

# Benjamin Lira Luttges

Postdoctoral Researcher at the University of Pennsylvania

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My research examines how human–AI systems can enhance long-term human capabilities, rather than just momentary performance. I build state-of-the-art AI systems and then leverage psychological theory to understand the causal mechanisms that underlie why AI tools sometimes enhance and sometimes erode capabilities. I rely on practitioners and partner with organizations to evaluate them in the real world.

## 1. Education

2021–2025	University of Pennsylvania PhD and MA in Psychology. GPA 4.0 Advisor: Angela Duckworth Dissertation: <b>Enhancing Human Capabilities Through Interaction with Generative AI</b>
2009–2017	Universidad de Lima BA and Professional Licensure in Psychology. GPA 4.0 Thesis: Parental Predictors of Effortful Control
2013	Katholieke Universiteit Leuven, Belgium Exchange student in master's-level courses on AI, cognitive science, and education

## 2. Grants and Awards

2025	Psychology of Technology Network Dissertation Award
2025	SASGov Research Grant Grant Award: 2,000 USD
2018	Annual research competition winner, Pontificia Universidad Católica del Perú Awarded to the Motivation and Emotion Research Group (PUCP). Basic Psychological Needs in the Context of Poverty Grant Award: two separate grants of 135,000 and 45,000 PEN (53,576 USD)
2010–2015	Full honors scholarship, Universidad de Lima Est. Value: 146,523 PEN (43,612 USD)

## 3. Academic Positions

2025	<b>Postdoctoral Scholar</b> , The Wharton School, University of Pennsylvania Human-AI Interaction, PI: Stefano Puntoni
2025	<b>Research Intern, Microsoft Research NYC</b> Developed AI forecasting tools using retrieval-augmented generation (RAG) and multi-agent systems
2021	<b>Predoctoral Scholar</b> , University of Pennsylvania Duckworth Lab, PI: Angela Duckworth PSYC 005-401: Grit Lab (TA)
2017–2019	<b>Instructor</b> , Pontificia Universidad Católica del Perú Motivation and Emotion, Psychological Measurement, Psychological Research Methods

## 4. Publications

[Google Scholar](#)

### A. Under Review

**Lira, B.**, Goldstein, D., Rogers, T., Ungar, L., & Duckworth, A.L., Coach not crutch: AI assistance can enhance rather than hinder skill development. [[ArXiv](#). Under review at *Science Advances*.] Press Coverage. [[CNBC](#)]

**Lira, B.**, Song, J., Alsobay, M., & Goldstein, D. Forecasting with LLMs: A Dataset for Rapid Backtesting Without Temporal Contamination. Submitted to ICLR 2026.

### B. Published

**Lira, B.**, Duckworth, A. L., Gardner, M., Quirk, A., Stone, C., Rao, A., ... & D'Mello, S. K. (2023) Using Artificial Intelligence to Assess Personal Qualities in College Admissions. *Science Advances*. [[link](#)] Press Coverage. [[Forbes](#)][[Counselor Bites](#)][[Higher Ed Dive](#)][[Inside Higher Ed](#)][[CU Boulder Today](#)][[University World News](#)][[EurekAlert!](#)]

**Lira, B.,** O'Brien, J., Peña, P.A., Galla, B.M., D'Mello, S., Yeager, D.S., Defnet, A., Kautz, T., Munkacsy, K., Duckworth, A.L., (2022). Large Studies Reveal How Reference Bias Limits Policy Applications of Self-Report Measures. *Scientific Reports* 12(1) 19189. [\[link\]](#)

Putnam, S. P., Sehic, E., French, B. F., Gartstein, M. A., **Lira, B.,** & Peltola, M. (2024). The Global Temperament Project: Parent-Reported Temperament in Infants, Toddlers and Children from 59 Nations. *Developmental Psychology*. [\[link\]](#)

Duckworth, A.L., Kautz, T., Defnet, A., Satlof-Bedrick, E., Talamas, S., **Lira, B.,** & Steinberg, L. (2021). Students Attending School Remotely Suffer Socially, Emotionally, and Academically. *Educational Researcher* 50(7), 479-482. <https://doi.org/10.3102/0013189X211031551> [\[link\]](#) [\[HealthDay\]](#)[\[U.S. News\]](#)[\[The 74\]](#)[\[District Administration\]](#)[\[Yahoo\]](#)[\[Phys Org\]](#)

### C. In Preparation

**Lira, B.,** Castelo, N., Toubia, O., Puntoni, & S. Registered Report: Synthetic Contact: Digital Twins as a Scalable Tool for Consumer Insight and Reducing Partisan Misperceptions

Sungu, A., **Lira, B.,** & Duckworth, A.L., Performance gains, motivational pains: Evidence from AI adoption in Turkish teachers

**Lira, B.,** Goldstein, D., Rogers, T., Ungar, L., & Duckworth, A.L., Smart and Smarter. Pairing AI examples and metacognition improves writing skill.

**Lira, B.,** Ungar, L., Gross, J., & Duckworth, A.L., Delivering motivational interventions at scale using Artificial Intelligence in Khan Academy.

**Lira, B.,** Ungar, L., & Duckworth, A.L., Conversing with a Generative-AI powered chatbot increases critical thinking.

### D. Conference Presentations

**Lira B.,** (2025, November, Upcoming), Coach not Crutch: AI assistance can enhance rather than hinder skill development. Psychology of Technology Conference. Washington, DC. [\[link\]](#)

**Lira B.,** (2025, October, Upcoming), Performance gains, motivational pains: Evidence from AI adoption in Turkish teachers. INFORMS Annual Meeting. Atlanta, GA. [\[link\]](#)

**Lira B.,** (2025, May), Learning, not cheating: AI assistance can enhance rather than hinder skill development. AI and the Future of Work Conference. Philadelphia, PA. [\[link\]](#)

**Lira B.,** (2025, May), Learning, not cheating. AI assistance can enhance rather than hinder skill development. Wharton Behavioral Lab Mini Conference. University of Pennsylvania.

