From boomer to digital native: The influence of Anglicisms in German social media language on language processing

Franziska Schlage (TU Dortmund, Germany)
franziska.schlage@tu-dortmund.de
Katie Von Holzen (TU Dortmund, Germany)

As the use of online streaming services increases, the potential for accelerated group specific language on platforms such as Twitch or YouTube increases (Androutsopoulos, 1998). Our study focuses on Anglicisms (e.g. "Ich bin so *lost*"), which are often used on German online streaming platforms. These borrowings may increase reading time due to the language switch, as is often found for code-switches (Abutalebi, et al., 2007), but this increase could be overcome by increased proficiency in the L2, English (van Hell, Litcofsky, Ting, 2015) or increased familiarity with their use through experience with German streams.

To test these hypotheses, fifty-two native speakers of German (*M* age = 25.33 years, range 14-43), with normal or corrected to normal vision participated in an online self-paced reading experiment created using OSWeb (Mathôt, Schreij, & Theeuwes, 2012). Anglicisms were derived from transcriptions of online-livestreams of different famous German streamers. Three versions of thirty sentences were constructed with a target segment (italic) followed by a post-target segment (underlined) to allow for matched comparisons: (Switch) German sentence with Anglicism target segment, Ich bin so *lost* ich habe hier gar keine Aufgabe; (German) standard German sentence, Ich bin so *verwirrt* ich habe hier gar keine Aufgabe; (English) standard English sentence, I am so *lost* I have absolutely no task here. Participants performed a self-paced reading task, indicating by button press when they were finished reading a segment. Participants reported high proficiency in English (*M* = 7.75, range = 4 – 10) on a scale from 1 (non-existent) to 10 (perfect), as well as consumption of online streaming media such as Twitch and YouTube per week (*M* = 10.76 hours, range 0 – 50).

