



ADAM MICKIEWICZ UNIVERSITY IN POZNAŃ

Faculty of English

The role of TIME and CONDITION in syntactic CLI: a report on a longitudinal study

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@PLM_2022_Poznań



Outline

- PROJECT DESCRIPTION
- GOALS
- PROPERTIES UNDER INVESTIGATION (GRADIENT ACCEPTABILITY)
- RESEARCH QUESTIONS
- THE EXPERIMENT
- DISCUSSION
- CONCLUSIONS



Project description

- The main project is a LONGITUDINAL STUDY of crosslinguistic influence in third language PHONETICS / PHONOLOGY and SYNTAX in POLISH (L1), ENGLISH (L2) and NORWEGIAN (L3).
- The long-term goal of the project is to observe the CROSS-LINGUISTIC INFLUENCE over time (at T1, T2 and T3) in our experimental group.



Properties under investigation

- the distribution of **REFLEXIVE POSSESSIVE / POSSESSIVE PRONOUNS**
- the (pre- vs. post-verbal) position of **ADVERBS OF FREQUENCY**
- **PRESENCE VS. ABSENCE OF DEFINITE & INDEFINITE PRONOUNS**



Properties under investigation

- While in English and Norwegian for each condition there was a *grammatical / ungrammatical* pair, in Polish the opposition was between *grammatical / marked (=partially acceptable)*.
- **PARTIAL / GRADIENT ACCEPTABILITY** – varying, non-binary intuitions concerning the acceptable status of selected linguistic expressions.



Property 1: (reflexive) possessive pronouns

- Polish (a) and Norwegian (b): only the **REFLEXIVE POSSESSIVE** may be **SUBJECT-ORIENTED**;
- English (c): no reflexive possessive, thus the **POSSESSIVE** may be **SUBJECT-ORIENTED**.

a/ Jan znalazł swoje / jego klucze.

Jan found self's his keys

b/ Jan fant nøklene sine / hans.

c/ John found his keys.



Property 1: (reflexive) possessive pronouns

- However...

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

Polish speakers find the subject-oriented possessive **partially acceptable**. This reading is impossible in Norwegian.



Property 2: position of adverbs of frequency

- **Polish:** the default is PRE-VERBAL, POST-VERBAL is OK but marked
 - a/ Jan **rzadko** czyta e-booki. / Jan czyta **%rzadko** e-booki.
- **English:** the default is PRE-VERBAL, POST-VERBAL is out
 - b/ Jan **seldom** reads e-books. / *Jan reads **seldom** e-books.
- **Norwegian:** the default is POST-VERBAL, PRE-VERBAL is out
 - c/ *Jan **sjelden** leser e-bøker. / Jan leser **sjelden** e-bøker.

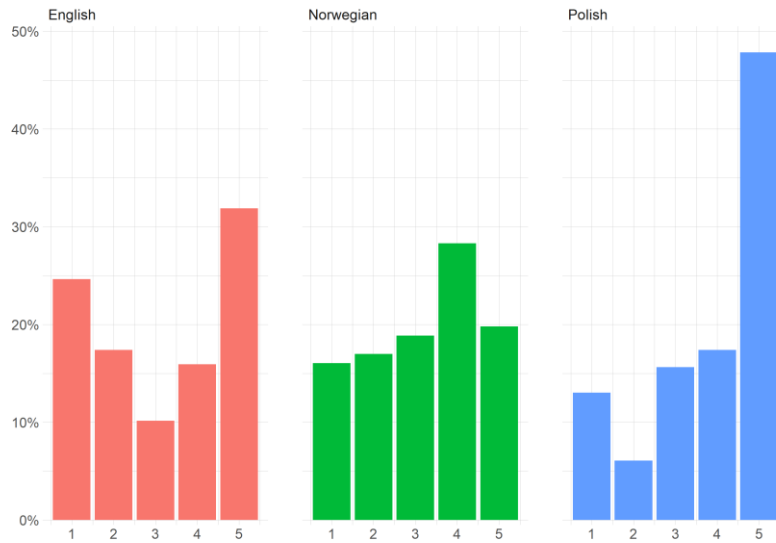


GRADIENT ACCEPTABILITY

- Ratings of ungrammatical sentences highest in Polish.

