

# Anna, Yi LEUNG

## Curriculum Vitae

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### Research Interests

- Causes and subtypes of developmental dyslexia
- Cognition of reading in Chinese language
- Psychometric evaluation of psycholinguistic measures
- Meta-analytic methodology for psycholinguistics and language education

### Academic Background

- 10/2021 – Present    **Dr. rer. biol. hum. in Psycholinguistics**  
Munich Medical Research School, Ludwig-Maximilians-University of Munich
- Thesis title: Falsifiability of cognitive theories of developmental dyslexia
  - Supervisors: PD Dr. Xenia Schmalz, Prof. Dr. Gerd Schulte-Körne, PD Dr. Kristina Moll, Prof. Dr. Moritz Heene
- 10/2019 – 08/2021    **M.Sc. in Psychology: Learning Sciences**  
Ludwig-Maximilians-University of Munich
- Overall GPA: 1.21/4.00 (Equivalent to 3.8/4.0)
  - Thesis title: Acquisition of Chinese characters: Necessity and role of phonology (Full marks awarded; equivalent to Grade A)
  - Supervisors: PD Dr. Xenia Schmalz, PD Dr. Kristina Moll
- 09/2018 – 08/2019    **M.A. in Psychology**  
The Chinese University of Hong Kong
- Thesis title: Subtyping of Chinese developmental dyslexia (Grade A awarded)
  - Supervisor: Prof. Urs Maurer
- 09/2012 – 05/2016    **B.Ed. in Chinese Language (Awarded with First Class Honours)**  
The Education University of Hong Kong
- Overall GPA: 3.49/4.00
  - Thesis title: Phonetic variation of Hong Kong Cantonese affricate consonants (Grade A awarded)
  - Supervisor: Prof. Yuan Liang

## Skills and Abilities

### *Statistics, Data Processing, and Programming*

- Frequentist and Bayesian multilevel modelling, structural equation modelling, cluster analysis, item response theory, parametric bootstrapping simulation, meta-analysis, multiverse analysis, natural language processing (NLP)
- R and Shiny App, Python, SPSS, PsychoPy, OpenSesame, HTML, Praat, CLAN

### *Teaching*

- Classroom assessment and test development, curriculum design, language pedagogies, cooperative learning and problem-based learning pedagogies, co-teaching, counselling and mediation

### *Language*

- English (Bilingual proficiency), Cantonese (Native), Mandarin Chinese (Bilingual proficiency), German (Professional working proficiency), French (Elementary proficiency)

## Research-Related Work Experience

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|-------------------|--|
| 10/2021 – Present | <b>Scientific Research Associate (Wissenschaftliche Mitarbeiterin)</b><br>Department of Child and Adolescent Psychiatry, Psychosomatics, and Psychotherapy, University Hospital, Ludwig-Maximilians-University of Munich <ul style="list-style-type: none"> <li>• Supervisors: PD Dr. Xenia Schmalz, PD Dr. Kristina Moll</li> </ul> |
| 04/2020 – 03/2021 | <b>Graduate Research Assistant and Research Intern</b><br>Department of Child and Adolescent Psychiatry, Psychosomatics, and Psychotherapy, University Hospital, Ludwig-Maximilians-University of Munich <ul style="list-style-type: none"> <li>• Supervisors: PD Dr. Xenia Schmalz, PD Dr. Kristina Moll</li> </ul>                 |
| 09/2018 – 12/2018 | <b>Student Research Assistant</b><br>Cognitive Neuroscience of Language Laboratory<br>The Chinese University of Hong Kong <ul style="list-style-type: none"> <li>• Supervisor: Prof. Urs Maurer</li> </ul>   |
| 09/2018 – 12/2018 | <b>Student Research Assistant</b><br>Laboratory for Language, Learning, and the Brain<br>The Chinese University of Hong Kong <ul style="list-style-type: none"> <li>• Supervisor: Dr. Xin Kang</li> </ul>  |
| 10/2015 – 06/2016 | <b>Student Research Assistant</b><br>Department of Linguistics and Modern Language Studies, Faculty of Humanities<br>The Education University of Hong Kong <ul style="list-style-type: none"> <li>• Supervisor: Prof. Andy Chi-On Chin</li> </ul>  |
| 03/2014 – 06/2016 | <b>Student Research Assistant</b><br>Department of Chinese Language Studies, Faculty of Humanities<br>The Education University of Hong Kong <ul style="list-style-type: none"> <li>• Supervisors: Prof. Yuan Liang, Prof. Pui-Lee Liu</li> </ul>   |

