Katie Von Holzen

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Research Experience
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Research Program

Program I: How do learners break into word segmentation?

In the context of globalization, language competence is key for effective communication and cultural understanding. As a result, great importance is given to language instruction, for example in the instruction of foreign languages such as English, which is considered the *lingua franca* in many EU member states. Although policy decisions about the starting age of FL instruction seek to maximize student-learning outcomes, these decisions are often based upon research done with adult language learners in immersion contexts or young foreign language learners with several years of experience. Although certainly useful, a focus on later outcomes is often blurred by effects of later instruction, and cannot clarify the underlying mechanisms that drive different developmental outcomes.

This research program examines the early steps to process and learn from foreign language by studying both young, early L2 learners as well as more experienced L2 learners. It is divided into 3 themes: 1) The role of speech modifications for foreign language learners; 2) Phonotactic cues in foreign speech segmentation; and 3) Top-down lexical knowledge in foreign speech segmentation. These themes focus on one of the first tasks facing the language learner: identifying words in the incoming speech signal, known as word segmentation. Yet, this first task presents a challenge to the learner, as speech does not contain any ostensive pauses between words which would signal a word boundary. My goal is to clarify the capacities and constraints of FL and L2 learning that adult and child learners possess, especially in regards to word segmentation, which lay the foundations for long-term achievement.

Program II: Building equity in develpmental science

Research on human behavior is often conducted by WEIRD (Western, educated, industrialized, rich, democratic) researchers studying WEIRD participants, who only make up 12% of the global population. The resulting questions asked as well as the theories developed therefore don't necessarily apply to the majority of the world's population. Initiatives such as ManyBabies, a community of members focused on replication and best practices in developmental science, as well as the flexibility of testing psycholinguistic research remotely in participants' own homes have the potential to reach more diverse populations as well as provide scientists around the world with the tools they need to conduct robust developmental research.

This research program is centered around the ManyBabies-AtHome (MBAH) project, which is a consortium of developmental researchers working together to produce a resource-friendly, open-source and accessible approach to make it possible for online studies live up to their promise of increasing diversity. We have four aims: 1) Provide tools for online data collection and processing, 2) Realize global accessibility of remote testing platforms beyond English-speaking areas, 3) Establish open protocols for ethical data collection, sharing, and protection, and 4) Create a research network to study diverse populations. I am a member of the leadership committee of the MBAH project, as well as the project manager of the Looking-While-Listening sub-project of MBAH. The Looking-While Listening sub-project applies the aims of the full MBAH project in their examination of early infant word recognition using online-methods, in addition to the goal of creating a multilingual and multicultural study with comparable stimuli across many different language contexts (10+ languages).

Research Areas

Phonology	**Phonotactics; Consonant-vowel asymmetry; Cross-linguistic similarity**
Lexical Processing	**Phono-lexical interface; Word recognition; Word segmentation**
Language acquisition	**Second-language; Foreign-language; Bilingual; First-language**
Methodology	**Event-Related Potentials (ERPs); Eyetracking (gaze); Time-course analyses; Longitudinal studies**
Open Scholarship	**Large-scale collaborations (Many Babies); Accessibility and diversity; Open and reproducible approaches**

