



The combinability of derivational suffixes in the mental lexicon: A psycholinguistic study

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- Our research is on suffix combinability or suffix ordering, i.e. why is it *lead-er-ship* and not **lead-ship-er*?
- Restrictions on affix ordering exist in all languages of the world.



Outline

1. Theoretical background
 - a. Approaches to affix order
 - b. This study: Cognitive approach
2. Psycholinguistic study (to verify the followed approach)
3. Discussion of results



Affix ordering is a major issue in linguistics, there is much research on the topic and many theories (approaches) have been suggested to explain the way affixes combine in different languages, overviews in Manova & Aronoff 2010 and Rice 2011.



Approaches to affix order

- According to the type of information used in affix ordering, Manova & Aronoff (2010) differentiate eight different approaches:
 - 1) phonological
 - 2) morphological
 - 3) syntactic
 - 4) semantic
 - 5) statistical
 - 6) psycholinguistic
 - 7) cognitive
 - 8) templatic



English -ist: A traditional analysis

SUFF1	Word class of SUFF1	Followed by SUFF2
<i>-ist</i>	N	<i>-dom, -ic, -y, -ize</i>

Data from Aronoff & Fuhrhop (2002), based on OED, CD 1994



English -ist: A cognitive analysis

SUFF1	Syntactic category of SUFF1	SUFF2
<i>-ist</i>	N	N: <i>-dom</i> ADJ: <i>-ic</i> (631), <i>-y</i> (5) V: <i>-ize</i>

Data from Aronoff & Fuhrhop (2002), based on OED, CD 1994

Nouns, adjectives and verbs are seen as being cognitive in nature (Langacker 1987).



Hypotheses

H1: If SUFF1 tends to combine with only one SUFF2 of a major lexical category (N, ADJ, V), SUFF1-SUFF2 combinations are unique pieces of structure and speakers should know them by heart.

H2: If speakers know suffix combinations by heart, existing combinations should be recognised with higher accuracy than non-existing ones.



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EXPERIMENT

Participants



- 64 native speakers of Polish 36 28
- age: $M=23.2$ yo ($SD=1.76$)
- no history of developmental dyslexia or reading disabilities
- non-linguists



