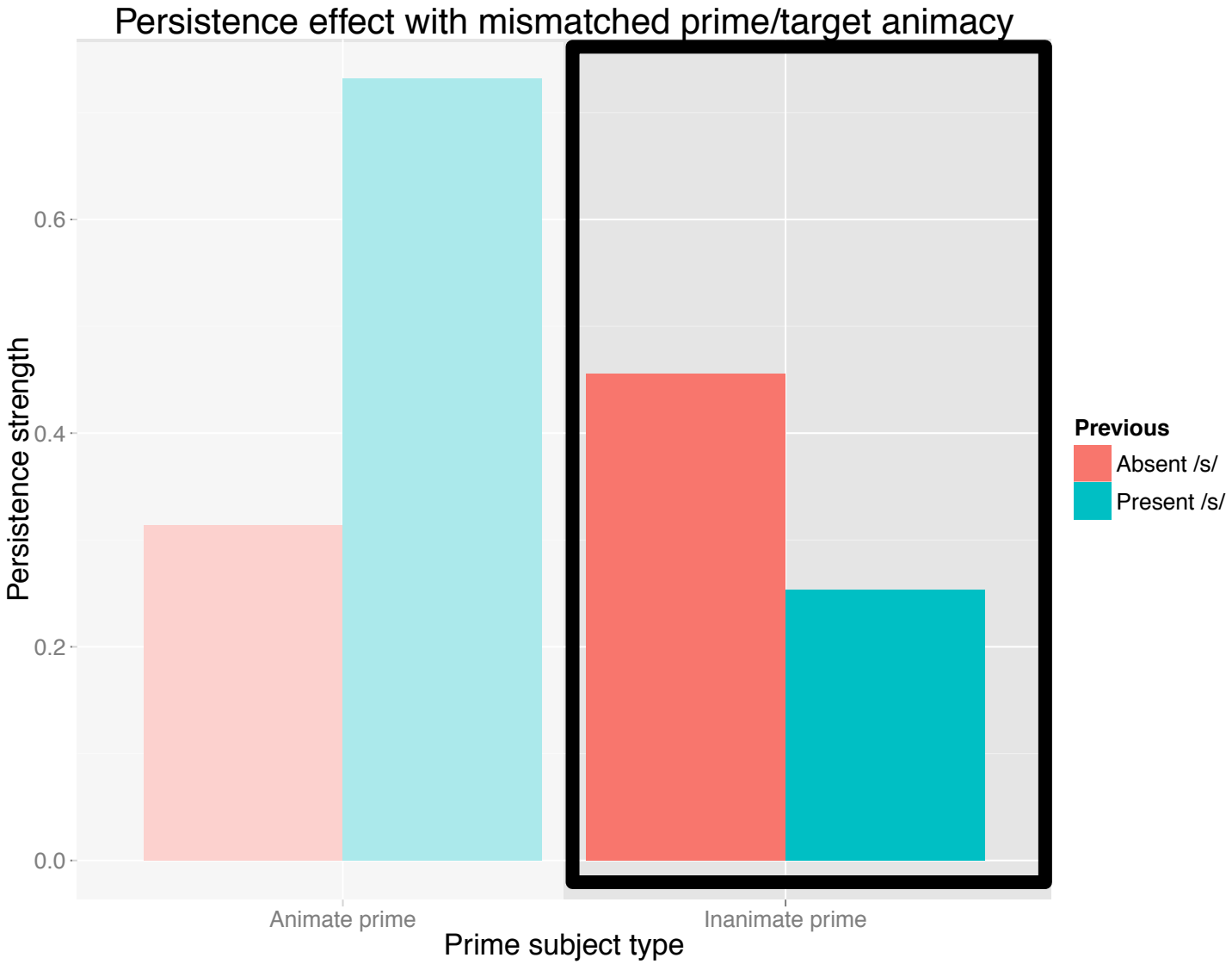