Invited Talks and Conference Activity

Invited Talks

1. Von Holzen, K. (2023). *Studying speech segmentation online using behavioral, eye-tracking, and electrophysiological methods.* Presented at the Ringvorlesung "Recent Advances in Linguistic Methods," Ludwig Maximilian University of Munich, Germany.
2. Von Holzen, K. (2022). *Doyouunderstandwhatimsaying : How learners break into speech stream segmentation.* Presented at the HaBilNet2 Workshop, Frankfurt, Germany.
3. Von Holzen, K. (2022). *Using cluster-based permutation tests to analyse eye-tracking data.* Presented at the CLaS Eye-tracking Workshop 2, Macquarie University, Australia.
4. Von Holzen, K. (2022). *DoyouunderstandwhatIamsaying? How learners break into speech segmentation.* Presented at the LinguisTisch Seminar Series, Sociolinguistics Lab, Universität Duisburg-Essen, Germany.
5. Von Holzen, K. (2022). *DoyouunderstandwhatIamsaying? How learners break into speech segmentation.* Presented at the Linguistics Colloquium, TU Braunschweig, Germany.
6. Von Holzen, K. (2021). *Babies know words, even when they're mispronounced: An introduction to meta-analyses.* Presented at the German Seminar Colloquium, Albert-Ludwigs Universitaet Freiburg, Germany.
7. Von Holzen, K. (2020). *Babies know words, even when they're mispronounced: A meta-analysis of mispronunciation sensitivity studies.* Presented at the Team Meeting of the Language and Cognition Group, The Institute of Neuroscience and Cognition, Paris Descartes Universite, Paris, France.
8. Von Holzen, K. (2019). *On the road to bilingualism: Foreign speech processing at first exposure in early childhood.* Presented at the Psychology Institute Colloquium, Johannes Gutenberg Universitaet Mainz, Germany.
9. Von Holzen, K. (2019). *Babies know words, even when they're mispronounced: A meta-analysis of mispronunciation sensitivity.* Presented at the Linguistics Department, City University of New York, USA.
10. Von Holzen, K. (2018). *On the road to bilingualism: The role of age in foreign speech processing.* Presented at the Team Meeting of the Language and Cognition Group, The Institute of Neuroscience and Cognition, Paris Descartes Universite, Paris, France.
11. Von Holzen, K. (2016). *Phonological and lexical processing in first language and multilingual acquisition.* Presented at the Linguistics Faculty, Potsdam, Germany.
12. Von Holzen, K., & Nazzi, T. (2016). *Origine de l'asymetrie consonne/voyelle lors du traitement lexical.* Presented at the Agence nationale de la recherche meeting of the grant funding programme BLANC 2013, Paris, France.
13. Von Holzen, K. (2014). *Segmentation of infant- and adult-directed speech in 12-month-olds: An ERP study.* Presented at the Concordia Infant Research Laboratory Team Meeting, Montreal, Canada.
14. Von Holzen, K. (2012). *The cognate facilitation effect in bilingual and monolingual toddlers.* Presented at the Workshop on Monolingual and Bilingual Word Recognition and Learning in Infants and Adults, Basque Center on Cognition, Brain, and Language, San Sebastian, Spain.
15. Von Holzen, K. (2012). *Learning phonemes from faces: The role of speaker identity in non-native phoneme discrimination.* Presented at the Workshop on Monolingual and Bilingual Word Recognition and Learning in Infants and Adults, Basque Center on Cognition, Brain, and Language, San Sebastian, Spain.
16. Von Holzen, K. (2012). *Mechanisms underlying lexicalprocessing in monolingual and bilingual toddlers.* In L. Polka (Chair), Comparing monolingual and bilingual language acquisition during infancy. Invited symposium conducted at the XVIIIth Biennial International Conference on Infant Studies, Minneapolis, MN.

Conference Talks

1. Wulfert, S., Von Holzen, K., Schnieders, M., & Hopp, H. (2023). *Use of L1 phonotactics in initial foreign-language speech segmentation.* Presented at EuroSLA 32, Birmingham, UK.
2. Von Holzen, K., Bergmann, C., & ManyBabies-AtHome-Consortium. (2022). *ManyBabies-AtHome looking while listening: Constructing an online, cross-linguistic investigation of word recognition.* Presented at the 52nd Congress of the German Psychological Society, Hildesheim, Germany.
3. Von Holzen, K., & ManyBabies-AtHome-Consortium. (2022). *ManyBabies-AtHome.* Presented at the 2022 Big Team Science Conference, Virtual Conference.