**Lira B.,** (2025, April), Learning, not cheating. AI assistance can enhance rather than hinder skill development. Social Psychology Meeting. University of Pennsylvania.

**Lira B.,** (2024, November), Can generative AI make you smart? Evidence that AI increases writing skill. NeurIPS Behavioral Machine Learning. Virtual.

**Lira B.,** Duckworth, A., Toll, B., Kim, B., (2024, June), Admissions practices and strategy in the era of Artificial Intelligence and Big Data. Panel. Common App Illuminate Conference. Philadelphia, PA.

**Lira B.,** (2024, June), AI Fundamentals for Admissions Professionals. Enrollment Leaders Roundtable. Common App Illuminate Conference. Philadelphia, PA. [\[slides\]](#)

**Lira B.,** (2024, May), When will generative AI make us stupid and when will it make us smart? Talking to Machines Workshop at International Meeting on Experimental and Behavioral Social Sciences (IMEBESS). Riga, Latvia.

**Lira B.,** (2024, February), Using Artificial Intelligence to Assess Personal Qualities in College Admissions. Society for Personality and Social Psychology Convention. San Diego.

Ungar, L., **Lira, B.,** (2023, November) Using Large Language Models to Help People be their 'Best' Selves. Psychology of Technology Conference. UC Berkeley. [\[link\]](#)[\[slides\]](#)

**Lira B.,** Seraj, S., Neiderhoffer, K., Ireland, M., (2023, February) Panel on collaboration between industry and academia. Language Preconference, Society for Personality and Social Psychology Convention. Atlanta.

**Lira, B.,** (2022, June). Using Artificial Intelligence to Assess Personal Qualities in College Admissions. Summer Institutes for Computational Social Science [\[link\]](#).

## 5. Technical Skills

**Programming.** Python, R, Qualtrics, JavaScript, HTML, SPSS, Factor, Mplus, MLwiN, PsychoPy

**Web Development.** Flask, React, Supabase, MongoDB

**ML/NLP/AI.** LLMs (multi-agent systems, RAG, pretraining/finetuning), deep learning, classical NLP (topic models, naïve Bayes), reinforcement learning, supervised/unsupervised methods (random forests, boosting, SVMs, autoencoders)  
**Statistical Methods.** Bayesian Modeling, Econometric Analysis, Social Network Analysis, Factor Analysis, Multilevel Modeling, Structural Equation Modeling, Cluster Analysis, Generalized linear models (logistic, Poisson, negative binomial), Beta regression  
**Natural Languages.** Spanish—Native      English—Fluent      German—Basic

## 6. Work Experience

2024	<b>Data Scientist, Talking to Machines Project, Oxford University</b> Developed NLP-powered chatbot systems for scalable qualitative interviewing in social science research. Built robust data analysis pipelines to process and analyze large-scale conversational data.
2020–2021	<b>Visiting Scholar, Duckworth Lab, University of Pennsylvania</b> Collaborated closely on the design, data collection, statistical analysis, writing, and revision stages of multiple research projects. Mentored undergraduate researchers and high-school interns, guiding research activities and analytical skill development. Designed curriculum and statistical analysis modules to teach R programming to undergraduates.
2016–2020	<b>Research Scientist, Pontificia Universidad Católica del Perú</b> Conducted empirical research on motivation and emotional well-being, focusing on poverty, maternal autonomy support, and educational engagement. Designed and evaluated behavioral interventions to promote autonomy support and psychological well-being in educational and sports contexts.
2015–2017	<b>Lead Research Analyst, Cerebrum</b> Designed, implemented, and evaluated psychological intervention programs aimed at enhancing cognitive and emotional regulation. Developed educational neuroscience course materials for graduate-level programs. Mentored graduate students, supervised thesis projects, and presented findings at academic and professional conferences.
2015–2021	<b>Thesis Advisor</b> Coached and supported +30 undergraduate and graduate students from Universidad de Lima, Pontificia Universidad Católica del Perú, and Universidad Peruana de Ciencias Aplicadas in multiple stages of their thesis projects.
2014–2015	<b>Research and Educational Psychology Intern, Cerebrum</b> Created an intervention program to foster self-regulation and executive function and designed a tool to evaluate its impact. Developed content for graduate courses in educational neuroscience.

### Additional Education

Summer Institute in Computational Social Science (SICSS).  
Foundations of Data Analysis – Part I. University of Texas at Austin. MOOC.  
The Analytics Edge. MITx. MOOC.  
Quantitative Biology Workshop. MITx. MOOC

### Additional Projects

**#Investigatips.** Video library explaining research methods and statistics. +135K video views. (In Spanish)  
**Statistics for Psychologists with R.** A series of self-guided tutorials and practice sets exploring common data manipulation, visualization, and analysis tasks in R. Collaboration with Chayce Baldwin  
**R Package.** Custom functions for ordinal alpha, Mahalanobis outlier detection, discriminant validity analysis, and data simulation.  
**Natural Language Processing Tools.** Custom R and Python functions and tutorials for Natural Language Processing in the Social Sciences.

## 7. Service

Mentored a more junior PhD student through a peer mentorship program.  
Supervised two honors theses undergraduate students at UPenn, which resulted in presentations at university research symposia and two award-winning theses.