



Cognitive consequences of multilingualism in the processing of markedness and ungrammaticality in L1

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Presentation outline

1. Project description
 2. Gradient acceptability
 3. Constructions under investigation
 4. Language attitudes
 5. Research questions
 6. Methods
 7. Results
 8. Discussion
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Project description

- inspired by findings from a longitudinal study of cross-linguistic influence in third language phonetics, phonology and syntax in L1 Polish, L2 English, and L3 Norwegian
 - gradient acceptability of two syntactic constructions under investigation
 - potential correlation between multilingualism and increased acceptance for marked / ungrammatical constructions in L1
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Aims

investigation of the role of multilingualism and age in the processing of markedness and ungrammaticality in L1

Why multilingualism and age?

- **multilingualism** – based on results of the longitudinal study and previous literature on its influence of ungrammatical constructions in L1
 - **age** – based on informal observations about the over-exposure of younger generations to social media and their loose treatment of grammar rules among
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What are gradient judgments?

Gradient (acceptability) judgments characterize constructions which are partially acceptable within a given population of speakers

Sources of gradience:

- language-internal perspective
- language-external perspective (aka language attitudes) – language attitudes of speakers, usually resulting from the interaction among a number of (often) unrelated factors

Gradient acceptability judgments are the result of the interaction between language-internal and language-external factors



Language-internal perspective

Language-internal sources of gradience (Francis, 2022):

- syntactic
- semantic / pragmatic
- processing-based



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Constructions under investigation

1. distribution of **subject-oriented (SO) reflexive possessive / possessive pronouns**
2. (pre- vs. post-verbal) position of **adverbs of frequency**



Construction 1: SO reflexive possessive / possessive pronouns

Prescriptively speaking, only the reflexive possessive may be subject-oriented in Polish (a); the SO possessive pronoun is considered ungrammatical, but it is still grammatical when it takes a non-subject antecedent (e.g. an object), as in (b):

a. Jan znalazł swoje / jego klucze.
Jan found self's his keys

b. Jan dał Markowi swoje / jego klucze.
Jan gave Mark self's his keys



Construction 1: SO reflexive possessive / possessive pronouns

possessive pronoun at least partially acceptable among native speakers of Polish (some speakers accept both pronominal forms):

- a. Jan znalazł swoje / ?jego klucze.
Jan found self's his keys

SO possessives – semantic / pragmatic violation (using them often creates an ambiguous context)



Construction 2: Position of adverbs of frequency

default pre-verbal position of adverbs of frequency in Polish
post-verbal position of adverbs also acceptable, although less frequent (thus marked):

- a. Jan **rzadko** czyta e-booki.
Jan rarely reads e-books.
- b. Jan czyta **%rzadko** e-booki.
Jan reads rarely e-books.

marked status of b. – non-canonical syntactic configuration



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Language attitudes

Polish has a deeply rooted tradition of normative studies. Prescriptivist attitudes to Polish are enforced via (among others):

- regulatory body shaping language policies (the Polish Language Council)
 - well-known authorities on proper language use
 - kultura języka ('proper language use') – branch of Polish language studies concerned with cultivating the linguistic awareness of speakers
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Language attitudes

Modern-time challenges to deep-seated prescriptive sentiments:

- social media (and many other informal websites) – dominant role both as a source of entertainment and information among younger generations of speakers (=> thus age can constitute a potential divide between the more conservative and more liberal language attitudes)
 - substantial increase in the level of bi- and multilingualism (bi-/multilingualism as a potential agent of change in language)
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The role of bi- / multilingualism

- "increased optionality" in the context of bilingualism (Sorace, 2019)
 - grammatical attrition "appears to consist in fluctuation between L1-based and L2-based grammatical options" in the context of bilingualism" (Hicks & Domínguez 2020: 16)
 - "the knowledge of multiple languages and the experience of having to survive in a foreign language and culture make individuals more tolerant of ambiguity" (Dewaele & Li, 2013: 238)
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Research questions



1. Do **multilingualism** and / or **age** affect the processing of **ungrammaticality and markedness** among L1 speakers of Polish?
 2. Are **multilingualism** and / or **age** correlated with less prescriptively-oriented attitudes towards the language?
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Participants