4. Schlage, F., & Von Holzen, K. (2021). *From boomer to digital native: The influence of anglicisms in german social media language on language processing.* Presented at the 2021 Conference Architectures and Mechanisms for Language Processing (AMLaP), Paris, France.
5. Boveleth, J., & Von Holzen, K. (2021). *The difference in the vocabulary size of children with und without down syndrome: A meta analysis.* Presented at the Muenster Conference Linguistic Representtions and Language Processing, Muenster, Germany.
6. Von Holzen, K., Harnischmacher, V., & Schuster, N. (2021). *Phonetic cues in L2 speech segmentation.* Presented at the 2021 Conference Architectures and Mechanisms for Language Processing (AMLaP), Paris, France.
7. Von Holzen, K., & Bergmann, C. (2019). *Can a tog be a dog? A meta-analysis of experimental factors influencing infants' mispronunciation sensitivity.* In Gonzalez-Gomez, N. (Chair), Big ideas to tackle small samples. Presented at the Biennial Meeting of the Society for Research in Child Development, Baltimore, USA.
8. Von Holzen, K., & Bergmann, C. (2018). *A meta-analysis of infants' mispronunciation sensitivity development.* Presented at the 40th Annual Meeting of the Cognitive Science Society, Madison, WI, USA.
9. Von Holzen, K., & Newman, R. (2018). *On the road to bilingualism: The role of native language knowledge in foreign speech processing.* In Koostra, G. J. and Bosma, E. (Chairs), Cross-language activation in bilingual children. Presented at the Conference on Multilingualism, Ghent, Belgium.
10. Von Holzen, K., Nishibayashi, L.-L., & Nazzi, T. (2017). *An ERP study of consonant and vowel processing of newly segmented word forms.* Presented at the Workshop on Infant Language Development, Bilbao, Spain.
11. Von Holzen, K., & Nazzi, T. (2015). *The role of consonants and vowels in 5- and 8-month-old own name recognition: Implications for lexical development.* Presented at the second Workshop on Infant Language Development, 2015, Stockholm, Sweden.
12. Von Holzen, K., Wolff, D., & Mani, N. (2014). *Segmentation of infant- and adult-directed speech in 12-month-olds: An ERP study.* In K. Von Holzen (Chair), Segmenting words from continuous speech: Examining varied input sources for infants. Symposium conducted at the XIXth Biennial International Conference on Infant Studies, Berlin, Germany.
13. Von Holzen, K., Wolff, D., & Mani, N. (2013). *Segmentierungsfähigkeit von infant- und adult-directed speech bei 12 monate alten kindern (segmentation of infant- and adult-directed speech in 12-month-old infants).* Presented at the 22nd Deutsches EEG/EP Mapping Meeting, Giessen, Germany.
14. Von Holzen, K., & Mani, N. (2012). *Learning phonemes from faces: The role of speaker identity in non-native phoneme discrimination.* In K. Von Holzen (Chair), Infant phonetic learning in context: The influence of faces, objects, and words. Symposium conducted at the XVIIIth Biennial International Conference on Infant Studies, Minneapolis, MN.
15. Von Holzen, K., & Mani, N. (2012). *The cognate facilitation effect in bilingual toddlers.* Presented at the International Workshop Bilingual and Multilingual Interaction, Bangor, Wales.
16. Von Holzen, K., & Mani, N. (2012). *Language non-selective lexical access in bilingual toddlers.* Presented at the International Workshop Bilingual and Multilingual Interaction, Bangor, Wales.
17. Von Holzen, K., & Mani, N. (2011). *Bilingual phonological priming: An ERP study investigating interconnectivity of activation in the bilinguals two lexicons at different points in development.* In J. Mayor (Chair), The emergence of lexical networks in the second year of life. Symposium conducted at the 17th Meeting of the European Society for Cognitive Psychology, San Sebastian, Spain.

Conference Posters

1. Von Holzen, K., Schnieders, M., & Hopp, H. (2023). *Use of L1 lexical overlap in initial foreign-language speech segmentation.* Presented at the 2023 Conference Architectures and Mechanisms for Language Processing (AMLaP), San Sebastian, Spain. https://doi.org/10.6084/m9.figshare.24041904
2. Von Holzen, K., Schnieders, M., Wulfert, S., & Hopp, H. (2023). *Foreign-language speech segmentation in ab initio child learners: The roles of sublexical and lexical L2 overlap and phonological awareness.* Accepted for presentation at the 2023 Boston University Conference on Language Development, Boston, MA.
3. Von Holzen, K., Schnieders, M., Wulfert, S., & Hopp, H. (2023). *Lexical overlap in foreign language speech segmentation in primary-level students.* Presented at EuroSLA 32, Birmingham, UK. https://doi.org/10.6084/m9.figshare.24041883