**Teaching- and Education-Related Work Experience (Selected)**

04/2022 – 03/2023	<b>Research Seminar Instructor and Project Leader</b> Research Seminar for the M.Sc. Psychology: Learning Sciences Programme, Ludwig-Maximilians-University of Munich
09/2018 – 07/2019	<b>Substitute Teacher (Chinese Language, Mandarin)</b> S.K.H. Tin Wan Chi Nam Primary School, Hong Kong
09/2018 – 07/2019	<b>Substitute Teacher (Chinese Language, Mandarin, Mathematics, General Studies, Music)</b> S.K.H. Chai Wan St. Michael's Primary School, Hong Kong
09/2016 – 07/2018	<b>Full-Time Teacher (Chinese Language, Mandarin, General Studies, Music)</b> S.K.H. Tin Wan Chi Nam Primary School, Hong Kong
06/2015 – 06/2016	<b>Freelance Textbook Editor (Chinese Language for Primary and Secondary Curricula)</b> The Commerical Press, Hong Kong
09/2013 – 12/2014	<b>Public Speaking Tutor</b> Belilios Public School (Public Secondary School), Hong Kong
07/2013 – 06/2016	<b>Violin and Viola Teacher</b> Tsang Fook Music Centre, Hong Kong
09/2012 – 12/2012	<b>Public Speaking Tutor</b> Shun Lee Catholic Secondary School, Hong Kong

**On-Going and Past Research Projects**

07/2022 – Present	<b>Multiverse Analysis on Profiling Methods: Subtyping Developmental Dyslexia as a Use Case</b> Ludwig-Maximilians-University of Munich <ul style="list-style-type: none"> <li>• Principal Investigator of an early career researcher project, funded by the German Research Foundation; funding co-applied with Dr. Daniel Kristanto</li> <li>• Collaborators: Prof. Andrea Hildebrandt, PD Dr. Xenia Schmalz, Prof. John Ioannidis, Prof. Urs Maurer, Dr. Carsten Gießing, Prof. Dr. Marcus Hasselhorn, Prof. Dr. Linda Visser</li> </ul>
04/2022 – Present	<b>Psychometric Evaluation and Development of Morphological Awareness Tests Across Languages</b> Ludwig-Maximilians-University of Munich <ul style="list-style-type: none"> <li>• Principal Investigator</li> <li>• Collaborators: Dr. Danielle Colenbrander, PD Dr. Xenia Schmalz</li> </ul>

- 10/2021 – Present     **Towards a Falsifiable Framework for Causal Theories in Developmental Dyslexia**  
Ludwig-Maximilians-University of Munich
- Doctoral Candidate and Scientific Research Associate
  - Supervisor: PD Dr. Xenia Schmalz
  - Collaborators: Prof. Moritz Heene, PD Dr. Kristina Moll, Dr. Daniel Kristanto, Prof. Claudio Mulatti, Mr. Ivan Melev
- 04/2021 – Present     **Magnocellular Deficits in Developmental Dyslexia: A Systematic Review and Meta-Analysis**  
Ludwig-Maximilians-University of Munich
- Graduate Research Assistant
  - Supervisor: PD Dr. Xenia Schmalz
- 04/2021 – 10/2021     **Temporal Sampling Deficits in Developmental Dyslexia: A Systematic Review and Meta-Analysis**  
Ludwig-Maximilians-University of Munich
- Graduate Research Assistant
  - Supervisors: PD Dr. Xenia Schmalz, Dr. Sarolta Bakos
- 04/2020 – 10/2021     **The Learning of Semantic Regularities in Novel Words**  
Ludwig-Maximilians-University of Munich
- Graduate Research Student
  - Supervisor: PD Dr. Xenia Schmalz
- 09/2018 – 12/2018     **Meta-Linguistic vs. Working-Memory Training in Chinese Dyslexia Children: Behavioural and Neural Evaluation**  
The Chinese University of Hong Kong
- Student Research Assistant
  - Supervisor: Prof. Urs Maurer
- 09/2018 – 12/2018     **Visual Attention in Autism Spectrum Disorder: An Eye Tracking Study Across Eastern and Western Cultures**  
The Chinese University of Hong Kong
- Student Research Assistant
  - Supervisor: Dr. Xin Kang
- 09/2015 – 06/2016     **The Development of a Corpus of Mid-20<sup>th</sup> Century Hong Kong Cantonese**  
The Education University of Hong Kong
- Student Research Assistant
  - Supervisor: Prof. Chi-On Chin
- 03/2014 – 06/2016     **Taxonomic Analysis of the Chinese Reading Comprehension Skills Tested in the Hong Kong Territory-Wide System Assessment (TSA) (Primary Levels)**  
The Education University of Hong Kong
- Student Research Assistant
  - Supervisor: Prof. Pui-Lee Liu

