Tzu-Yao **Lin**

PhD candidate (joint PhD)

tzu-yao.lin@kuleuven.be | tzuyaolin.com | tzu-yao-nick-lin | 0000-0002-2261-448X

Education

KU Leuven and Maastricht University — *Leuven, Belgium and Maastricht, the Netherlands*

Joint PhD — *Oct 2022–Apr 2027 (expected)*

- Develop correlation-based methods for defining and interpreting reliability and agreement in multilevel, longitudinal, and rater studies.
- KU Leuven: Research Group of Quantitative Psychology and Individual Differences; Supervisor: Prof. Francis Tuerlinckx
- Maastricht University: Department of Methodology and Statistics; Supervisor: Prof. Sophie Vanbelle

National Taiwan University — *Taipei, Taiwan*

MS in Psychology — *Sep 2019–Jun 2022*

- Extended cultural consensus theory to ordinal responses with a hierarchical Bayesian Luce–Krantz threshold model.
- Overall GPA: 4.02/4.30; Supervisor: Prof. Yung-Fong Hsu

National Taiwan University — *Taipei, Taiwan*

BS in Psychology, minor in Forestry — *Sep 2014–Jun 2019*

- Overall GPA: 4.12/4.30

First-Author Papers

Fixed raters, random selection: A correlation-based framework for agreement ICCs in two-way mixed-effects designs — *Manuscript under review*

Lin, T.-Y., Tuerlinckx, F., & Vanbelle, S.

An intraclass correlation coefficient is a correlation: A tutorial — *Manuscript under review*

Lin, T.-Y., Tuerlinckx, F., & Vanbelle, S.

Single-item reliability for intensive longitudinal data: A three-level linear mixed-effect autoregressive modeling approach — *Psychometrika (online first)*

Lin, T.-Y., Tuerlinckx, F., & Vanbelle, S. — *2026*

Incorporating the Luce–Krantz threshold model into cultural consensus theory for ordinal categorical data — *Journal of Mathematical Psychology, 129, 102990*

Lin, T.-Y., & Hsu, Y.-F. — *2026*

Reliability for multilevel data: A correlation approach — *Psychological Methods (online first)*

Lin, T.-Y., Tuerlinckx, F., & Vanbelle, S. — *2025*

Additional Coauthored Papers

Bisection-based elicitation of indifference points: Simulation comparison and the halved method (HaB) as a monotonicity diagnostic
Manuscript under review
Chang, W.-C., Yang, H.-H., **Lin, T.-Y.**, Tong, J. C. H., & Hsu, Y.-F.

Joint trajectories of screen time, sleep duration, and sweets consumption in early childhood and developmental outcomes at age 7: A population-based prospective longitudinal study
Manuscript under review
Nieh, H.-P., Lo, C., & **Lin, T.-Y.**

The impact of the COVID-19 pandemic on vaccine sentiment among Brazilian healthcare workers: A cross-sectional online survey study
Journal of Global Health Economics and Policy, 5, e2025034
Lo, C., **Lin, T.-Y.**, Werneck, G. L., Domingues, C., Saavedra, R. da C., Moore, M., Souza, L. E. P. F., Regazzi, L., & Lomazzi, M.
2025

Interaction between coffee consumption and polygenic risk score in relation to diabetes: Insights from The Maastricht Study
European Journal of Nutrition, 64, 263
Rao, Y., Yu, E. Y.-W., **Lin, T.-Y.**, Chen, Y., Qin, Y., Koster, A., Eussen, S. J. P. M., Bosma, H., Berendschot, T. J. M., van der Kallen, C., van Greevenbroek, M., de Galan, B., Zeegers, M., & Wesselius, A.
2025

Consistency of perceptual response variability in size estimation and reproduction tasks
Behavior Research Methods, 57(5), 127
Yu, K., **Lin, T.-Y.**, Zaman, J., Tuerlinckx, F., & Vanhasbroeck, N.
2025

Conference Presentations

Reliability for intensive longitudinal data: A three-level linear mixed-effect autoregressive modeling approach
Seoul, South Korea
IMPS 2026 Annual Meeting
Jul 2026

Reliability for intensive longitudinal data
Utrecht, the Netherlands
IOPS Winter Conference 2025
Dec 2025

Reliability in intensive longitudinal studies: A state-space vs. linear mixed model approach
Prague, Czech Republic
IMPS 2024 Annual Meeting
Jul 2024

Reliability for multilevel data: A correlation approach
Leuven, Belgium
Leuven Statistics Day: Collaboration
Nov 2023

Incorporating the Luce–Krantz threshold model into the cultural consensus theory for ordinal categorical data: A simulation study
Amsterdam, the Netherlands
MathPsych/ICCM/EMPG 2023
Jul 2023

