

Leah M. Feuerstahler

Curriculum Vitae

CONTACT INFORMATION

Dealy Hall, Room 218
Department of Psychology
Fordham University
441 East Fordham Road
Bronx, NY 10458

Email: lfeuerstahler@fordham.edu
Phone: 718-817-3788

PROFESSIONAL POSITIONS

| | |
|----------------|--|
| 2018 – present | Assistant Professor, Psychometrics and Quantitative Psychology Department of Psychology Fordham University, Bronx, NY |
| 2016 – 2018 | Postdoctoral Fellow Graduate School of Education University of California, Berkeley, CA |

EDUCATION

| | |
|------|--|
| 2016 | Ph.D. Quantitative/Psychometric Methods University of Minnesota, Minneapolis, MN |
| 2015 | M.S. Statistics University of Minnesota, Minneapolis, MN |
| 2011 | B.S. Psychology Wisconsin Lutheran College, Milwaukee, WI |

PEER-REVIEWED JOURNAL ARTICLES (* indicates student under my supervision)

- Feuerstahler, L. M.**, Ahn, J. R.*, Chen, X.*, Lorenzi, D.*, & Plourde, J.* (in press). On the monotonicity of the residual heteroscedasticity item response model. *Behaviormetrika*.
- Liu, S., Chen, Y., Kuiper, J., Ho, E., Buckley, J., & **Feuerstahler, L. M.** (in press). Applying latent variable models to estimate exposure burden to chemical mixtures and identify exposure subgroups: A critical review and future directions. *Statistics in Biosciences*.
- Liu, S., **Feuerstahler, L. M.**, Chen, Y., Braun, J., & Buckley, J. P. (2023). Towards advancing prevision environmental health: Developing a customized exposure burden score to PFAS mixtures to enable equitable comparisons across population subgroups, using mixture item response theory. *Environmental Science & Technology*, *57*, 18104-18115.
- Chen, Y., **Feuerstahler, L. M.**, Martinez Steele, E., Buckley, J., & Liu, S. (in press). Phthalate mixtures and insulin resistance: An item response theory approach to quantify exposure burden to phthalate mixtures. *Journal of Exposure Science and Environmental Epidemiology*.
- Feuerstahler, L. M.** (2023). Applications and extensions of metric stability analysis. *Psych*, *5*(2), 376-385.
- Feuerstahler, L. M.** (2023). Scale type revisited: Some misconceptions, misinterpretations, and recommendations. *Psych*, *5*(2), 234-248.
- Flynn, P. M., Ingleshwar, A., Chen, X.*, **Feuerstahler, L. M.**, Reibel, Y., & John, M. (2023). Validation of the HeLD-14 functional oral health literacy instrument in a general population. *PeerJ*, 11.
- Walsh, L. E., Rosenfeld, B., **Feuerstahler, L. M.**, Pessin, H., & Breitbart, W. (2023). Measuring hopelessness in advanced cancer: A secondary analysis of the Hopelessness Assessment in Illness questionnaire (HAI). *Psychology & Health*, *38*(7), 847-861.
- Karvay, Y., Stadterman, J. **Feuerstahler, L. M.**, & Burke, N. (2022). Development and validation of the food availability and related eating behaviors questionnaire (FAREB-Q): A stage 1 registered report. *International Journal of Eating Disorders*, *55*(10), 1404-1410.
- Liu, S. H., Kuiper, J. R., Chen, Y. **Feuerstahler, L. M.**, Teresi, J., & Buckley, J. P. (2022). Developing an exposure burden score for chemical mixtures using item response theory with applications to PFAS mixtures. *Environmental Health Perspectives*, *130*(11), 117001.
- Stadterman, J., Silverman, M. R., Lorenzi, D.*, **Feuerstahler, L. M.**, Hirsh, E., & Roy, A. K. (2022). Parental factors that confer risk and resilience for at-home learning during the COVID-19 pandemic among children with and without attention deficit/hyperactivity disorder. *Journal of Attention Disorders*, *26*, 1381-1393.