## Preprints and Publications

Xenia Schmalz<sup>†</sup>, Johannes Breuer<sup>†</sup>, Mario Haim<sup>†</sup>, Andrea Hildebrandt<sup>†</sup>, Phillip Knöpfle<sup>†</sup>, **Anna Yi Leung**<sup>†</sup>, Timo B. Roettger<sup>†</sup>. (2024; under review). Let's Talk About Language—And Its Role for Replicability. MetaArXiv Preprints. <https://osf.io/preprints/metaarxiv/w2gb9> (†Equal contributions)

**Anna Yi Leung**, Ivan Melev, & Xenia Schmalz. (2024). Quantifying Concept Definition Heterogeneity in Academic Texts: Insights into Variability in Conceptualization. OSF Preprints. <https://doi.org/10.31219/osf.io/gu7b5>

**Anna Yi Leung**, & Xenia Schmalz. (2023). In Search of Proxy Measures of Heterogeneity in Conceptual Definitions: A Cognitive Linguistic Perspective. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 45. <https://escholarship.org/uc/item/2c80j0rx>

## Manuscripts (Under Review)

**Anna Yi Leung**<sup>†</sup>, Tatiana Logvinenko<sup>†</sup>, & Xenia Schmalz. (2024). Dyslexia Research and Replicability: Should We Be Worried? (†Equal contributions)

## Manuscripts (In Preparation)

**Anna Yi Leung**, Daniel Kristanto, & Xenia Schmalz. (In preparation). Re-SearchTerms: A Shiny App for Navigating Research Terminology.

**Anna Yi Leung**<sup>^</sup>, Daniel Kristanto<sup>^</sup>, Carsten Gießing<sup>†</sup>, John. P. A. Ioannidis<sup>†</sup>, Andrea Hildebrandt<sup>\*,†</sup>, & Xenia Schmalz<sup>\*,†</sup>. (In preparation). A Multiverse Analysis on Profiling Methods: Subtyping Developmental Dyslexia as a Use Case. (<sup>^</sup>Project Co-PIs; <sup>\*</sup>Shared senior authorship; <sup>†</sup>In alphabetical order)

**Anna Yi Leung**<sup>^</sup>, Xiaoshu Wu<sup>\*</sup>, Danielle Colenbrander, & Xenia Schmalz. (In preparation). Tell Me More About the Wug: Do Contextual Cues in Morphological Awareness Tests Affect Item Difficulty? (Supervisees underlined; <sup>\*</sup>Shared first authorship; <sup>^</sup>Project PI)

**Anna Yi Leung**<sup>^</sup>, Sanha Lee, Peter Roßmeier, Danielle Colenbrander, & Xenia Schmalz. (In preparation). Psychometric Properties of Morphological Awareness Tests Across Languages: A Systematic Review. (Supervisees underlined; <sup>^</sup>Project PI)

**Anna Yi Leung**, Ivan Melev, Moritz Heene, Kristina Moll, & Xenia Schmalz. (In preparation). A Study Protocol for Evaluating Construct Validity of Concepts in Developmental Dyslexia Research.