Reliability for multilevel data: A correlation approach
Ghent, Belgium
EAM 2023 Congress of Methodology
Jul 2023

Departmental Presentations

Fixed raters, random selection: A correlation-based framework for agreement ICCs in two-way mixed-effects designs — *Leuven, Belgium*
Quantitative Psychology and Individual Differences Seminar, KU Leuven — *Oct 2026*

Fixed raters, random selection: A correlation-based framework for agreement ICCs in two-way mixed-effects designs — *Maastricht, the Netherlands*
Methodology and Statistics Colloquium, Maastricht University — *Oct 2026*

Reliability for intensive longitudinal data — *Leuven, Belgium*
Quantitative Psychology and Individual Differences Seminar, KU Leuven — *Sep 2025*

Reliability for multilevel data: A correlation approach — *Leuven, Belgium*
Quantitative Psychology and Individual Differences Seminar, KU Leuven — *Mar 2024*

Reliability for multilevel data: A correlation approach — *Maastricht, the Netherlands*
Methodology and Statistics Colloquium, Maastricht University — *Jun 2023*

Incorporating threshold theory into the cultural consensus theory for ordinal categorical data: A simulation study — *Taipei, Taiwan*
The 8th Annual Academic Conference on Psychology at NTU — *Nov 2020*

- Poster presentation · Outstanding Poster Award, third place

Peer Review

Psychometrika
Reviewer — *2026*

British Journal of Mathematical and Statistical Psychology
Reviewer — *2025, 2026*

Teaching Assistant Experience

Statistics for Psychologists, Part 6: Advanced Statistical Methods
KU Leuven — *Spring 2026*

- Led weekly R labs on structural equation modeling, multilevel modeling, and machine learning. Co-wrote course notes, wrote and graded exams, and tutored students.

Experimental Design
National Taiwan University — *Fall 2020, Fall 2021*

- Wrote and graded homework and exams; tutored students

Statistics in Psychology and Education II
National Taiwan University — *Spring 2020*

- Led weekly R labs (advanced R, ANOVA, regression); wrote and graded homework and exams; tutored students

Statistics in Psychology and Education I
National Taiwan University — *Fall 2019*

- Led weekly R labs (basic R, descriptive statistics, visualization, hypothesis testing); wrote and graded homework and exams; tutored students

Awards

Dean's Award
College of Science, National Taiwan University *2022*
- One of three graduates recognized for outstanding master's research in 2021–2022.

Dean's Award
College of Science, National Taiwan University *2019*
- Ranked in the top 10% of the 2018–2019 graduating class.

Professor Fa-Yu Cheng Memorial Scholarship
Department of Psychology, National Taiwan University *2019*
- Top prize for undergraduate psychology students for outstanding academic performance, academic year 2018–2019

Earlier Research Experience

Cognitive neuroscience, National Taiwan University *Taipei, Taiwan*
Research Assistant *2018–2022*
- Helped design a lottery task to measure loss aversion, analyzed MEG data in a study of theory of mind, and developed an fMRI analysis workflow for a study of herd behavior in a simulated stock market. Supervisors: Prof. Yung-Fong Hsu, Prof. Heng-Chiang Huang, Prof. Yu-Ping Chen, and PhD candidate Jonathan C. H. Tong.

Skills

Quantitative Methods
Multilevel and longitudinal modeling, Psychometrics and reliability, Bayesian statistics, Computational modeling, Neuroimage analysis (fMRI and MEG)

Programming & Tools
R (incl. Shiny), Stan, JAGS, Python, SAS, Linux, Git, LaTeX

Statistics and Modeling Coursework

Missing Data Methods, FLAMES, Flanders (online) *Summer 2026*
Longitudinal Data Analysis (G0A35A), KU Leuven *Fall 2025*
Modeling the Dynamics of Intensive Longitudinal Data, Utrecht University (online) *Summer 2024*
Advanced Time Series Analysis (D0M63B), KU Leuven *Fall 2023*
Machine Learning (CSIE5043), National Taiwan University *Fall 2021*
Multivariate Statistical Analysis (MATH7610), National Taiwan University *Spring 2021*
Neural and Behavioral Modeling (PSY7277), National Taiwan University *Fall 2020*
Regression Analysis (MATH7606), National Taiwan University *Fall 2020*
Advanced Statistical Inference II (MATH7604), National Taiwan University *Spring 2020*
Advanced Statistical Inference I (MATH7603), National Taiwan University *Fall 2019*
Experimental Design (PSY7001), National Taiwan University *Fall 2019*
Linear Algebra (CSIE2120), National Taiwan University *Fall 2019*
Applied Linear Regression (PSY5033), National Taiwan University *Spring 2019*
Applied Bayesian Statistical Analysis (EPM5074), National Taiwan University *Fall 2018*