- Feuerstahler, L. M.** (2022). Metric stability in item response models. *Multivariate Behavioral Research*, *57*, 94-111.
- Falk, C. F., & **Feuerstahler, L. M.** (2022). On the performance of semi- and non-parametric item response functions in computer adaptive tests. *Educational and Psychological Measurement*, *82*, 57-75.
- Silverman, M. R., Bennett, R., **Feuerstahler, L. M.**, Stadterman, J., Dick, A. S., Graziano, P., & Roy, A. (2022). Measuring emotion dysregulation in children with attention-deficit/hyperactivity disorder: Revising the factor structure of the emotion regulation checklist (ERC). *Behavior Therapy*, *53*, 196-207.
- Stadterman, J., Karvay, Y. G., **Feuerstahler, L. M.**, & Burke, N. L. (2022). Comparison of ad libitum snack consumption and acquisition between adolescents living with food security and food insecurity: A stage 1 registered report. *International Journal of Eating Disorders*, *55*, 406-414.
- Feuerstahler, L. M.** (2021). Flexible item response modeling in R with the flexmet package. *Psych*, *3*, 447-478.
- Feuerstahler, L. M.**, & Wilson, M. (2021). Scale alignment in the between-items multidimensional partial credit model. *Applied Psychological Measurement*, *45*, 268-282.
- Fisher, C. B., Ibrahim Puri, L., Macapagal, K., **Feuerstahler, L. M.**, Ahn, J. R.*, & Mustanski, B. (2021). Competence to consent to oral and injectable PrEP trials among adolescent males who have sex with males. *Aids and Behavior*, *25*, 1606-1618.
- Feuerstahler, L. M.**, Waller, N. G., & MacDonald, A. W. (2020). Improving measurement precision in experimental psychopathology using item response theory. *Educational and Psychological Measurement*, *80*, 695-725.
- Saracino, R. M., Aytürk, E.*, Cham, H., Rosenfeld, B., **Feuerstahler, L. M.**, & Nelson, C. J. (2020). Are we accurately evaluating depression in patients with cancer? *Psychological Assessment*, *32*, 98-107.
- Feuerstahler, L. M.**, & Wilson, M. (2019). Scale alignment in between-item multidimensional Rasch models. *Journal of Educational Measurement*, *56*, 280-301.
- Gold, J., Barch, D. M., **Feuerstahler, L. M.**, Carter, C. S., MacDonald, A. W., Ragland, J. D., Silverstein, S. M., Strauss, M. E., & Luck, S. J. (2019). Working memory impairment across psychotic disorders. *Schizophrenia Bulletin*, *45*, 804-812.
- Feuerstahler, L. M.**, Luck, S. J., MacDonald, A., & Waller, N. G. (2019). A note on the identification of change detection task models to measure storage capacity and attention in visual working memory. *Behavior Research Methods*, *51*, 1360-1370.