Stimuli

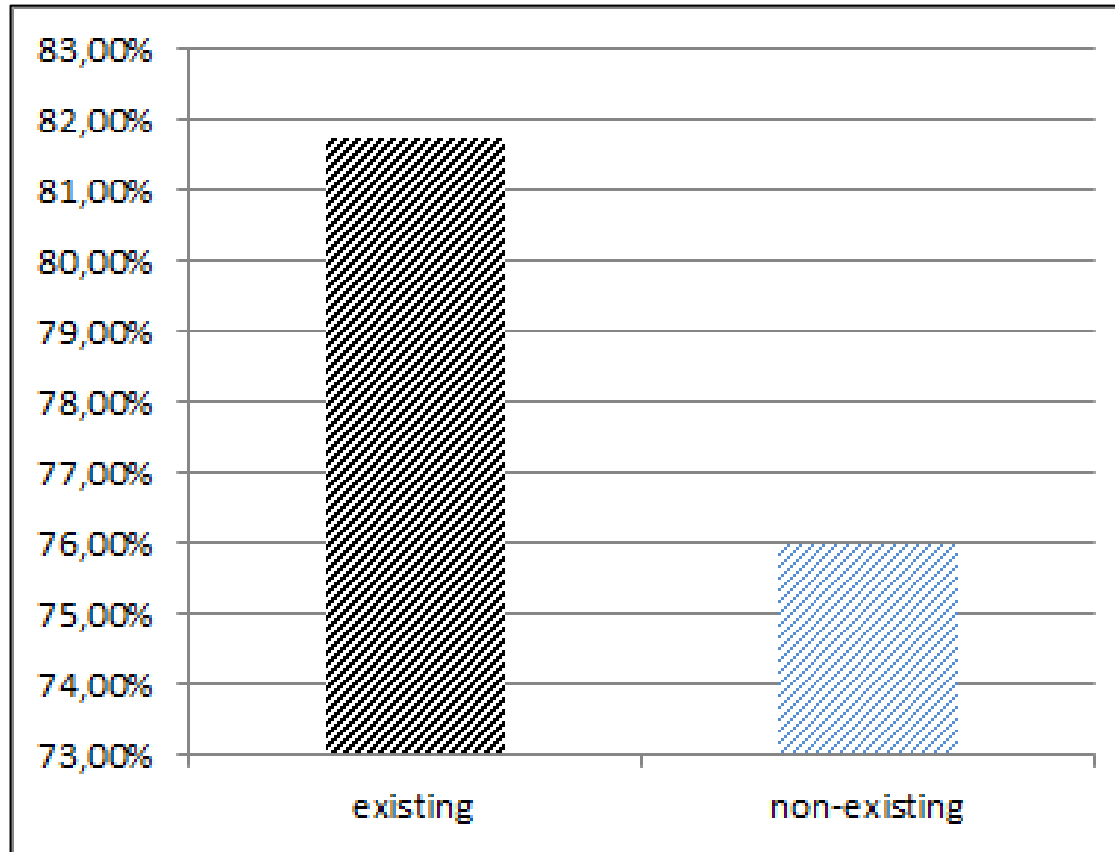
- 60 items
 - 30 existing suffix combinations from Polish (e.g. *-ar-nia* as in Pol. *kawiarnia* – *En. café*)
 - 30 non-existing suffix combinations from Polish created by changing order of legal ones or by manipulating phonemes (e.g. from the existing *-ar-nia* → *-ni-ar*)
- 2 lists
 - each with the suffixes of the other in reverse order
 - each participant saw all combinations



Procedure

- Participants were given a list of existing and non-existing suffix combinations
- the list started with examples of derivation of words with more than one suffix (also derivation of non-existing words)
- task: decide as quickly and as accurately as possible if a combination exists or not
- maximum time for decision: 10 minutes

Results: Accuracy



Acc. for existing:
M=81.72% (SD=0.29)

Acc. for non-existing:
M=75.99% (SD=0.22)

$t(63)=2.34;$
 $p=0.02$



Discussion of results

- accuracy for existing combinations higher than for non-existing (81.72% vs. 75.99%; $t(63)=2.34$; $p=0.02$)
- recognition of suffix combinations seems to resemble recognition of words, cf. word superiority effect
- If suffix combinations are represented in the mental lexicon, why is the accuracy of the existing combinations not (close to) 100%?
 - existing combination with low accuracy – e.g. *–acz-ostwo* as in *smarkaczostwo* (En. *bratness*) are unproductive, infrequent
- suffix combinations are most probably stored in the mental lexicon



Further research

- visual-recognition with reaction-time measuring of the processing of existing and non-existing suffix combinations
- testing the roles of productivity and frequency in suffix combinability
- testing the processing of existing and non-existing suffix combinations in words with existing and non-existing bases (stems)



References

- Aronoff, M. & Fuhrhop, N. 2002. "Restricting Suffix Combinations in German and English: Closing Suffixes and the Monosuffix Constraint", *Natural Language & Linguistic Theory* 20(3): 451-490.
- Langacker, R. 1987. *Foundations of cognitive grammar vol. 1. Theoretical prerequisites*. Stanford: Stanford University Press.
- Manova, S. 2011. "A cognitive approach to SUFF1-SUFF2 combinations: A tribute to Carl Friedrich Gauss", *Word Structure* 4(2): 272–300.
- Manova, S. & Aronoff, M. 2010. "Modeling affix order", *Morphology* 20(1): 109-131.
- Rice, K. 2011. "Principles of affix ordering: An overview", *Word Structure* 4(2): 169-200.



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