

Annie Holtz

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Research Interests

Cognitive biases, language learning, cultural evolution & linguistic typology

Current Role

The University of Edinburgh

POSTDOCTORAL RESEARCHER

Edinburgh, Scotland

Mar. 2024 - current

- PIs: Prof. Mitsuhiro Ota & Prof. Kenny Smith
- ESRC Project: *Language learning, communication and the emergence of phonotactic constraints*

Career Break

EXTENDED LEAVE DUE TO INJURY

Edinburgh, Scotland

Aug. 2025 - Nov. 2025

- Worked at reduced hours from June 2025-August 2025 prior to being signed off.
- Performed phased return to work between November 2025-December 2025.

Education

The University of Edinburgh

PHD IN LINGUISTICS AND ENGLISH LANGUAGE

Edinburgh, Scotland

Sep. 2019 - Mar. 2024

- Supervisors: Prof. Jennifer Culbertson and Prof. Simon Kirby
- Thesis: *Cognitive biases in competition: Innovation and the evolution of language structure*

The University of Edinburgh

MA(HONS) ENGLISH LANGUAGE AND LINGUISTICS

Edinburgh, Scotland

Sep. 2015 - Jul. 2019

- Awarded a First Class degree with Honours
- Dissertation: An experimental investigation of harmony and isomorphism in the noun phrase

Research Experience

The Centre for Language Evolution

RESEARCH ASSISTANT

Edinburgh, Scotland

Apr. 2019 - May 2019

- PI: Prof. Jennifer Culbertson
- Project name: Connecting cognitive biases and typological universals in syntax

Edinburgh Laboratory for Language Development

RESEARCH ASSISTANT (VOLUNTEER POSITION)

Edinburgh, Scotland

Jan. 2017 - Apr. 2019

- PIs: Prof. Mitsuhiro Ota & Dr. Barbora Skarabela

Honors & Awards

2024 **Nominated** Students' Association Teaching Award – Student Tutor of the Year

Edinburgh University

2022 **Nominated** Students' Association Teaching Award – Student Tutor of the Year

Edinburgh University

2019 **Awarded** Department of Linguistics and English Language full PhD Scholarship

Edinburgh University

Publications and manuscripts

- **Holtz, A.**, Kirby, S. and Culbertson, J. (under review). *Does degree of innovation modulate the influence of cognitive biases on language structure?*
- **Holtz, A.**, Culbertson, J. and Kirby, S. (under review). *Category-specific and system-wide preferences in competition: Evidence from noun phrase harmony.*
- **Holtz, A.**, Kirby, S., and Culbertson, J. (2025). *With or without a system: How category-specific and system-wide cognitive biases shape word order.* *Cognitive Science*.
- **Holtz, A.**, Smith, K. and Ota, M. (2025). *The Impact of Similar Place Avoidance on Novel Word Learning in Adults.* *Proceedings of the 47th annual meeting of the cognitive science society.* San Francisco, Cognitive Science Society.

- Dobreva, R., Birch, A., Keller, F. and **Holtz, A.** (2025). Path encoding and manner salience in motion event descriptions: the case of Bulgarian and English. *Proceedings of the 47th annual meeting of the cognitive science society*. San Francisco, Cognitive Science Society.
- **Holtz, A.** and Papineau, B. (2023). Examining the female-talker default in experimental language acquisition research. *Journal of Infant and Child Development*, 33(1).
- **Holtz, A.**, Kirby, S., and Culbertson, J. (2022). The influence of category-specific and system-wide preferences on cross-linguistic word order patterns. In *Proceedings of the 44th annual meeting of the cognitive science society*. Toronto, Cognitive Science Society.
- **Holtz, A.** (2021). Ambiguity and variable phonological rules: The challenge of TD Deletion in US English. In Holtz, Annie, Iva Kovač, Rasmus Puggaard-Rode, and Joanna Wall, eds. *ConSOLE XXIX: Proceedings of the 29th conference of the student organization of linguistics in Europe* (26-28 January 2021, Leiden University). Leiden: Leiden University Centre for Linguistics.
- Martin, A., **Holtz, A.**, Abels, K., Adger, D., and Culbertson, J. (2020). Experiment evidence for the influence of structure and meaning on linear order in the noun phrase. *Glossa*, 5(1):1-21.

Invited Talks

- **Holtz, A.**, Everything changes: how stages of language evolution activate different linguistic biases. (26th July 2025, LSA Summer Institute in Eugene, Oregon). National Science Foundation workshop on *Abstract and item-specific knowledge across domains and frameworks*.
- **Holtz, A.**, Biased minds, clustered languages: How cognition shapes linguistic diversity. (19th June 2025, Karolinska Institute). Mechanisms of Social Behavior Research Group
- **Holtz, A.**, Defaulting to women's voices: The metascience of speaker choice in experimental language acquisition research. (11th Nov 2024, Edinburgh University). Edinburgh University Linguistics Society

Conference Contributions

- **Holtz, A.**, Smith, K., & Ota, M. (2025). The impact of similar place avoidance on novel word learning in adults. *CogSci 2025*, San Francisco, USA.
- Dobreva, R., Birch, A., Keller, F. & **Holtz, A.** (2025). Path encoding and manner salience in motion event descriptions: the case of Bulgarian and English. *CogSci 2025*, San Francisco, USA.
- Zhou, R., Ding, W., **Holtz, A.**, Kirby, S., & Culbertson, J. (2024). The Conceptual Origins of Adjective Ordering Preferences: Evidence from Silent Gesture. *AMLaP*, Edinburgh, UK.
- **Holtz, A.** (2024). Using the Scale of Innovation to Study the Evolution of Language. *EvoLang*, Madison, WI.
- **Holtz, A.**, Kirby, S., & Culbertson, J. (2022). The effect of improvisation and learning on word order preferences. *Joint Conference on Language Evolution 2022*, Kanazawa.
- **Holtz, A.**, Kirby, S., & Culbertson, J. (2022). The influence of category-specific and system-wide preferences on cross-linguistic word order patterns. *CogSci 2022*, Toronto (online).
- **Holtz, A.**, Kirby, S., & Culbertson, J. (2022). Cognitive biases differ in improvisation and learning of noun phrase word order. [Workshop presentation]. *CCILE 2022*, Istanbul (online).
- **Holtz, A.**, Culbertson, J. and Kirby, S. (2022) Postnominal adjectives and prenominal genitives as reflections of cognitive preferences. *ConSOLE XXX*, Nantes University (online).
- **Holtz, A.**, Culbertson, J., Kirby, S. and Martin, A. (2021) An experimental investigation of item-specific word order preferences. *LEPGC21*, Edinburgh (online).
- **Holtz, A.** (2021). Ambiguity and variable phonological rules: The challenge of TD Deletion in US English. *ConSOLE XXIX*, Leiden University (online).
- Ota, M., **Holtz, A.** and Skarabela, B. (2019) Syllable repetition is privileged over consonant repetition in infant word segmentation. *BUCLD 44*, Boston, MA.
- **Holtz, A.** (2019). Challenging Functional Explanations of Variable TD Deletion in American English. *The 69th Language Lunch at Edinburgh*, Edinburgh, UK.
- **Holtz, A.** (2019). Cognitive biases and how they shape typology. *The 2019 conference of Undergraduate Linguistics Association of Britain*, Queen Mary University of London, London, UK.
- **Holtz, A.** (2018). Mutual exclusivity and synonymy avoidance: Two sides of the same coin. *The 2018 conference of Undergraduate Linguistics Association of Britain*, Edinburgh, UK.
- Ota, M., Barrera Navarro, M., Go, L., Heimann, J., **Holtz, A.**, Little, S., O'Connor, R. and Skarabela, B. (2018). Do British mothers use less exaggerated infant-directed speech than American mothers?, *Child Language Symposium*, Reading, UK.

Editorials

- **Holtz, Annie**, Iva Kovač, and Rasmus Puggaard-Rode eds. 2022. *ConSOLE XXIX: Proceedings of the 30th conference of the student organization of linguistics in Europe* (25-27 January 2022, Nantes University). Leiden: Leiden University Centre for Linguistics.