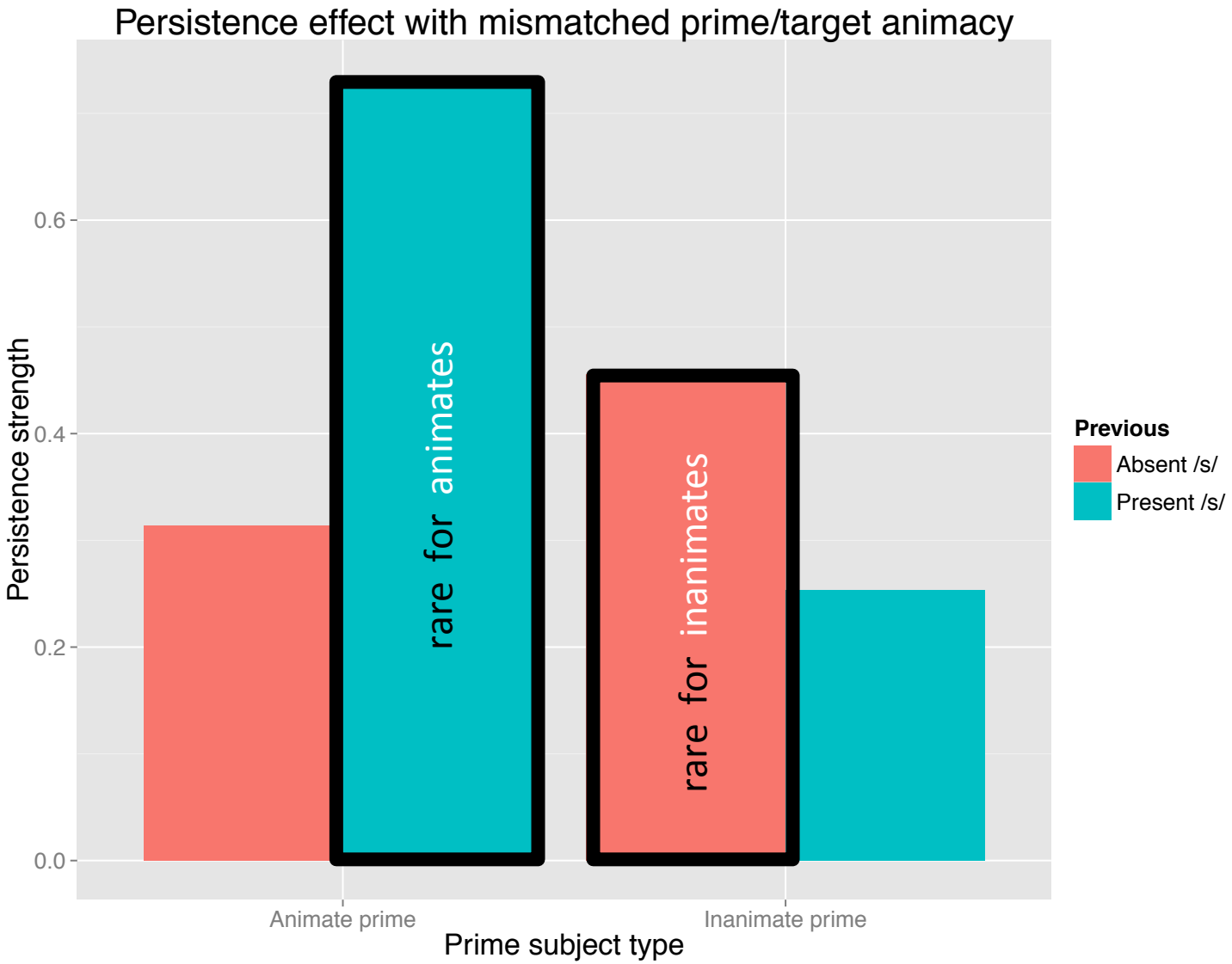