A series of linear mixed-effects models using the package lme4 (Bates, et al., 2015) in *R* (R Core Team, 2018) were computed to determine whether reading times were influenced by Sentence Type (Switch, German, English), English Proficiency, and consumption of online streaming media. Significance was assessed via model comparison. We first compared reading times for the post-target segment between Switch and German sentences (Figure 1) using the maximum random effects structure determined using the buildmer function (Voeten, 2021), included random slopes for Sentence Type on the random intercepts for participant and item and a random slope for English proficiency on the item intercept. The addition of Sentence Type ($\chi 2$ (1) = 3.39, *p* < .05), but not the interactions between Sentence Type and English Proficiency ($\chi 2$ (2) = 5.14, *p* = .08) or Streaming Consumption ($\chi 2$ (2) = 1.40, *p* = .50) improved model fit. Post-target segments in Switch sentences were read more slowly than those in German sentences and this was not modulated by participants' English proficiency or consumption of online streaming media. We then compared reading times for the target segment between Switch and English sentences (Figure 2) using the maximal random effects structure, including random slopes for Sentence Type on the random intercepts for participant and item. The addition of Sentence Type ($\chi 2$ (1) = 25.84, *p* < .0001) as well as the interaction between Sentence Type and English Proficiency ($\chi 2$ (2) = 6.09, *p* < .05), but not the interaction between Sentence Type and Streaming Consumption ($\chi 2$ (2) = 0.27, *p* = .87), improved model fit. Target segments in Switch sentences were read slower than those in English sentences, but became faster with increasing English Proficiency. As predicted, the presence of Anglicisms slowed participants' reading times compared with standard sentences, but with increased English proficiency, not consumption of online streaming platforms, the impact on language processing could be reduced. This suggests that general proficiency with the L2, and not specific experience with this type of code-switched language through consumption of online livestreams, can support users of German online streaming platforms when they encounter Anglicisms.
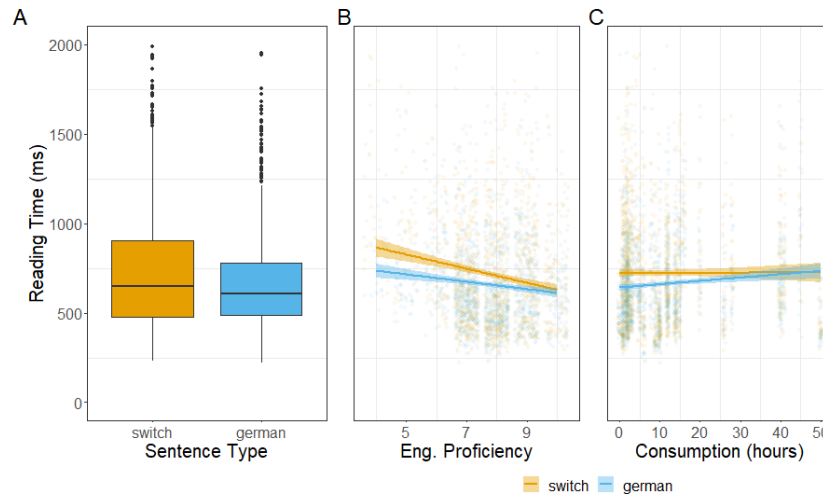
Figure 1. Reading times for the post segment for A) Switch and German Sentence Types; B) by English proficiency; and C) by online streaming platform consumption.
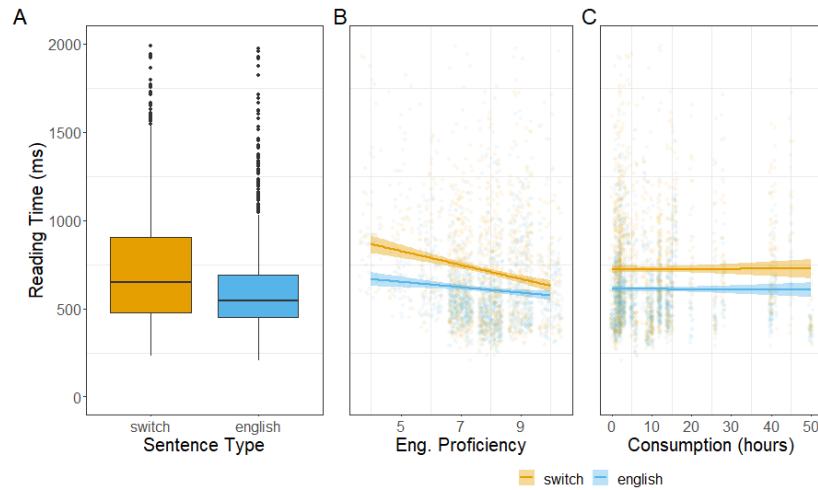

Figure 2. Reading times for the target segment for A) Switch and English Sentence Types; B) by English proficiency; and C) by online streaming platform consumption.

References

Abutalebi, J., Brambati, S. M., Annoni, J. M., Moro, A., Cappa, S. F. & Perani, D. (2007). The neural cost of the auditory perception of language switches: an event-related functional magnetic resonance imaging study in bilinguals. *Journal of Neuroscience 27*, 13762–9. doi: /10.1523/JNEUROSCI.3294-07.2007

Androutsopoulos, J. (1998). *Deutsche Jugendsprache*. Peter Lang. https://www.peterlang.com/view/title/25715

Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software, 67*(1), 1-48. doi:10.18637/jss.v067.i01.

Mathôt, S., Schreij, D., & Theeuwes, J. (2012). OpenSesame: An open-source, graphical experiment builder for the social sciences. *Behavior Research Methods, 44*(2), 314-324. doi:10.3758/s13428-011-0168-7

R Core Team. (2018). R: A Language and Environment for Statistical Computing. Retrieved from https://www.r-project.org/

van Hell, J., Litcofsky, K., & Ting, C. (2015). Sentential code-switching: cognitive and neural approaches. In J. W. Schwieter (Ed.), *The Cambridge Handbook of Bilingual Processing* (pp. 459–482). Cambridge University Press.

Voeten, C. (2021). buildmer: Stepwise Elimination and Term Reordering for Mixed-

Effects Regression. R package version 1.9. CRAN.Rproject.org/package =buildmer