Ratings of 'ungrammatical' sentences

T3 :: Pronouns



Ratings of 'ungrammatical' sentences

T3 :: Word order





Properties 3 & 4: definite and indefinite articles

- **Polish:** no articles
- **English:** both definite and indefinite articles present

a/ **The** dog / *∅ dog is very small.

b/ I met **an** / *∅ old friend from high school.

Norwegian: both definite and indefinite articles present

c/ Hund**en** / *hund-∅ er veldig liten.

d/ Jeg møtte **en** / *∅ gammel venn fra videregående.



Research questions

- RQ1:** Does CROSS-LINGUISTIC SIMILARITY between **Polish** and **Norwegian** facilitate L3 learning?
- RQ2:** Does CROSS-LINGUISTIC SIMILARITY between **English** and **Norwegian** facilitate L3 learning?
- RQ3:** Does acceptance of marked L1 constructions increase with growing L3 proficiency?



The experiment: basic information

- **T1:** December 2021
- **T2:** March 2022
- **T3:** June 2022

- **Tasks:**
 - Perception and production study (non-syntactic)
 - Acceptability Judgment Task (syntactic)



The experiment: participants

- **T1:** 24 participants (1st year L1 Polish students of the Norwegian philology at a Polish university and college)
L2 English: B1
L3 Norwegian: A1
- **T2:** 17 participants
- **T3:** 16 participants



The experiment: method and stimuli

- The **ACCEPTABILITY JUDGMENT TASK**:
 - an online questionnaire
 - L1, L2, L3 in three separate language blocks
 - reading a list of experiment items
 - answering follow-up questions on a 5-point Likert scale (1=very bad, 5=very good)
 - **Norwegian**: 40 items (4 conditions, 10 sentences each)
 - **English** (4 conditions, 6 sentences each)
 - **Polish** (2 conditions, 10 sentences each)



The experiment: condition_1a

1a Paweł i jego współpracowniczka Helena zarobili na giełdzie sporo pieniędzy. Paweł wydał **swoje** pieniądze na nowy samochód. (*refl_poss*)

*Peter and his business partner Helen made a lot of money on the stock exchange. Peter spent **own** money on a new car.

Per og partneren Ellen tjente mye penger på børsen. Per brukte pengene **sine** på en ny bil.



The experiment: condition_1b

1b ?Paweł i jego współpracowniczka Helena zarobili na giełdzie sporo pieniędzy. Paweł wydał **jego** pieniądze na nowy samochód. (*poss*)

Peter and his business partner Helen made a lot of money on the stock exchange. Peter spent **his** money on a new car.

*Per og partneren Ellen tjente mye penger på børsen. Per brukte pengene **hans** på en ny bil.



The experiment: condition_2a

2a Wszyscy czytają teraz e-booki zamiast papierowych książek. Ale Grzegorz **rzadko czyta** e-booki. (*pre-verbal*)

E-books are really popular these days. But William **seldom reads** e-books.

*Alle leser e-bøker og ikke papirbøker nå. Men Øystein **sjelden leser** e-bøker.



The experiment: condition_2b

2b %Wszyscy czytają teraz e-booki zamiast papierowych książek. Ale Grzegorz **czyta rzadko** e-booki. (*post-verbal*)

*E-books are really popular these days. But William **reads seldom** e-books.

Alle leser e-bøker og ikke papirbøker nå. Men Øystein **leser sjelden** e-bøker.



The experiment: condition_3a/3b

3a Mary has a dog and a cat. **The** dog is really small. (**def_article**)

Mari har en hund og en katt. Hund**en** er veldig liten.

3b Mari har en hund og en katt. *Hund-**Ø** er veldig liten. (**no_def_article**)

Mary has a dog and a cat. ***Ø** Dog is really small.