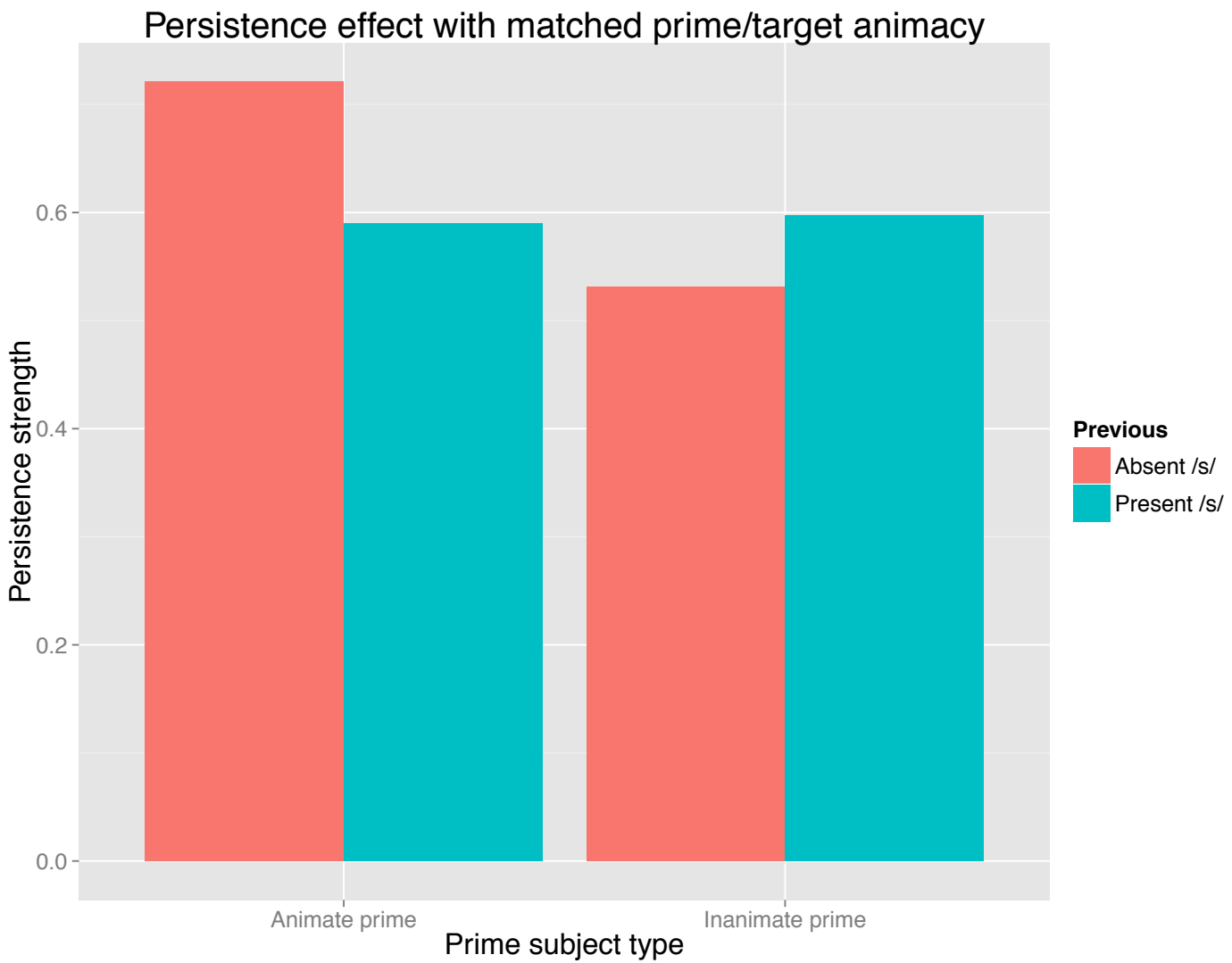