- Feuerstahler, L. M.** (2019). Metric transformations and the filtered monotonic polynomial IRT model. *Psychometrika*, *84*, 105-123.
- Feuerstahler, L. M.** (2018). Sources of error in IRT trait estimation. *Applied Psychological Measurement*, *42*, 359-375.
- Waller, N. G., & **Feuerstahler, L. M.** (2017). Bayesian modal estimation of the four-parameter item response model in real, realistic, and idealized data sets. *Multivariate Behavioral Research*, *52*, 350-370.
- Reißmann, D. R., John, M. T., **Feuerstahler, L. M.**, Baba, K., Szabo, G., Celebic, A., & Waller, N. (2016). Longitudinal measurement invariance in prospective oral health-related quality of life assessment. *Health and Quality of Life Outcomes*, *14*:88, 1-9.
- Waller, N. G., John, M.T., **Feuerstahler, L. M.**, Baba, K., Larsson, P., Peršić, S., Kende, D., Reißmann, D. R., & Rener-Sitar, K. (2016). A 7-day recall period for a clinical application of the Oral Health Impact Profile Questionnaire. *Clinical Oral Investigations*, *20*, 91-99.
- John, M. T., **Feuerstahler, L. M.**, Waller, N., Baba, K., Larsson, P., Čelebić, A., Kende, D., Rener-Sitar, K., & Reißman, D. R. (2014). Confirmatory factor analysis of the Oral Health Impact Profile. *Journal of Oral Rehabilitation*, *41*, 644-652.
- John, M. T., Reißman, D. R., **Feuerstahler, L. M.**, Waller, N., Baba, K., Larsson, P., Čelebić, A., Szabo, G., & Rener-Sitar, K. (2014). Exploratory factor analysis of the Oral Health Impact Profile. *Journal of Oral Rehabilitation*, *41*, 635-643.
- John, M. T., Reißman, D. R., **Feuerstahler, L. M.**, Waller, N., Baba, K., Larsson, P., Čelebić, A., Szabo, G., & Rener-Sitar, K. (2014). Factor analysis of the Oral Health Impact Profile – Overview and studied population. *Journal of Prosthodontic Research*, *58*, 26-34.

OTHER PUBLICATIONS

- Alonso, D. Gulgoz, S., & **Feuerstahler, L. M.** (preregistered). Concealment, identity centrality, and well-being in transgender adults.
- Feuerstahler, L. M.** (2022). Educational and psychological measurement [book review]. *Measurement: Interdisciplinary Research and Perspectives*, *20*(3), 175-180.
- Ahn, J. R.*, & **Feuerstahler, L. M.** (2021). Diagnostic classification using a polytomous measure of Korean organizational commitment. In Wiberg, M., Molenaar, D., González, J., Böckenholt, U., Kim, J. S. (Eds.), *Quantitative Psychology. Springer Proceedings in Mathematics & Statistics*, vol 353 (pp. 417-427). Springer, Cham.
- Feuerstahler, L. M.**, & Waller, N. G. (2014). Abstract: Estimation of the 4-parameter model with marginal maximum likelihood. *Multivariate Behavioral Research*, *49*, 285.

MANUSCRIPTS SUBMITTED

Paulson, D. R., Ingleshwar, A., John, M. T., **Feuerstahler, L. M.**, Chen, X.*, & Chanthavisouk, P. (submitted). Linking patient-reported oral and general health-related quality of life.

Liu, S. H., Buckley, J. P., & **Feuerstahler, L. M.** (submitted) Exposure burden scores to summarize exposure to environmental mixtures: Implications for cross-study harmonization and fairness in precision environmental health.

Pratt, D. N., **Feuerstahler, L. M.**, Gold, J., Luck, S. J., Barch, D., Carter, C., Ragland, J. D., Silverstein, S. M., & MacDonald, A. (submitted). Relieving the burden: Identifying diminishing returns to create more efficient tasks.

Liu, S. H., Chen, Y., **Feuerstahler, L. M.**, Chen, A., Starling, A., Dabelea, D., Wang, X., Cecil, K., Lanphear, B., Yolton, K., Braun, J. M., & Buckley, J. (in revision). The U.S. PFAS exposure burden calculator for 2017-2018: Application to the HOME Study, with comparison of epidemiological findings from NHANES.

INVITED TALKS

Feuerstahler, L. M. (2020, October). Scale alignment in multidimensional Rasch family models. Talk presented virtually to the Berkeley Evaluation and Assessment Research (BEAR) Center seminar series.

Feuerstahler, L. M. (2019, July). Characterizing uncertainty in item response model metrics. Spotlight talk. Santiago, Chile: *International Meeting of the Psychometric Society*. (selected to be featured from among all conference submissions).

Feuerstahler, L. M. (2017, September). Flexible latent trait metrics: An application of the filtered monotonic polynomial item response model. Berkeley, CA. Talk presented to the Berkeley Evaluation and Assessment Research (BEAR) Center seminar series.