The experiment: condition_4a/4b

4a I walked around the city yesterday. I found **a** nice restaurant near the Old Market. (**indef_article**)

Jeg gikk rundt i byen i går. Jeg fant **en** fin restaurant i nærheten av det gamle markedet.

4b I walked around the city yesterday. *I found **Ø** nice restaurant near the Old Market. (**no_indef_article**)

Jeg gikk rundt i byen i går. *Jeg fant **Ø** fin restaurant i nærheten av det gamle markedet.



The experiment: procedure

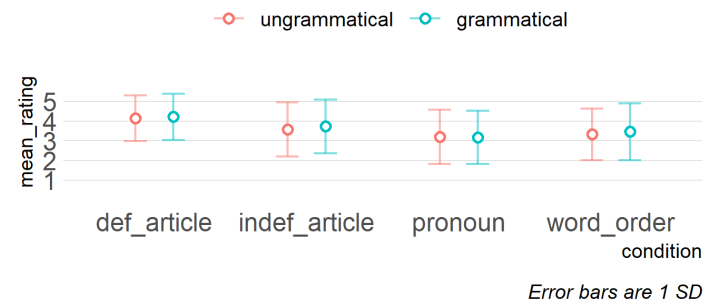
- Sets comprising conditions (with two levels per condition) were created, then two lists were made so that each participant would only see one of the two levels per each condition.



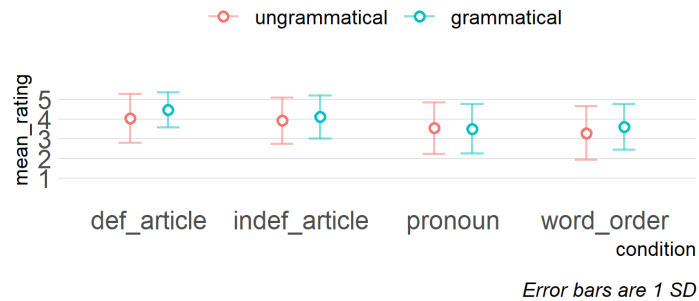
Descriptive statistics

Mean ratings for grammatical & ungrammatical sentences in L3 Norwegian across time