	
N = 31	N = 23
$M_{\text{English score}} = 12.03$	$M_{\text{English score}} = 18.24/25$
$M_{\text{age}} = 18.94$	$M_{\text{age}} = 19.87$
N = 26	N = 25
$M_{\text{English score}} = -$	$M_{\text{English score}} = 16.76$
$M_{\text{age}} = 66.67$	$M_{\text{age}} = 48.80$



Stimuli – subject-oriented pronouns

- introductory sentence
Paweł i jego współpracowniczka Helena zarobili na giełdzie sporo pieniędzy.
'Peter and his business partner Helen made a lot of money on the stock exchange'
 - target sentence
Paweł₁ wydał **swoje**₁ pieniądze na nowy samochód.
vs.
*Paweł₁ wydał **jego**₁ pieniądze na nowy samochód.
'Peter spent his money on a new car'
-



Stimuli – adverb placement

- introductory sentence
Większość pracowników dojeżdża do pracy pociągiem
'The majority of employees commute by train'
 - target sentence
Ale Stanisław **rzadko jeździ** pociągiem.
vs.
Ale Stanisław **jeździ rzadko** pociągiem.
'But Steven **seldom takes / takes seldom** the train.'
-



Procedure

Większość pracowników dojeżdża do pracy pociągiem.

Ale Stanisław jeździ rzadko pociągiem. *

Zupełnie
nie

Całkowicie
tak

Czy to zdanie
brzmi
dobrze?





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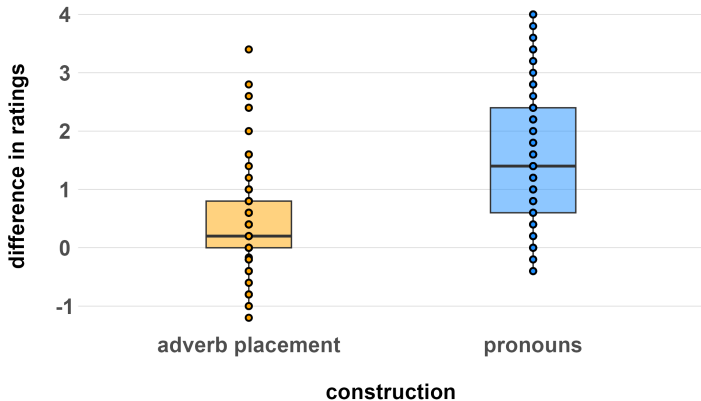


Descriptive statistics

	SO pronouns	adverb placement
grammatical	M = 4.37 (SD = 1.06)	M = 3.52 (SD = 1.45)
ungrammatical / marked	M = 2.79 (SD = 1.55)	M = 3.15 (SD = 1.39)