**Anna Yi Leung**, Olga Drobina, Alvaro Darcourt, Salim K. Osei, Lilli Kugelmann, & Xenia Schmalz. (In preparation). Magnocellular/Dorsal Deficit in Developmental Dyslexia? Meta-Analyses on Contrast Sensitivity, Coherent Motion, and Serial Search Tasks.

**Anna Yi Leung**, Kristina Moll, & Xenia Schmalz. (In preparation). When Do CFL Learners Need Phonology for Learning Chinese Characters' Meanings?

Sanha Lee, Salim K. Osei, Peter Roßmeier, Aakash Balani, Xenia Schmalz, & **Anna Yi Leung**<sup>^</sup>. (In preparation). Item Difficulty of English Morphological Awareness Tests in a Mixed Sample. (Supervisees underlined; <sup>^</sup>Project PI)

Elen Le Foll<sup>†</sup>, **Anna Yi Leung**<sup>†</sup>, Désirée Nießen<sup>†</sup>, Caroline Poppa<sup>†</sup>. (In preparation). A Comment on Arechar et al. (2023)'s "Understanding and Combating Misinformation Across 16 Countries on Six Continents". (<sup>†</sup>Equal contributions; in alphabetical order)

## Conference Presentations

**Anna Yi Leung**, Ivan Melev, Moritz Heene, & Xenia Schmalz\*. (2024, June). Quantifying Concept Definitions in Academic Texts: Insights into Variability in Conceptualisation. Oral presentation "The Role of Language for Replicability in the Social and Behavioural Sciences" Symposium at *the Meta-Rep 2024 Conference*, Munich, Germany. (\*Main presenter)

**Anna Yi Leung**\*, Ivan Melev, Moritz Heene, & Xenia Schmalz. (2024, June). Is It an Issue that Constructs Are Not Measured as Defined? An Empirical Evaluation of Dyslexia Research as a Case Study. Oral presentation "The Role of Language for Replicability in the Social and Behavioural Sciences" Symposium at *the Meta-Rep 2024 Conference*, Munich, Germany. (\*Main presenter)

**Anna Yi Leung**<sup>^\*</sup>, Daniel Kristanto<sup>^</sup>, Carsten Gießing<sup>†</sup>, John. P. A. Ioannidis<sup>†</sup>, Andrea Hildebrandt<sup>&†</sup>, & Xenia Schmalz<sup>&†</sup>. (2024, October). Exploration of Data Processing and Model Multiverse in Developmental Dyslexia. Oral presentation at *the 6<sup>th</sup> All-European Dyslexia & Dyscalculia Conference*, Athens, Greece. (<sup>^</sup>Project Co-PIs; <sup>&</sup>Shared senior authorship; <sup>†</sup>In alphabetical order; \*Main presenter)

**Anna Yi Leung**<sup>^\*</sup>, Daniel Kristanto<sup>^</sup>, Carsten Gießing<sup>†</sup>, John. P. A. Ioannidis<sup>†</sup>, Andrea Hildebrandt<sup>&†</sup>, & Xenia Schmalz<sup>&†</sup>. (2024, September). Multiverse Analysis for Profiling Methods: Application to Subtyping Developmental Dyslexia. Oral presentation in the "Facilitating Replication through Automation, Standardisation of Procedures and Machine Learning" Symposium at *the 53<sup>rd</sup> DGPs Congress / 15<sup>th</sup> ÖGP Conference*, Vienna, Austria. (<sup>^</sup>Project Co-PIs; <sup>&</sup>Shared senior authorship; <sup>†</sup>In alphabetical order; \*Main presenter)

**Anna Yi Leung**<sup>^\*</sup>, Daniel Kristanto<sup>^</sup>, Carsten Gießing<sup>†</sup>, John. P. A. Ioannidis<sup>†</sup>, Andrea Hildebrandt<sup>&†</sup>, & Xenia Schmalz<sup>&†</sup>. (2024, September). Multiverse Analysis of Developmental Dyslexia Subtyping Methods Oral presentation at *the 15<sup>th</sup> International Conference of Health Sciences*, Pristina Kosovo. (<sup>^</sup>Project Co-PIs; <sup>&</sup>Shared senior authorship; <sup>†</sup>In alphabetical order; \*Main presenter)