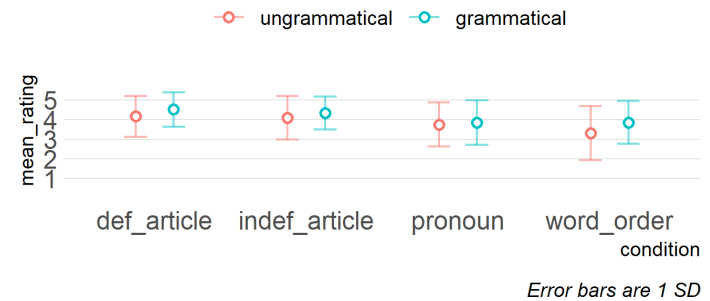
NO T1



NO T2



NO T3

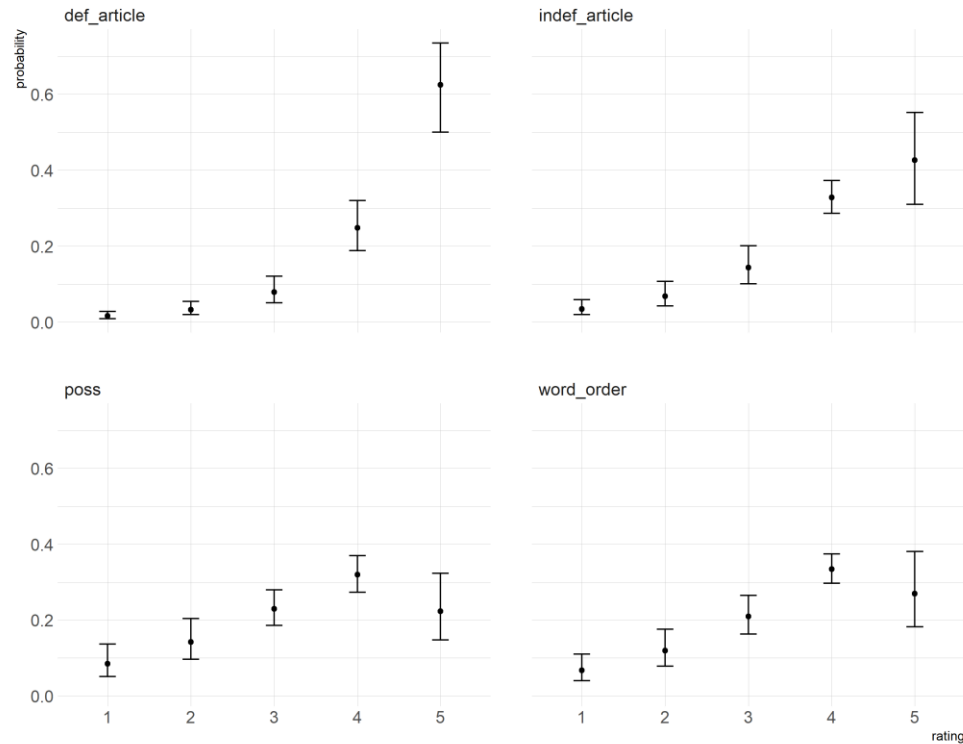




CROSS-LINGUISTIC INFLUENCE

FROM L1 Polish and L2 English over time

Ordinal logistic regression for grammatical sentences
rating ~ time + condition + no_prof + (1|part) + (1|sentence)

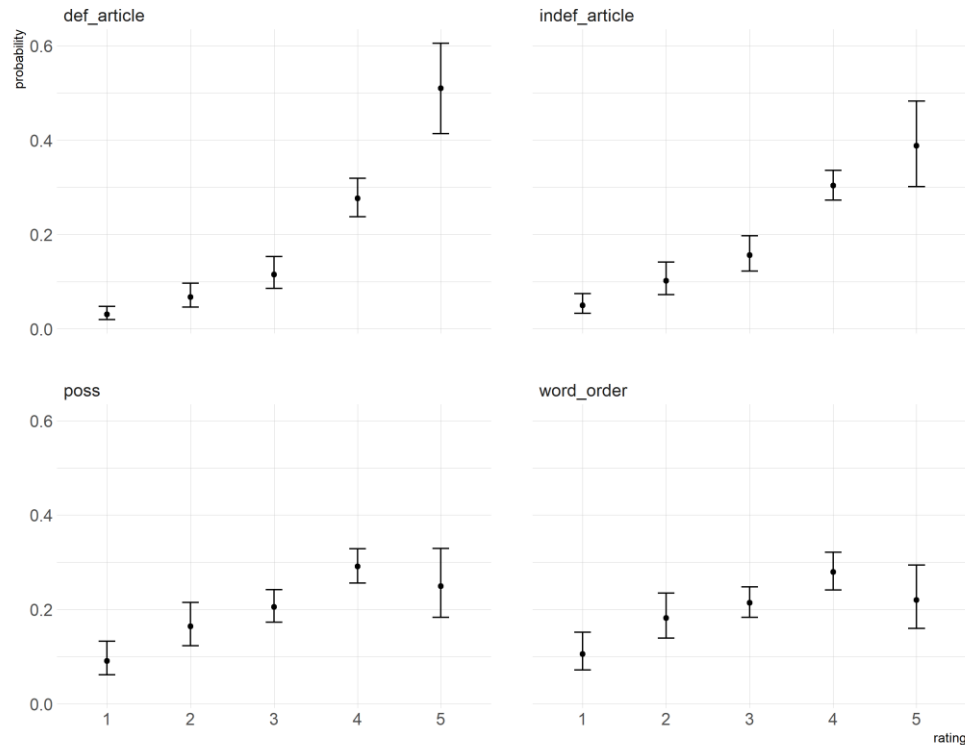




CROSS-LINGUISTIC INFLUENCE

FROM L1 Polish and L2 English over time

Ordinal logistic regression for ungrammatical sentences
rating ~ time + condition + no_prof + (1|part) + (1|sentence)



