

# Name relatedness and imageability

Marianne Lind, Hanne Gram Simonsen, Pernille Hansen and Elisabeth Holm  
 Department of Linguistics and Scandinavian Studies, University of Oslo, Norway

Verbs are generally less imageable than nouns. Is this the case for name related nouns and verbs as well? Based on a network model of the mental lexicon, we would expect similarity in form to lead to similarity in conceptual imageability.

## Name relatedness

Name related word forms are e.g. nouns and verbs that are (near) identical in form and related in meaning, such as:

(å) *leke* '(to) play' – (en) *leke* '(a) toy'  
 (å) *danse* '(to) dance' – (en) *dans* '(a) dance'

## Imageability and the lexicon

Imageability is defined as the ease with which a word gives rise to a sensory mental image (Paivio, Yuille & Madigan 1968). Imageability may influence storage and processing of words in the mental lexicon, together with other factors such as age of acquisition, frequency, word length and phonological properties.

## Expectations

Based on a network model of lexical representation, we expect:

- (a) Less imageability difference between name related nouns and verbs than between nouns and verbs in general
- (b) Name related nouns less imageable than non-name related nouns
- (c) Name related verbs more imageable than non-name related verbs

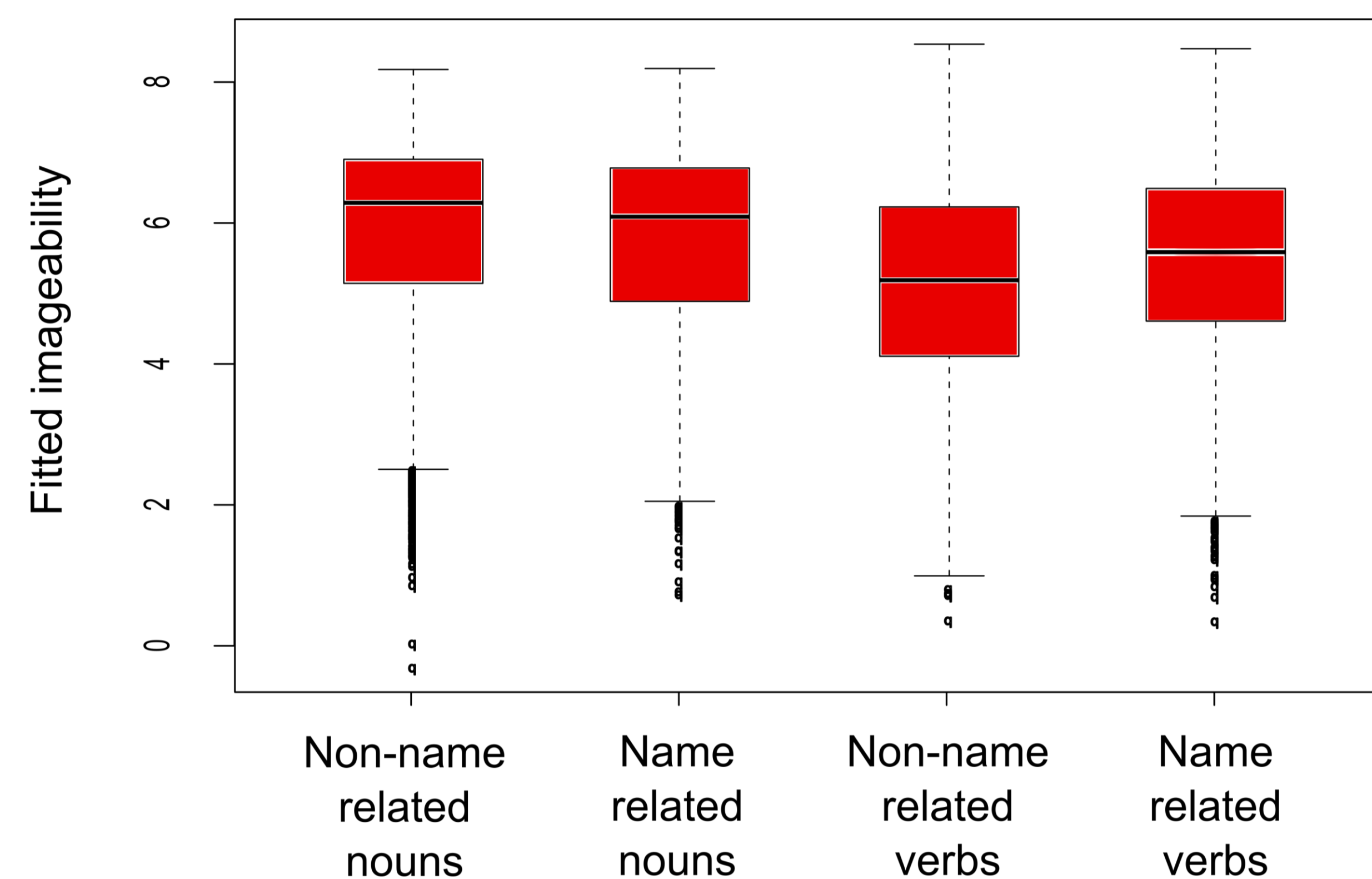
## Method

**Words:** Imageability ratings were collected for approximately 1600 words (900 nouns, 500 verbs, 200 adjectives), including 350 name related nouns and verbs. Nouns and verbs were disambiguated by indefinite article and infinitive marker.

**Participants:** About 400 native speakers of Norwegian rated 100 words each, on a scale from 1 (no image) to 7 (clear image) or as “unknown” or “ambiguous”.

**Analysis:** The data were analyzed with a mixed effect ANOVA with random effects for participants and words, using likelihood ratio tests.

## Results



Nouns are generally more imageable than verbs (difference in means: 0.5\*\*\*). Furthermore, name related verbs are more imageable than non-name related verbs (difference in means: 0.18\*). For nouns, however, there seems to be no significant difference.

Within pairs of name related nouns and verbs, the noun is more imageable than its verb counterpart (mean difference: 0.6\*\*\*). On group level, however, the difference in imageability is smaller within name related nouns and verbs than between nouns and verbs in general.

## Are our expectations met?

Bird, Franklin & Howard (2001) found lower imageability ratings for verbs than for nouns in English, even when they shared the same word form. In our study of Norwegian, we also found lower imageability ratings for verbs than for nouns, but less so for name related words – **(a) confirmed**.

We found no significant difference between name related and non-name related nouns – **(b) not confirmed**. However, name related verbs were significantly more imageable than non-name related verbs – **(c) confirmed**.

We interpret our findings as lending support to a network model of lexical representation, where phonologically or semantically related forms will activate each other irrespective of word class. Such a model is compatible with a cognitive-linguistic framework where items sharing properties of form and meaning lead to mutual entrenchment in the mental lexicon.

## Why only verbs?

Prototypically, nouns denote entities, while verbs denote relations between entities. Entities are inherently more imageable than relations, which may explain the general and cross-linguistic difference in imageability found between the word classes.

Due to similarity in form and meaning with a noun, a name related verb will increase its imageability through coactivation of the noun counterpart, whereas the imageability of a noun may be less dependent on its name related verb.