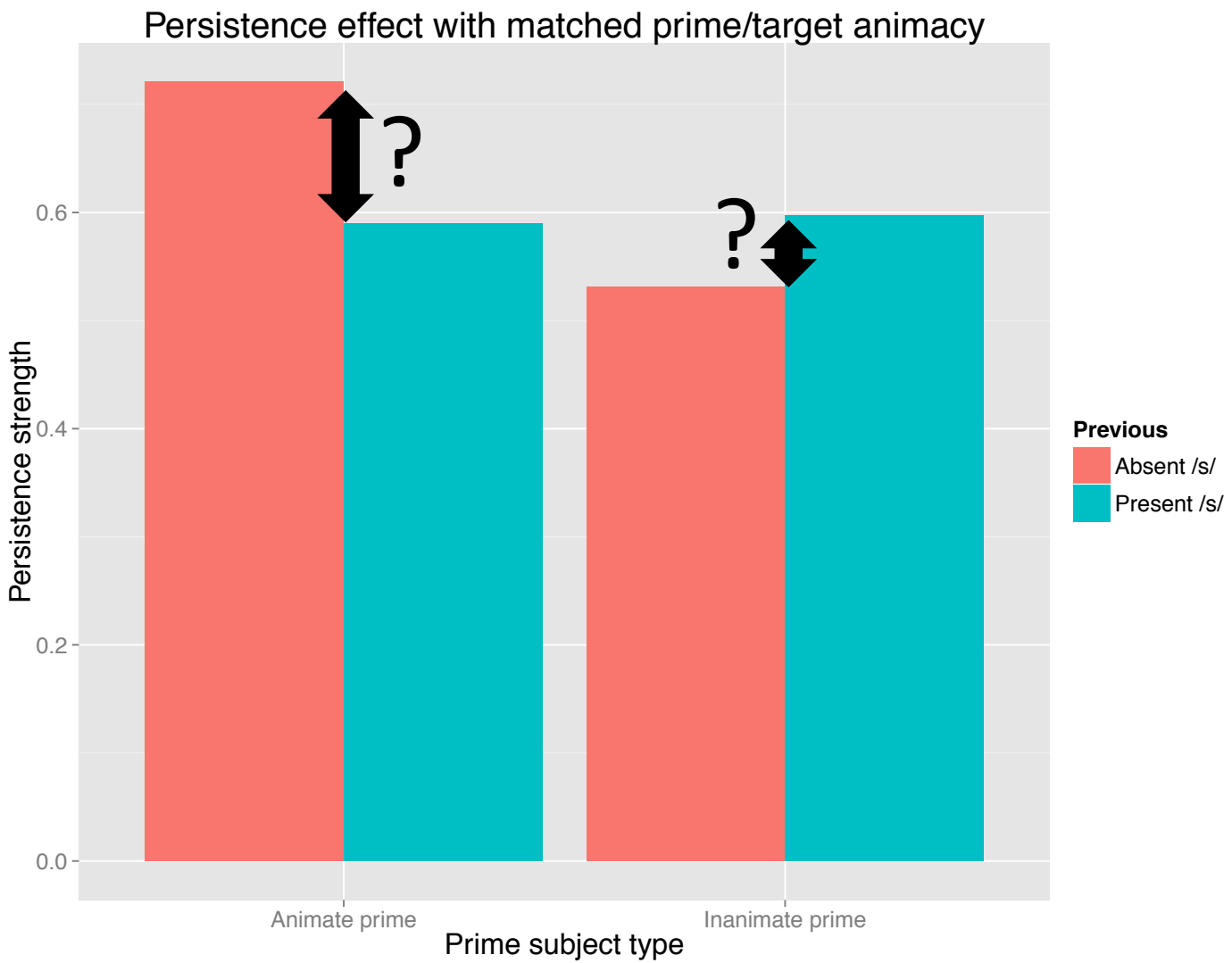
Effect with mismatched animacy



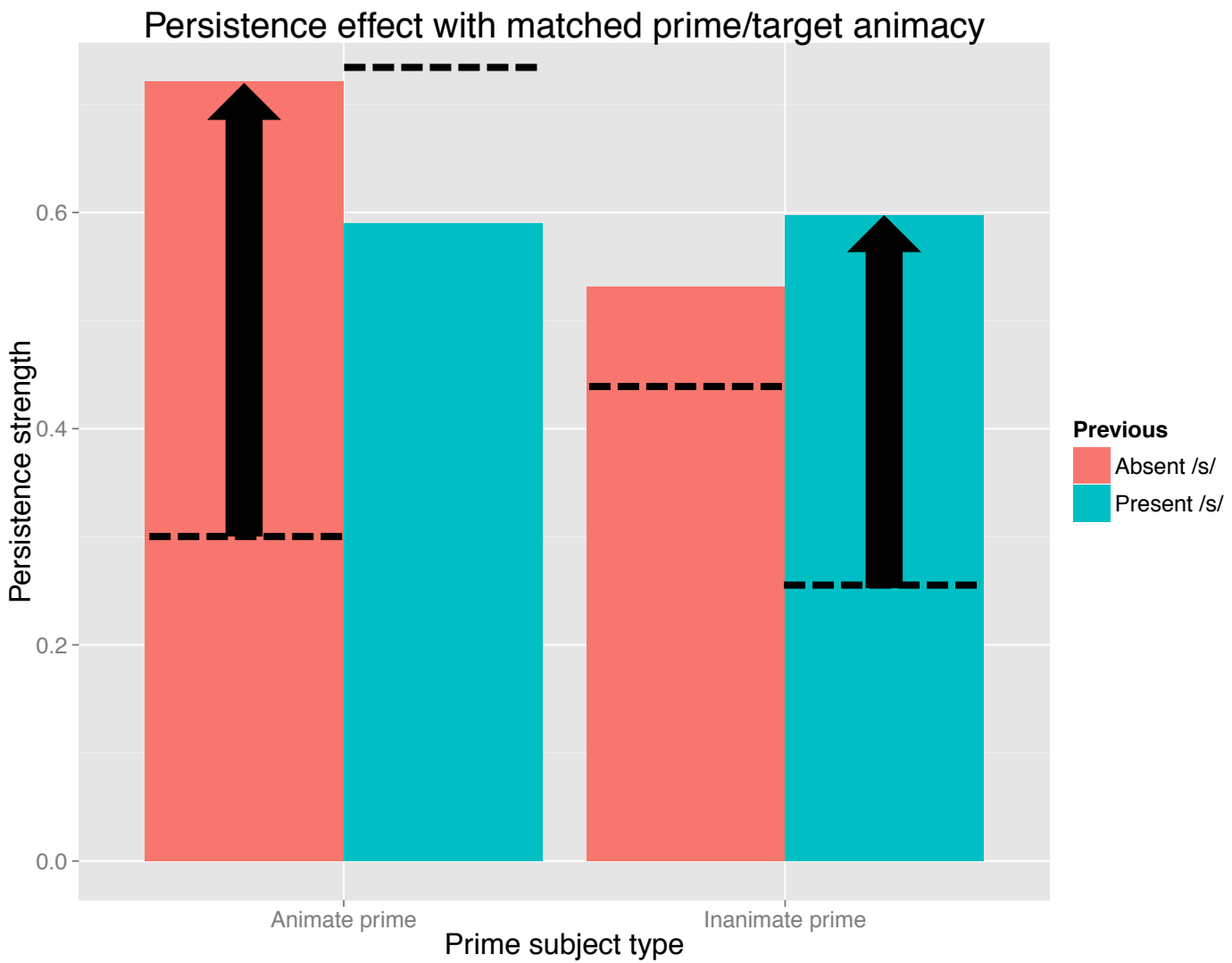
Effect with matched animacy



Effect with matched animacy



Effect with matched animacy



Summary of results

When the prime and target are mismatched for animacy, the rarer variant of the prime is the one that shows the stronger priming effect

When the prime and target are matched for animacy, the more frequent variant of the prime is the one that shows a similarity boost

Discussion

Observed persistence in natural speech corpus shares traits with experimental priming:

- inverse frequency effect
- similarity boost

See effects of psycholinguistic processing in the production of variation

Discussion

Inverse frequency and similarity boost both sensitive to grammatical conditioning

Interface between psycholinguistics and sociolinguistics – what are the cognitive mechanisms of the production of variation?

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