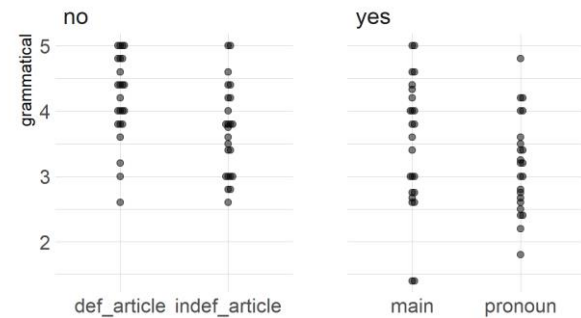


CROSS-LINGUISTIC INFLUENCE

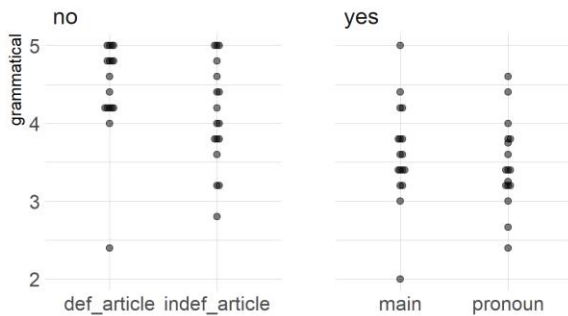
FROM L1 Polish and L2 English over time

Grammatical constructions present vs. absent in L1

T1_grammatical: Cx present in L1?

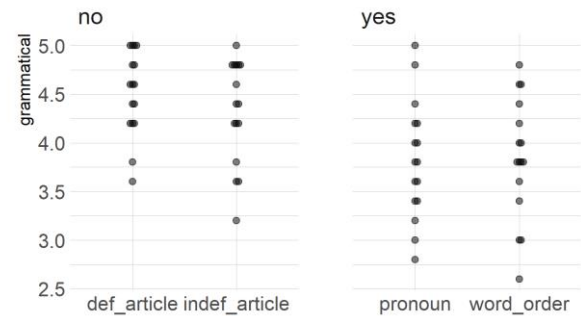


T2_grammatical: Cx present in L1?



By-participant mean differences

T3_grammatical: Cx present in L1?



By-participant mean differences

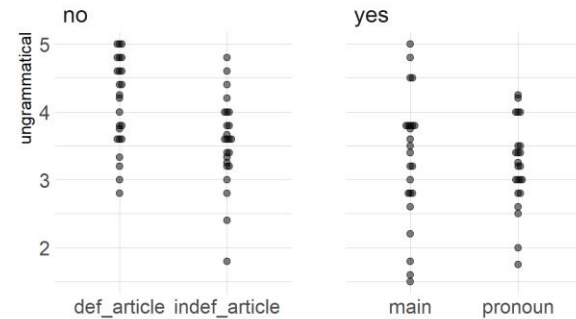


CROSS-LINGUISTIC INFLUENCE

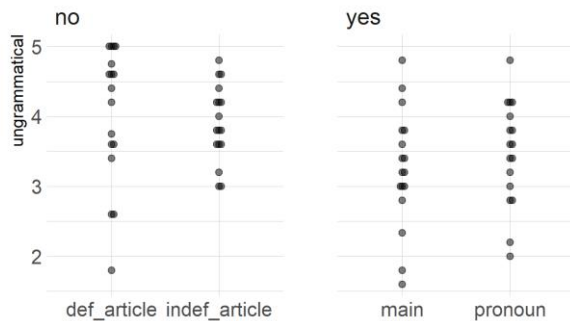
FROM L1 Polish and L2 English over time

Ungrammatical constructions present vs. absent in L1

T1_ungrammatical: Cx present in L1?

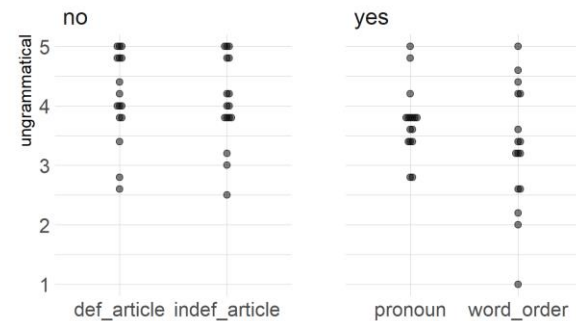


T2_ungrammatical: Cx present in L1?