**Anna Yi Leung**\*, Ivan Melev, Moritz Heene, & Xenia Schmalz. (2024, June). Is It an Issue That Constructs Are Not Measured as Defined? An Empirical Evaluation of Dyslexia Research as a Case Study. Poster presentation in *the Extraordinary Brain Symposium XX*, Malta. (\*Main presenter)

**Anna Yi Leung**<sup>^\*</sup>, Xiaoshu Wu<sup>\*</sup>, Danielle Colenbrander, & Xenia Schmalz. (2024, February). Tell Me More About the Wug: Do Contextual Cues in English Morphological Awareness Tests Affect Item

Difficulty? Oral presentation at *the 8<sup>th</sup> Annual Conference for the Association for Reading and Writing in Asia*, Jeju, South Korea. (Supervisees underlined; \*Shared first authorship; ^Project PI)

**Anna Yi Leung\***, Xiaoshu Wu, & Xenia Schmalz. (2023, November). Does the Contextual Information in Test Items Influences English Morphological Awareness Measures' Psychometric Properties? Oral presentation at *the 3<sup>rd</sup> virtual Words in the World International Conference*, Canada. (Supervisee underlined; \*Main presenter)

**Anna Yi Leung\***, & Xenia Schmalz. (2023, July). In Search of Proxy Measures of Heterogeneity in Conceptual Definitions: A Cognitive Linguistic Perspective. Poster presentation at *the 44<sup>th</sup> Annual Meeting of the Cognitive Science Society*, Sydney, Australia. (\*Main presenter)

**Anna Yi Leung\***, Olga Drobina, Alvaro Darcourt, Salim K. Osei, Lilli Kugelmann, & Xenia Schmalz. (2023, July). Are There Magnocellular/Dorsal Deficits in Developmental Dyslexia? A Meta-Analysis on Contrast Sensitivity, Coherent Motion, and Serial Search Tasks. Poster presentation at *the Society for the Scientific Study of Reading Conference (SSSR) 2023*, Port Douglas, Australia. (\*Main presenter)

Xenia Schmalz, **Anna Yi Leung**, & Claudio Mulatti. (2023, June). How Do We Falsify Causal Theories of Dyslexia? Oral presentation at *the International Workshop on Reading and Developmental Dyslexia (IWORDD)*, San Sebastian, Spain.

Sanha Lee, Salim K. Osei, Peter Roßmeier, Aakash Balani, Xenia Schmalz, & **Anna Yi Leung**. (2023, March). The Adaptation and Validation of Open-Source Morphological Awareness Tests for Web-Based Experiments. Poster presentation at *the TeaP, The Annual Meeting of the General Psychology Section of the German Psychological Society (DGPs)*, Trier, Germany. (Supervisees underlined)

Salim K. Osei, Peter Roßmeier, Sanha Lee, Aakash Balani, Xenia Schmalz, & **Anna Yi Leung\***. (2023, February). Item Discriminability of English Morphological Awareness Tests in a Mixed Sample. Oral presentation at *the 7<sup>th</sup> Annual Conference for the Association for Reading and Writing in Asia*, Hong Kong. (Supervisees underlined; \*Main presenter)

Peter Roßmeier, Sanha Lee, Salim K. Osei, Aakash Balani, Xenia Schmalz, & **Anna Yi Leung**. (2023, February). Adapting and Validating Open-Source Morphological Awareness Tests for Web-Based Experiments. Oral presentation at the *Cognitive Science Arena 2023*, Brixen, Italy. (Supervisees underlined)

**Yi Leung\***, Kristina Moll, & Xenia Schmalz. (2021, March). Is Phonological Information Necessary for Learning the Meanings of Chinese Semantics-Phonetic Compound Characters? Poster presentation at the *5<sup>th</sup> Annual Conference for the Association for Reading and Writing in Asia*, Taipei, Taiwan. (\*Main presenter)

## Thesis Supervision

2023                      **Xiaoshu Wu, M.Sc.**  
 M.Sc. Psychology: Learning Sciences  
 Ludwig-Maximilians-University of Munich  
 Thesis title: The measurement of morphological awareness: Does the contextual information in test items influence the tests' psychometric properties?

