

Does cross-linguistic similarity play a role in reading? A self-paced reading study with Polish-English-Norwegian multilinguals

Anna Skalba (Adam Mickiewicz University in Poznań); Sylwiusz Żychliński (Adam Mickiewicz University in Poznań); Magdalena Wrembel (Adam Mickiewicz University)

Although research into multilingualism and third language (L3) acquisition has recently attracted much attention, the area still seems relatively under-researched, especially in terms of cognitive processes underlying L3 sentence comprehension (e.g., de Bot 2004; Jarvis and Pavlenko 2008; Sokolova and Slabakova 2019). Therefore, we conducted a self-paced reading study with L1 Polish – L2 English – L3 Norwegian multilinguals, addressing the role of cross-linguistic similarity in the processing of correct and incorrect sentences in L3. We investigated this factor using four types of constructions: prepositional verbs and adjectives, reflexive verbs, articles, and gender agreement, controlling for potential sources of cross-linguistic influence from L1 and/or L2. Specifically, while the former two constructions are present in all three languages, the latter two exist in two out of the three languages. Within each construction, we manipulated the level of cross-linguistic similarity and grammatical correctness. This design can be illustrated as follows:

1. 1a. Prepositional verbs and adjectives: NO = EN = PL (same preposition in all three languages)
2. 1b. Prepositional verbs and adjectives: NO = EN ≠ PL (same preposition in NO & EN, different in PL)

1. 2a. Reflexive verbs: NO = PL = EN (same verbs reflexive in all three languages)
2. 2b. Reflexive verbs: NO = PL ≠ EN (same verbs reflexive in NO & PL, non-reflexive in EN)

1. 3a. Gender agreement: NO = PL (agreement marked on adjectives, nouns neuter in NO & PL)
2. 3b. Gender agreement: NO ≠ PL (agreement marked on adjectives, nouns neuter in NO, masculine or feminine in PL)

1. 4a. Articles: NO = EN (indefinite articles, free morphemes in NO & EN)
2. 4b. Articles: NO ≠ EN (definite articles, suffixes in NO, free morphemes in EN)

We presented our participants (N = 34) with 192 Norwegian sentences, which were displayed word- by-word on the computer screen. Having read one word of a sentence, they had to press the space bar to see the next word, which replaced the previous one. Each sentence was followed by a binary acceptability judgement question, evaluating their metalinguistic knowledge and ensuring they paid attention during reading. The L3 self-paced reading task was followed by an acceptability judgement questionnaire in English, verifying participants' knowledge of L2 English on the constructions under investigation (except for gender agreement, absent in English).

We will analyse the data using a linear mixed-effects model, with reaction times (RTs) at the key word (the word deciding about the grammatical correctness of the selected constructions,

marked in bold in the examples below) as the outcome variable, and grammaticality and cross-linguistic similarity as fixed effects. We hypothesise that, within each construction, key words in sentences belonging to conditions a above will yield shorter RTs than sentences from conditions b, both for correct and incorrect sentences. Additionally, we will test a control group of Norwegian native speakers, which will allow us to refine our conclusions regarding the role of Polish in cross-linguistic influence. We hope to inform further the debate on cognitive processes underlying L3 sentence comprehension.

Keywords: cross-linguistic influence, multilingualism, self-paced reading

References:

de Bot, K. 2004. The Multilingual Lexicon: Modelling Selection and Control. *The International Journal of Multilingualism* 1(1), 17–32.

Jarvis, S. & Pavlenko, A. 2008. *Crosslinguistic influence in language and cognition*.

Routledge. Sokolova, M. & Slabakova, R. 2019. L3 sentence processing: Language-specific or phenomenon-

sensitive? *Languages* 4(3), 1–17.

Examples of sentences for the investigated constructions (with their English and/or Polish

translations):

1. 1a. Prepositional verbs and adjectives: NO = EN = PL
NO: Direktøren deres betalte for / *om **blyanter** og papir. EN: Their director paid for / *about pencils and paper. PL: Ich dyrektor zapłacił za / *o ołówki i papier.
2. 1b. Prepositional verbs and adjectives: NO = EN ≠ PL
NO: Disse rommene er nok for / *på **konferanser** og møter.
EN: These rooms are enough for / *on conferences and meetings.
PL: Te pomieszczenia są wystarczające *dla / na konferencje i spotkania.
1. 2a. Reflexive verbs: NO = PL = EN
NO: Den unge gutten skadet seg / *Ø **kraftig** i fingeren. EN: The little boy hurt **himself** / *Ø badly in the finger. PL: Mały chłopiec mocno skaleczył się / *Ø w palec.
2. 2b. Reflexive verbs: NO = PL ≠ EN
NO: Mange feriegjester solte seg / *Ø **på** stranden.
EN: Many holidaymakers sunbathed ***themselves** / Ø on the beach. PL: Wielu wczasowiczów opalało się / *Ø na plaży.
1. 3a. Gender agreement: NO = PL
NO: Dette dyret er **sultent** / ***sulten** om vinteren. PL: To zwierzę jest **głodne** / ***głodny** w zimie.
2. 3b. Gender agreement: NO ≠ PL (agreement marked on adjectives, nouns neuter in NO, masculine or feminine in PL)
NO: Dette kjøleskapet er **tomt** / ***tom** hele tiden.
PL: Ta lodówka jest cały czas *puste / pusta.

1. 4a. Articles: NO = EN

NO: Denne filmen er en / *Ø **tegnofilm** om to prinsesser.

EN: This film is a / *Ø cartoon about two princesses.

2. 4b. Articles: NO ≠ EN

NO: Denne parken er **skogen** / *skog hun jogget i.

EN: This park is the / *Ø forest in which she was jogging.