By-participant mean differences

T3_ungrammatical: Cx present in L1?



By-participant mean differences



L1/L2 facilitation: predictions

 poss
 pre-v

 poss

 post-v

 refl
 refl
 post-v
 pre-v

Predictions about the interaction between conditions in Norwegian:

1. grammatical: word_order < pronouns
2. ungrammatical: word_order > pronouns
3. grammatical: def_article > indef_article
4. ungrammatical: def_article < indef_article

 poss
 refl
 pre-v
 post-v

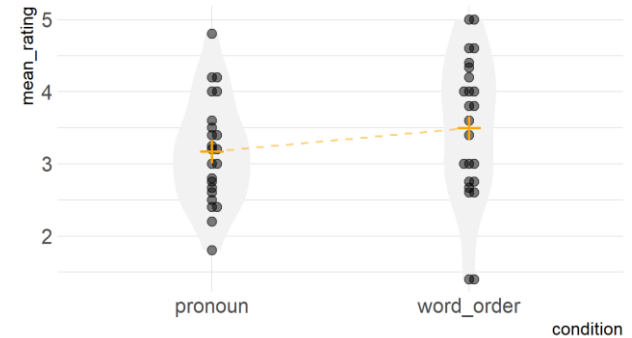
 refl
 poss
 post-v
 pre-v



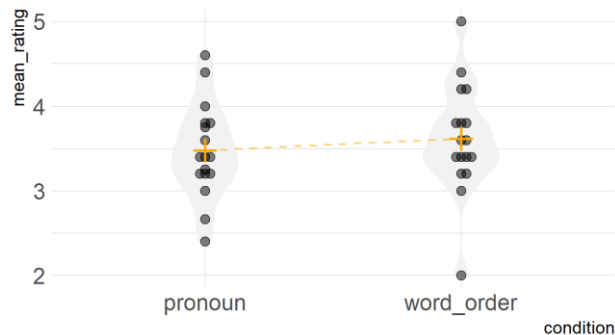
RQ1: Does CROSS-LINGUISTIC SIMILARITY between Polish and Norwegian facilitate L3 learning?

