



# LUND UNIVERSITY

## Effects of age of acquisition (AoA) and proficiency on processing of syntax in 6- to 8-year-old monolingual and bilingual children: an ERP study

Andersson, Annika; Sanders, Lisa D; Karns, Christina; Neville, Helen J

2014

[Link to publication](#)

### *Citation for published version (APA):*

Andersson, A., Sanders, L. D., Karns, C., & Neville, H. J. (in press). *Effects of age of acquisition (AoA) and proficiency on processing of syntax in 6- to 8-year-old monolingual and bilingual children: an ERP study*. Abstract from Cognitive Neuroscience Society Annual meeting, 2014, Boston, United States.

### *Total number of authors:*

4

### **General rights**

Unless other specific re-use rights are stated the following general rights apply:

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: <https://creativecommons.org/licenses/>

### **Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LUND UNIVERSITY

PO Box 117  
221 00 Lund  
+46 46-222 00 00

Effects of age of acquisition (AoA) and proficiency on processing of syntax in 6- to 8-year old monolingual and bilingual children: an ERP study.

Andersson, A., Sanders, L. D., Karns, C., & Neville, H. J.

Even though language proficiency in children is strongly related to success in almost all domains, neurocognitive studies of L2 processing are typically limited to adults with several years of exposure, who may use general cognitive mechanisms to compensate for any difficulties in L2 processing. For example, whereas previous studies of adult bilinguals have reported differences in the anterior negativity elicited by syntactic violations with delays in exposure to English of less than 3 years (Weber-Fox & Neville, 1996) a precursor to the anterior negativity has been reported in monolingual children as young as 2.5 years of age (Oberecker, et al., 2005). In the current ERP study, processing of English phrase structure was explored in 6- to 8-year old monolingual and bilingual children who acquired English as a second language around 4 years of age. Monolingual children of higher proficiency displayed relatively mature processing of phrase structure violations as indicated by a left anterior negativity over lateral sites and a posterior positivity. High-proficiency bilingual children tended to display a medial anterior negativity and a posterior positivity. The difference in distribution of the anterior effect across groups could only be explained by AoA. However, lower proficiency affected the posterior ERP effect and amplitude of the anterior effects in response to syntactic violations. These results suggest that the more automatic syntactic processing in children is affected by AoA while more controlled, metalinguistic processing may be related to language proficiency.