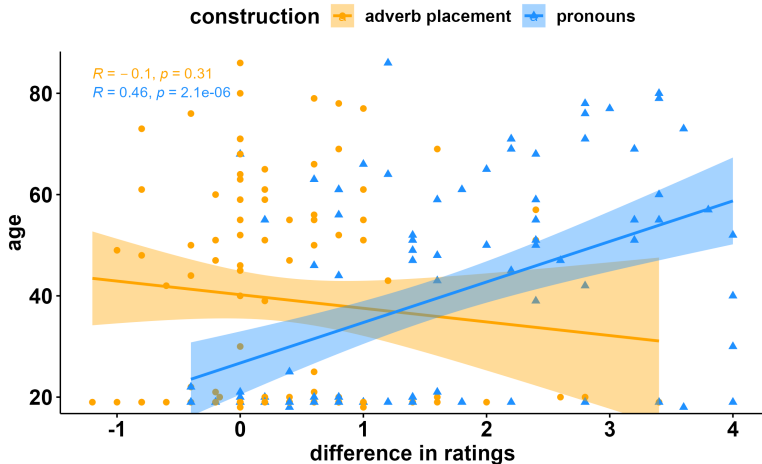


Differences in ratings between grammatical and ungrammatical/marked sentences



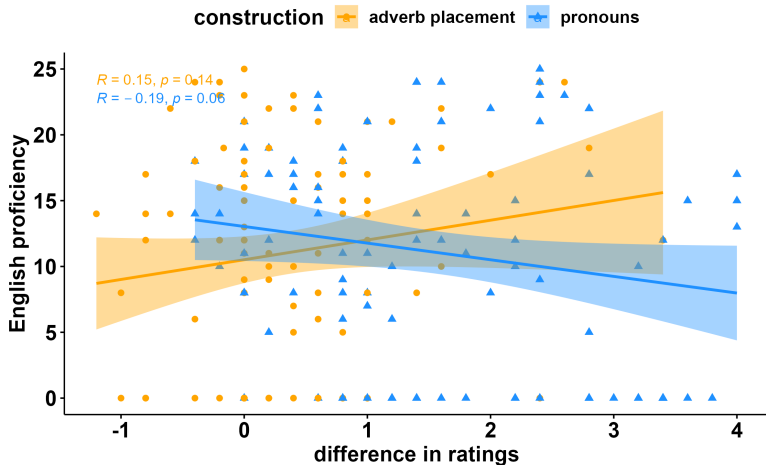


Correlation between differences in ratings and age





Correlation between differences in ratings and English proficiency





SO pronouns – modelling

<i>Predictors</i>	rating			
	<i>Odds Ratios</i>	<i>std. Error</i>	<i>Statistic</i>	<i>p</i>
1 2	0.08	0.02	-12.13	< 0.001
2 3	0.21	0.04	-8.16	< 0.001
3 4	0.56	0.10	-3.14	0.002
4 5	1.48	0.27	2.15	0.032
grammaticality [1]	3.83	0.30	17.22	< 0.001
grammaticalitygrammatical × age	1.24	0.08	3.29	0.001
grammaticalityungrammatical × age	0.80	0.05	-3.65	< 0.001
grammaticalitygrammatical × english test	1.15	0.08	2.10	0.035
grammaticalityungrammatical × english test	1.04	0.06	0.70	0.483
Random Effects				
σ^2	3.29			
τ_{00} participant	1.28			
τ_{00} sentence	0.14			
ICC	0.30			
N participant	98			
N sentence	10			
Observations	990			
Marginal R ² / Conditional R ²	0.317 / 0.523			



Adverb placement – modelling

<i>Predictors</i>	rating			
	<i>Odds Ratios</i>	<i>std. Error</i>	<i>Statistic</i>	<i>p</i>
1 2	0.05	0.02	-10.15	< 0.001
2 3	0.21	0.06	-5.64	< 0.001
3 4	1.01	0.28	0.05	0.962
4 5	4.71	1.30	5.61	< 0.001
grammaticality [1]	1.42	0.09	5.44	< 0.001
grammaticalitygrammatical × age	1.18	0.12	1.59	0.112
grammaticalityungrammatical × age	1.21	0.13	1.82	0.069
grammaticalitygrammatical × english test	1.28	0.13	2.42	0.015
grammaticalityungrammatical × english test	1.19	0.12	1.70	0.089
Random Effects				
σ^2	3.29			
τ_{00} participant	5.26			
τ_{00} sentence	0.12			
ICC	0.62			
N participant	98			
N sentence	10			
Observations	990			
Marginal R ² / Conditional R ²	0.048 / 0.638			



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Discussion – research question 1

Do multilingualism and / or age affect the processing of ungrammaticality and markedness among L1 speakers of Polish?

- influence of age on the ratings of ungrammatical, but not marked constructions – potential language change
 - absence of clear influence of multilingualism on the ratings of ungrammatical or marked constructions
 - **HOWEVER:** young functionally monolingual adults have more frequent contact with other languages via the internet, especially social media, than older monolingual adults – potential influence of multilingualism?
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Discussion – research question 2

Are multilingualism and / or age correlated with less prescriptively-oriented attitudes towards language?

- multilingualism-related decrease in distinction between grammatical and ungrammatical sentences with pronouns
 - age-related increase in distinction between grammatical and ungrammatical sentences with pronouns
 - more liberal attitudes towards language related with multilingualism and younger age
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Conclusions

Future research:

- investigation of gradience in other languages (e.g., Norwegian)
 - more structured investigation of factors influencing ratings of ungrammatical and marked constructions in L1 (education level potentially correlated with multilingualism)
 - wider selection of constructions characterised by gradience (investigation of syntactic, semantic / pragmatic, and processing-based sources of gradience)
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- PI: Magdalena Wrembel



NARODOWE
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Opus





Thank you!