t-test: prediction_1
grammatical:
word_order < pronoun

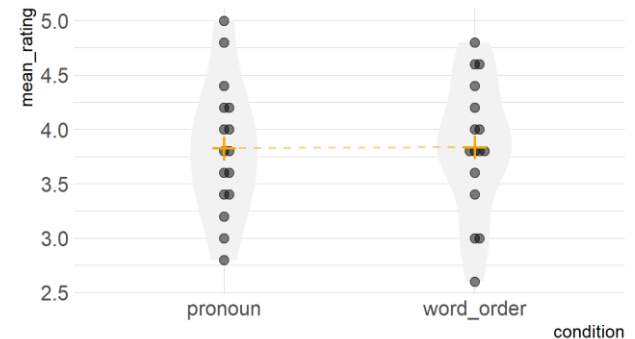
T1: $p = 0.91$



T2: $p = 0.75$



T3: $p = 0.53$

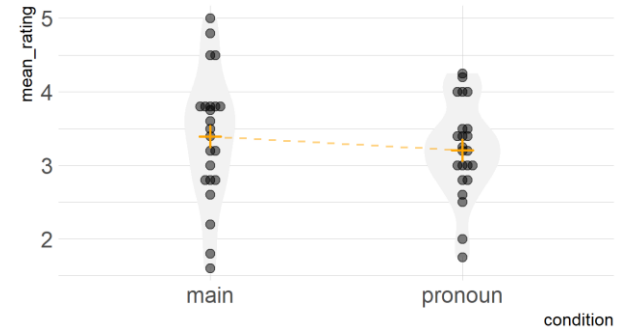




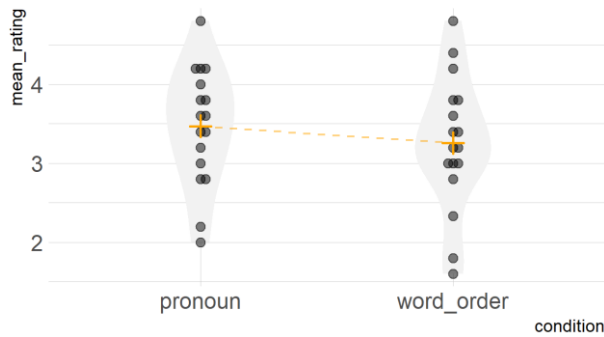
RQ1: Does CROSS-LINGUISTIC SIMILARITY between Polish and Norwegian facilitate L3 learning?

T1: $p = 0.19$

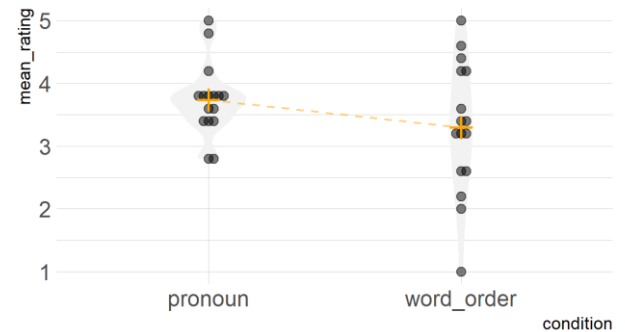
t-test: prediction_2
ungrammatical:
word_order > pronoun



T2: $p = 0.78$



$p = 0.93$

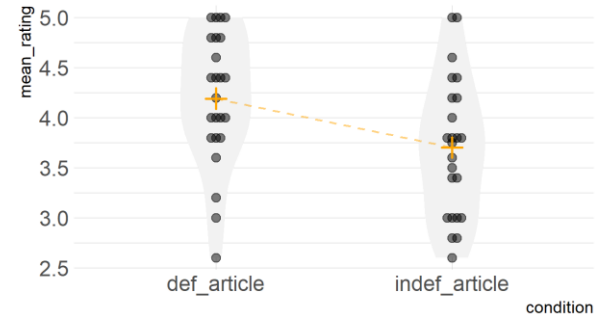




RQ2: Does CROSS-LINGUISTIC SIMILARITY between English and Norwegian facilitate L3 learning?

T1: $p < 0.01$ **

t-test: prediction_3
grammatical:
def_article > indef_article



T2: $p = 0.02$ *



$p = 0.11$

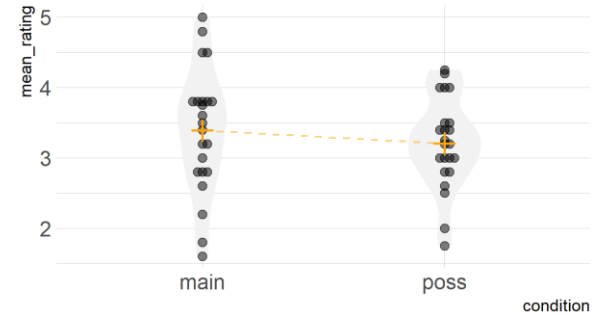




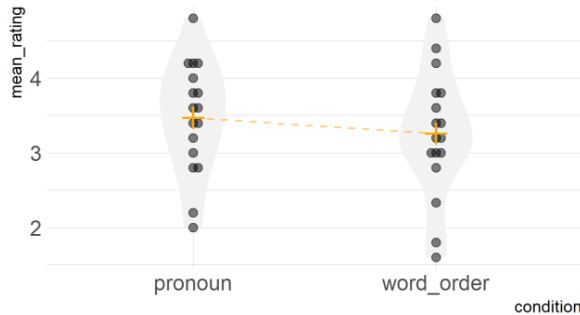
RQ2: Does CROSS-LINGUISTIC SIMILARITY between English and Norwegian facilitate L3 learning?