4. Von Holzen, K., Wulfert, S., & Hopp, H. (2023). *Use of L1 phonotactics in initial foreign-language speech segmentation.* Presented at the 2023 Conference Architectures and Mechanisms for Language Processing (AMLaP), San Sebastian, Spain. https://doi.org/10.6084/m9.figshare.24041928
5. Flohr, M.-C., Von Holzen, K., & Schimke, S. (2023). *Exploring the boundaries of statistical learning: Word segmentation in a natural language.* Presented at Psycholinguistics in Flanders (PiF) 2023, Ghent, Belgium.
6. Flohr, M.-C., Von Holzen, K., & Schimke, S. (2023). *Exploring the boundaries of statistical learning: Word segmentation in a natural language.* Presented at the 2023 Conference Architectures and Mechanisms for Language Processing (AMLaP), San Sebastian, Spain.
7. Von Holzen, K. (2022). *The role of speech modifications in ab inito learners' initial speech segmentation.* 4th International Symposium on Bilingual and L2 Processing in Adults and Children, Tromso, Norway.
8. Von Holzen, K., Bergmann, C., & ManyBabies-AtHome-Consortium. (2022). *ManyBabies-AtHome looking while listening: Constructing an online, cross-linguistic investigation of word recognition.* Presented at the 2022 Workshop on Infant Language Development, San Sebastian, Spain. https://doi.org/10.6084/m9.figshare.20012729.v2
9. Von Holzen, K., & Newman, R. (2021). *The recognition of foreign words at first exposure in early language development: The role of phonological similarity.* Presented at the Biennial Meeting of the Society for Research in Child Development, Virtual Conference. https://doi.org/10.6084/m9.figshare.14381984.v1
10. Von Holzen, K., & Bergmann, C. (2018). *A meta-analysis of mispronunciation sensitivity in infancy.* Presented at the XXIth Biennial International Conference on Infant Studies, Philadelphia, PA.
11. Von Holzen, K., Van Ommen, S., White, K., & Nazzi, T. (2018). *French-learning infants' adaptation to a novel accent: The role of consonant/vowel asymmetry.* Presented at the XXIth Biennial International Conference on Infant Studies, Philadelphia, PA.
12. Von Holzen, K., & Bergmann, C. (2017). *Babies know words, even when they are mispronounced: A meta-analytic view.* Presented at the Workshop on Infant Language Development, Bilbao, Spain. https://doi.org/10.6084/m9.figshare.5492464.v1
13. Von Holzen, K., Rider, D., & Nazzi, T. (2017). *Consonant and vowel processing in 5-, 8-, and 11-month-olds own name recognition: The role of acoustic/phonetic and lexical factors.* Presented at the Congress of the International Association for the Study of Child Language, Lyon, France.
14. Von Holzen, K., Nishibayashi, L.-L., & Nazzi, T. (2017). *Neural bases of phonological processing of newly segmented word forms.* Presented at the 2017 Boston University Conference on Language Development, Boston, MA.
15. Von Holzen, K., Fennell, C. T., & Mani, N. (2014). *The cognate facilitation effect in bilingual and monolingual toddlers.* Presented at the XIXth Biennial International Conference on Infant Studies, Berlin, Germany.
16. Von Holzen, K., Wolff, D., & Mani, N. (2013). *Segmentation of IDS and ADS in 12-month-olds: An ERP study.* Presented at the Workshop on Infant Language Development, San Sebastian, Spain.
17. Von Holzen, K., Kremer, F., & Mani, N. (2013). *Associating a language with a speaker: Bilingual production is influenced by speaker language.* Presented at the International Workshop on Bilingualism and Cognitive Control, Krakow, Poland.
18. Von Holzen, K., & Mani, N. (2013). *Native and non-native phoneme perception in bilingual toddlers: A longitudinal study.* Presented at the Workshop on Infant Language Development, San Sebastian, Spain.
19. Von Holzen, K., & Mani, N. (2011). *Learning phonemes from faces: The role of speaker identity in non-native phoneme discrimination.* Presented at the 2011 Boston University Conference on Language Development, Boston, MA.
20. Von Holzen, K., & Mani, N. (2011). *Word-word relationships between languages and across development.* Presented at the 2011 CNS Annual Meeting, San Fransicso, CA.
21. Von Holzen, K., & Mani, N. (2010). *Phonological priming across language borders: No passport required?* Presented at the Donostia Workshop on Neurobilingualsim, Donostia-San Sebastian, Spain.

Research Skills

Experiment Programming Experience

Open Sesame/Python	**Intermediate expertise** Designing experiments, including lexical decision (adults), visual world paradigm (with and without an eye-tracker) and preferential listening (infants); Experience advising colleagues on experimental design; Conducting tutorials with colleagues and students; Launching experiments online; Used to promote Open Science practices
Presentation	**Intermediate expertise (lapsed)** Designing experiments, including EEG experiments
Eprime	**Beginner expertise** Designing experiments, including EEG experiments

Statistical/Data Analysis Experience

R	**Proficient expertise** Advising colleagues on statistical analysis, data wrangling; Conducting tutorials; Growth growth curve modeling (lmer package); Mixed effects models (lmer package); ANOVA analyses (ez package); Producing beautiful graphics (ggplot2 package); Analyzing vocabulary data corpora (wordbankr package); Power analysis (pwr package); Creating RMarkdown files to promote collaboration and accuracy; Used to promote Open Science practices
Praat	**Intermediate expertise** Scripting to automatically analyze sounds (pitch, duration, intensity); Stimuli creation; Interfacing with CLAN output to analyze corpora; Interfacing with a forced aligner (Easy Align); Used to promote Open Science practices
CHAT/CLAN	**Intermediate expertise** Analyzing length of utterance; Time-locking transcripts to audio recordings; Interfacing with Praat
EEG/ERPlab	**Intermediate expertise** Preprocessing EEG data; Conducting tutorials; Related MATLAB scripting to automatically analyze EEG/ERP data
SPSS	**Intermediate expertise (lapsed)** ANOVA analyses