Feuerstahler, L. M. (2016, September). Psychometric challenges in measuring visual working memory capacity. Berkeley, CA. Talk presented to the Berkeley Evaluation and Assessment Research (BEAR) Center seminar series.

PEER-REVIEWED PRESENTATIONS

Liu, S. H., **Feuerstahler, L. M.**, Chen, Y., Braun, J., Buckley, J. P. (2023, August). Towards advancing precision environmental health: Developing a customized exposure burden score to PFAS mixtures to enable equitable comparisons across population subgroups, using mixture item response theory. Chicago, IL: *International Society of Exposure Science*.

- Feuerstahler, L. M.** (2023, July). Model averaging of (nonlinearly related) item response models. College Park, MD: *International Meeting of the Psychometric Society*.
- Liu, S. H., **Feuerstahler, L. M.**, Chen, Y., Braun, J., Buckley, J. P. (2023, July). Towards advancing precision environmental health: Developing a customized exposure burden score to chemicals using mixture item response theory. College Park, MD: *International Meeting of the Psychometric Society*.
- Ahn, J. R.*, & **Feuerstahler, L. M.** (2023, April). Pre-assembly methods for cognitive diagnostic multistage adaptive testing. Chicago, IL: *National Council on Measurement in Education*.
- Chen, X.*, & **Feuerstahler, L. M.** (2023, April). A comparison of symmetric and asymmetric item response theory models. Chicago, IL: *National Council on Measurement in Education*.
- Feuerstahler, L. M.** (2022, April). An IRT-based geometrical approach to differential item functioning. San Diego, CA: *National Council on Measurement in Education*.
- Plourde, J.*, & **Feuerstahler, L. M.** (2022, April). Accuracy of item parameter linking accounting for uncertainty in parameter estimates. San Diego, CA: *National Council on Measurement in Education*.
- Leon, M., **Feuerstahler, L. M.**, & Romero, S. (2021, November). Susto and cross-cultural and cross-national differences in PTSD in Mexican and U.S. participants. Virtual conference: *International Society for Traumatic Stress Studies*.
- Aytürk, E.*, & **Feuerstahler, L. M.** (2020, September). Fitting propensities of item response theory models. Virtual conference: *National Council on Measurement in Education*.
- Feng, Y.*, & **Feuerstahler, L. M.** (2020, September). The application of multiple imputation-based approach on computerized adaptive testing. Virtual conference: *National Council on Measurement in Education*.
- Ahn, J. R.*, & **Feuerstahler, L. M.** (2020, July). Diagnostic classification using a polytomous measure of Korean organizational commitment. *Annual International Meeting of the Psychometric Society*. <https://www.psychometricsociety.org/imps-2020>
- Silverman, M. R.*, Bennett, R., Davis, K., **Feuerstahler, L. M.**, & Roy, A. (2019, September). Assessing pediatric emotion regulation: A factor analysis of the Emotion Regulation Checklist. Burlington, VT: *Congress on Pediatric Irritability and Dysregulation*.
- Leon, M.*, **Feuerstahler, L. M.**, Romero, S., & Rasmussen, A. (2019, June). Susto, PTSD, and Cultural Identity in Mexico and the U.S. In T. Brannon (Chair), *Intersections between Social Identity and Psychological Distress*. Symposium conducted at the Society for the Psychological Study of Social Issues, San Diego, California.

- Falk, C. F., & **Feuerstahler, L. M.** (2019, May). On the Performance of Semi- and Non-Parametric Item Response Functions in Computer Adaptive Tests. Calgary, Canada: *Annual Meeting of the Statistical Society of Canada.*
- Feuerstahler, L. M.** (2018, July). Metric Recovery in IRT Simulation Studies. New York, NY: *International Meeting of the Psychometric Society.*
- Sussman, J., Freund, R., & **Feuerstahler, L. M.** (2018, April). High Quality Score Reports from a Multidimensional Assessment of Early Childhood Development. New York: *Annual Meeting of the National Council on Measurement in Education.*
- Draney, K., **Feuerstahler, L. M.**, