

# Magdalena Kachlicka

The Auditory, Language, Perception, Hearing and Attention Lab  
Department of Psychological Sciences, Birkbeck University of London  
Malet Street, WC1E 7HX London

 [m.kachlicka@bbk.ac.uk](mailto:m.kachlicka@bbk.ac.uk)

 [mkachlicka.github.io](https://github.com/mkachlicka)

## Education

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**Birkbeck University of London** Doctor of Philosophy (PhD), Psychology, 2023

*Thesis:* Perceptual strategies underlying second language acquisition

*Supervisors:* Dr Adam Tierney, Dr Kazuya Saito, and Prof Fred Dick

**University College London** Master of Philosophy (MPhil), Cognitive Science, 2020

*Thesis:* Mapping acoustic and semantic dimensions of auditory perception

*Supervisors:* Prof Jian Kang and Prof Fred Dick

**Birkbeck University of London** Master of Science (MSc, Distinction), Psychological Research Methods, 2018

*Thesis:* Individual differences in auditory processing in second language learning

*Supervisor:* Dr Adam Tierney

**University of Nicosia** Bachelor of Science (BSc, First Class), Psychology, 2017

*Thesis:* Adaptation of the BHI-R Questionnaire from Polish to Greek and English Languages

*Supervisor:* Dr Marios Adonis

## Research Experience

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**Department of Psychological Sciences, Birkbeck University of London** Sep 2023 – Present

*Project:* “Dimension-selective attention and second language acquisition”

Currently investigating attention, salience, and distractibility in auditory perception with behavioural and neuroimaging methods (e.g., neural tracking of phonological and lexical surprisal, acoustic and linguistic features and semantic similarity)

**Institute of Education, University College London** Apr 2020 – Sep 2023

*Responsibilities:* participants’ recruitment, online data collection, behavioural testing (language, musical and auditory tests), task design on Gorilla platform (using built-in capabilities and JS scripting), data processing and analysis with R and MATLAB, acoustic analyses of speech using Praat software and Python Parselmouth package, literature reviews

**University of Social Sciences and Humanities – SWPS (Poznan, Poland)** Jul 2022 – Dec 2022

*Project:* “Speech acoustics and contents of narrative reconstructions of past events as indicators of cognitive processing of trauma and posttraumatic growth”

*Responsibilities:* audio processing with Adobe Audition, acoustic analysis of speech using Python DisVoice and Parselmouth packages, text processing and sentiment analysis in R and Python NLTK package

**Department of Psychological Sciences, Birkbeck University of London** Oct 2018 – Sep 2020

*Responsibilities:* participants’ recruitment, data collection with EEG and FFR using BioSemi ActiveTwo system, behavioural testing (language, musical and auditory tests), pre-processing of neurophysiological data using Matlab and FieldTrip toolbox, speech acoustics analyses with Praat software, literature reviews

## Experimental Psychology Lab at University of Cyprus (Nicosia, Cyprus)

Jan 2017 – Apr 2017

**Project:** “The impact of visual imagery on the experience of pain: A comparison between altered visual feedback and distraction strategy”

**Responsibilities:** measuring heart rate, EMG and skin conductance using BIOPAC M150 system

## University of Social Sciences and Humanities – SWPS (Poznan, Poland)

Apr 2015 – Dec 2020

**Project:** “Meaning of life and personal growth after trauma: A longitudinal study (2015-2019)”

**Responsibilities:** transcriptions of the interviews (McAdams Life Story), managing database

## Publications

- **Kachlicka M**, Patel AD, Liu F, & Tierney AT (2023) Weighting of cues to categorization of song versus speech in tone language and non-tone-language speakers. *PsyArxiv*. <https://doi.org/10.31234/osf.io/dwfsz>
- Saito K, Petrova K, **Kachlicka M**, Suzukida Y, Tierney A (2022) Training auditory processing promotes second language speech acquisition. *Journal of Experimental Psychology: Human Perception and Performance*, 48(12), 1410-1426. <https://psycnet.apa.org/doi/10.1037/xhp0001042>
- Saito K, **Kachlicka M**, Suzukida Y, Petrova K, Lee BJ, Tierney A (2022) Auditory precision hypothesis-L2: Dimension-specific relationships between auditory processing and second language segmental learning. *Cognition*, 229, 105236. <https://doi.org/10.1016/j.cognition.2022.105236>
- Saito K, Hanzawa K, Petrova K, **Kachlicka M**, Suzukida Y, Tierney A (2022) Incidental and multimodal high variability phonetic training: Potential, limits, and future directions. *Language Learning*, 72(4), 1049-1091. <https://doi.org/10.1111/lang.12503>
- **Kachlicka M**, Laffere A, Dick F, Tierney A (2022) Slow phase-locked modulations support selective attention to sound. *NeuroImage*, 252, 119024. <https://doi.org/10.1016/j.neuroimage.2022.119024>
- Saito K, Macmillan K, **Kachlicka M**, Kuniyara T, Minematsu N (2022) Automated assessment of second language comprehensibility: Review, training, validation, and generalization studies. *Studies in Second Language Acquisition*, 45(1), 234-263. <https://doi.org/10.1017/S0272263122000080>
- Saito K, Macmillan K, Kroeger S, Magne V, Takizawa K, **Kachlicka M**, Tierney A (2022) Roles of domain-general auditory processing in spoken second language vocabulary attainment in adulthood. *Applied Psycholinguistics*, 43(3), 581-606. <https://doi.org/10.1017/S0142716422000029>
- Saito K, Sun H, **Kachlicka M**, Alayo J, Nakata T, Tierney A (2022) Domain-general auditory processing explains multiple dimensions of L2 acquisition in adulthood. *Studies in Second Language Acquisition*, 44(1), 57-86. <https://doi.org/10.1017/S0272263120000467>
- Mitchell A, Oberman T, Aletta F, **Kachlicka M**, Lionello M, Erfanian M, Kang J (2021) Investigating urban soundscapes of the COVID-19 lockdown: A predictive soundscape modeling approach. *The Journal of Acoustical Society of America*, 150, 4474–4488. <https://doi.org/10.1121/10.0008928>
- Saito K, **Kachlicka M**, Sun H, Tierney A (2020) Domain-general auditory processing as an anchor of post-pubertal second language pronunciation learning: Behavioural and neurophysiological investigations of perceptual acuity, age, experience, development, and attainment. *Journal of Memory and Language*, 115, 104168. <https://doi.org/10.1016/j.jml.2020.104168>
- Mitchell A, Oberman T, Aletta F, Erfanian M, **Kachlicka M**, Lionello M, Kang J (2020) The Soundscape Indices (SSID) protocol: A method for urban soundscape surveys – questionnaires with acoustical and contextual information. *Applied Sciences*, 10(7), 2397. <https://doi.org/10.3390/app10072397>
- **Kachlicka M**, Saito K, Tierney A (2019) Successful second language learning is tied to robust domain-general auditory processing and stable neural representation of sound. *Brain & Language*, 192, 15-24. <https://doi.org/10.1016/j.bandl.2019.02.004>

## Conference Papers

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- Mitchell A\*, Aletta F, Oberman T, Erfanian M, Lionello M, **Kachlicka M**, Kang J (2019) Making cities smarter with new soundscape indices. *178<sup>th</sup> Meeting of the Acoustical Society of America, San Diego, USA*. <https://doi.org/10.1121/1.5136970>
- Aletta F\*, Oberman T, Mitchell A, Erfanian M, Lionello M, **Kachlicka M**, Kang J (2019) A field study on associations between soundscape experience and self-reported well-being measures in open public urban spaces. *Lancet Public Health Science 2019, London, UK*. [https://doi.org/10.1016/S0140-6736\(19\)32814-4](https://doi.org/10.1016/S0140-6736(19)32814-4)

## Posters

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- **Kachlicka M\***, Symons AE, Saito K, Dick F, Tierney AT (2023) Effects of first language background and musical experience on cue weighting, attention and dimensional salience in speech and music. *Society for the Neurobiology of Language 15th Annual Meeting (Marseille, France)* <http://dx.doi.org/10.13140/RG.2.2.28291.48165>
- **Kachlicka M\***, van den Bosch J, Kang J, Dick F (2022) Representations of natural sound categories. *FENS Summer School 'Artificial and natural computations for sensory perception' (Bertinoro, Italy)* <http://dx.doi.org/10.13140/RG.2.2.22589.84963>

## Talks

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- 'Auditory processing in second language learning' at Brain & Language Seminar (February 2019), University of Helsinki, Finland

## Teaching Experience

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- PSYC007H7 Neuroimaging Methods; Birkbeck Department of Psychological Sciences – lecture on EEG data processing and analysis
- PSYC0046 Introduction to Statistics in R; UCL Psychology and Language Sciences Department – teaching assistant (2021-22 & 2022-23 & 2023-24)
- PSYC0012 Research Methods in Psychology; UCL Psychology and Language Sciences Department – research project coordinator (2020-21 & 2021-22)
- Methods for Dummies Course; Wellcome Centre for Human Neuroimaging (UCL Institute of Neurology) – course organizer and content coordinator (2019-20 & 2020-21)
- PSYC0005 Introduction to Psychological Experimentation; UCL Psychology and Language Sciences Department – demonstrator (2019-20 & 2020-21)
- COMP0016 Systems Engineering & Human-Computer Interaction; UCL Interaction Centre, Department of Computer Sciences – teaching assistant (2019-20, & 2022-23)
- COMP0067 Design & Human-Computer Interaction; UCL Interaction Centre, Department of Computer Sciences – teaching assistant (2019-20 & 2022-23)

## Grants and Awards

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- Albert Valdman Award for outstanding publication in Studies in Second Language Acquisition, 2022 <https://doi.org/10.1017/S0272263123000098>
- Travel Award, Computational Cognitive Modelling for Language Summer School, University of California Irvine, 2022
- Research Grant (\$2000), Language Learning Dissertation Award, 2022 <https://doi.org/10.1111/lang.12514>
- Research Grant (£1120), Student Project Fund, University College London, 2021
- Bloomsbury Studentship, Birkbeck University and UCL IOE, 2020-2023
- Research Grant (£530), Student Project Fund, University College London, 2020
- ERC Studentship, ERC Advanced Grant to Prof J Kang No. 740696, 2018-2020
- JUCE Diversity Scholarship, Audio Developers Conference, 2019

- Student Travel Award, Real World Communication Workshop, University of Connecticut, 2018
- Kenway Legacy Scholarship, Birkbeck University, 2017-2018
- Scholarship Based on Academic Performance, University of Nicosia, 2016-2017

## Professional Development

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- Seventh Summer School on Statistical Methods for Linguistics and Psychology, Universität Potsdam, 2023
- Computational Cognitive Modelling for Language Summer School, University of California Irvine, 2022
- Cognition and Natural Sensory Processing Workshop (CNSP), 2022
- Artificial and Natural Computations for Sensory Perception Summer School, FENS, 2022
- Cognition and Natural Sensory Processing Workshop (CNSP), 2021
- Visceral Mind Summer School, Bangor University, 2019
- SPM for EEG Analyses Course, University College London, 2019
- EEG Training at Jonas & Silas Lab, Middlesex University, 2019
- Real World Eye Tracking Course, Royal Holloway University of London, 2019
- TMS for Cognitive Neuroscience Workshop, University College London, 2018
- Limbic Brain Anatomy Course, Neurocourses UK, 2017
- Human Brain Anatomy Course, Neurocourses UK, 2017