## Grants, Scholarships, and Awards

08/2024                      **Project Grant: Systematising Theory Building in Dyslexia and Reading Research**  
 META-REP Priority Programme, funded by German Research Foundation (DFG)  
 Co-Applicant (Main Applicant: PD Dr. Xenia Schmalz)  
 Amount awarded: EUR 287,950

02/2024                      **Student Conference Scholarship**  
 The 8th Annual Conference for the Association for Reading and Writing in Asia (ARWA 2024), Jeju, South Korea

11/2022                      **“Treasure Box” Research Grant for Early-Career Researchers**  
 META-REP Priority Programme, funded by German Research Foundation (DFG)  
 Co-Applicant (with Dr. Daniel Kristanto)  
 Amount awarded: EUR 2,000 (Full amount)

02/2016                      **Shun Hing Chinese Language Scholarship**  
 The Education University of Hong Kong

08/2015  
 & 08/2016                      **Dean's Honour List**  
 The Education University of Hong Kong

## Organisational Roles and Academic Services

2024 – 2015                      **Symposium Organiser and Chair**  
 The “Exploring Cognitive and Linguistic Mechanisms in Word Processing Across Diverse Languages and Contexts” Symposium at *the 24<sup>th</sup> Conference of the European Society for Cognitive Psychology*, Sheffield, UK.

10/2024                      **Conference Organiser & Webmistress**  
*The International Meeting on Quantifying Semantic-Orthographic Regularities Across Languages (QuaSemO 2024)*, Munich, Germany.

2024 – Present                      **Conference Reviewer**  
*CogSci 2024, CogSci 2025*



- 2023 – Present      **Ad-Hoc Journal Reviewer**  
*Child Development, Dyslexia*
- 2023 – Present      **Journal Club Secretary and Webmistress**  
 The German Word Nerd Network (GeWoNN)  
 Website: <https://sites.google.com/view/gewonn/home>  
 Bluesky: @gewonnofficial.bsky.social

### Professional Qualifications and Memberships

- 10/2024 – Present      **Associate Member**  
 European Society for Cognitive Psychology (ESCoP)
- 04/2023 – Present      **Student Member**  
 Cognitive Science Society (CSS)
- 12/2022 – Present      **Student Member**  
 Society for the Scientific Study of Reading (SSSR)
- 09/2022 – Present      **Postgraduate Member**  
 Experimental Psychology Society (EPS), United Kingdom
- 01/2021 – Present      **Student Member**  
 The Association for Reading and Writing in Asia (ARWA)
- 05/2017                **Language Proficiency Assessment for Teachers (Mandarin Chinese)**  
 Hong Kong Examinations and Assessment Authority
- 06/2016                **Registered Teacher for Primary and Secondary Education**  
 Education Bureau, Hong Kong SAR Government
- 12/2014                **The Putonghua Proficiency Test (PSC) (Level 1B Awarded)**  
 The Putonghua Training and Testing Centre, The Hong Kong Institute of Education

### Whole-Person Development (Selected)

- 02/2023                **Psicostat Workshop: Outlier Analysis**  
 Cognitive Science Arena 2023, Brixen, Italy
- 10/2022                **Workshop on Advanced Power Analyses**  
 LMU Open Science Center, Ludwig-Maximilians-University of Munich
- 09/2022                **The Sixth Summer School on Statistical Methods for Linguistics and Psychology**  
 University of Potsdam

08/2022	<b>Workshop on Good Scientific Practice</b> Ludwig-Maximilians-University of Munich
03/2021 – Present	<b>Member</b> Philosophia Munich, Germany
10/2018 – 09/2019	<b>Volunteer Tutor</b> Hong Kong Red Cross Princess Alexandra School, Hong Kong
06/2018	<b>Volunteer Training Programme</b> The Society of Rehabilitation and Crime Prevention, Hong Kong
05/2014 – 07/2014	<b>Mandarin Chinese Immersion Programme</b> Southwest University, Chongqing, China
05/2014 – Present	<b>Violin Player</b> Belilios Public School Old Girls' String Orchestra, Hong Kong
12/2008 – 11/2016	<b>Financial Secretary</b> S.K.H. Chai Wan St. Michael's Primary School Alumni Association, Hong Kong