T1: $p \sim 1$

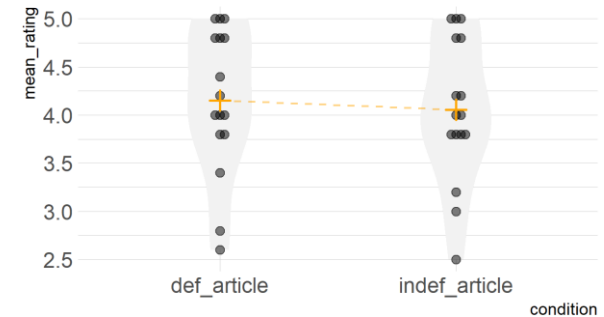
t-test: prediction_4
ungrammatical:
def_article < indef_article



T2: $p = 0.68$



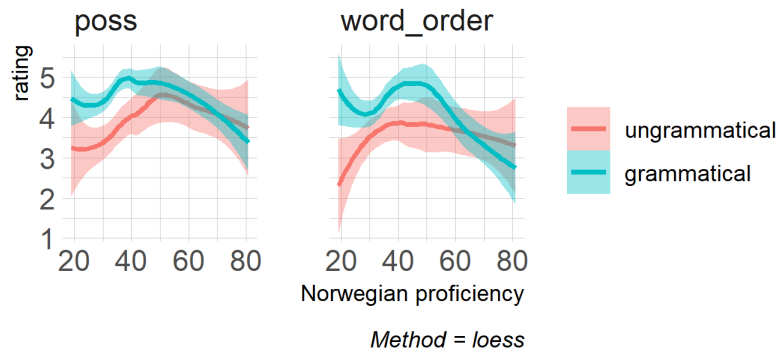
$p = 0.73$



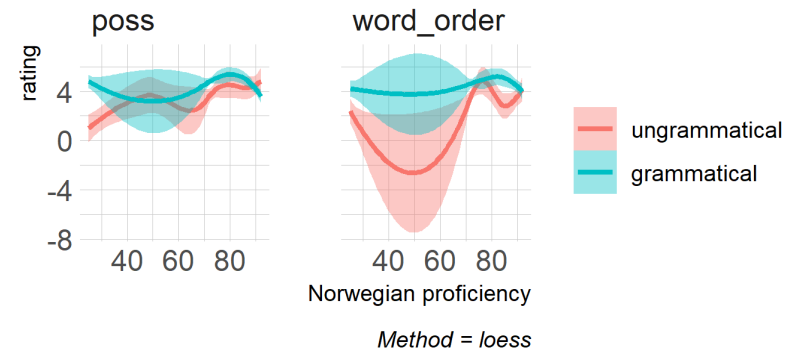


RQ3: Does acceptance of marked L1 constructions increase with growing L3 proficiency?

PL :: T1



PL :: T3





Discussion

- RQ1:** Does CROSS-LINGUISTIC SIMILARITY between Polish and Norwegian facilitate L3 learning? ✗
- RQ2:** Does CROSS-LINGUISTIC SIMILARITY between English and Norwegian facilitate L3 learning? ✓
- RQ3:** Does acceptance of marked L1 constructions increase with growing L3 proficiency? ✗

Possible reasons:

- low number of participants
- low L3 proficiency
- differences in learnability between word order and pronouns



Conclusions

- the Linguistic Proximity Model (e.g. Westergaard et al. 2017; Westergaard 2021) – CLI for articles (similarity between English and Norwegian), no clear CLI for pronouns and word order (similarities / differences between Polish, English and Norwegian)

Next steps:

- comparison of our data with the L1 English – L2 Norwegian control group
- closer investigation of gradient acceptability of possessive pronouns (effects of bi-/multilingualism)



Acknowledgements

- Funding: Polish National Science Centre
- Title: **Cross-linguistic influence in multilingualism across domains: Phonology and syntax (CLIMAD)**
- ID nr: UMO-2020/37/B/HS2/00617
- Period: 2021-2024 (36 months)
- PI: Magdalena Wrembel