- **Holtz, Annie**, Iva Kovač, Rasmus Puggaard-Rode, and Joanna Wall, eds. 2021. *ConSOLE XXIX: Proceedings of the 29th conference of the student organization of linguistics in Europe* (26-28 January 2021, Leiden University). Leiden: Leiden University Centre for Linguistics.

Events

- October 2022, Introduction to artificial language learning experiments (invited workshop at the University of Konstanz, co-organised with Marc Meisezahl and Shira Tal).

Professional Activities & Services

- Board member for The Student Organization of Linguistics in Europe (2021-2023)
- Editor for *The ConSOLE Proceedings* (2021-2023)
- Member of The Cognitive Science Society
- Member of The Linguistics Society of Great Britain and Northern Ireland
- Organiser of the Edinburgh Lectures in Language Evolution 2024
- Conference chair for the Linguistics and English Language Postgraduate Conference (2020)
- Committee member for the Edinburgh Symposium for Historical Phonology (2019)
- Vice-president and social secretary for the Edinburgh Linguistics Society (2019-2020)
- Programme representative for MA in Linguistics and English Language at Edinburgh (2016-2019)
- Ad hoc reviewer for *Journal of Memory and Language*, *Cognitive Science*, *Annual Meeting of the Cognitive Science Society*, *The Journal of the Undergraduate Linguistics Association of Britain* and *The ConSOLE Proceedings*
- Ad hoc conference reviewer for *Association of Computational Linguistics (ACL)*, *ULAB Conference*, *ConSOLE*, *CogSci* and *EvoLang*

Outreach

Language Evolves!

Edinburgh

DEMONSTRATOR

Autumn 2019, 2021

- Travelling to schools or hosting online sessions introducing the concept of language evolution in primary schools.

UK Linguistics Olympiad

Edinburgh

DEMONSTRATOR

Autumn 2019

- Hosting practice sessions in schools that are preparing for the Linguistics Olympiad.

Supervision

PhD **Radina Dobreva** 2024-current

Edinburgh University

Masters **Ruizhe Zhou** 2021-2022

Edinburgh University

Masters **Wei Ding** 2021-2022

Edinburgh University

Teaching

Origins and Evolution of Language

Edinburgh University

GUEST LECTURER

Autumn 2024

- Guest lecture on how signing practices can inform our understanding of the evolution of language.
- Course introducing concepts from biology, cognitive science and linguistics and how they apply to the study of language.
- Honours-level course.

First Language Acquisition

Edinburgh University

TUTOR/MARKER

Autumn 2023

- Specialised course on language acquisition, including acquisition of phonetics, phonology, morphology and syntax.
- Honours-level course.

Simulating Language

Edinburgh University

TUTOR/MARKER

Spring 2021 & 2022

- Course teaching students to run models of language evolution using Bayesian and iterated learning methods.
- Honours-level course.

Linguistics and English Language 1A

Edinburgh University

TUTOR/MARKER

Autumn 2021

- Introductory course in linguistics covering communication, syntax, phonology, phonetics, morphology, semantics and discourse analysis.
- Pre-honours level course.

LEL2D: Cross-linguistic Variation: Limits and Theories

Edinburgh University

MARKER AND SUBSTITUTE TUTOR

Spring 2020

- Course on typological variation, focusing on morphosyntax and phonology.
- Pre-honours level course.

Skills Centre

Edinburgh University

TUTOR

Mar 2020-current

- JsPsych tutor doing one-on-one appointments with students to work on their code.
- Academic writing tutor doing one-on-one appointments with students to work on their essay writing.

Online Experiments

Edinburgh University

TUTOR

Jan. 2020

- Short course in using JsPsych to programme online experiments.

Skills

Languages Swedish (native), English (fluent), Italian (basic), Spanish (basic)

Programming JavaScript, Python, R

Tools and Packages jsPsych, PsychoPy, LaTeX, Praat, ELAN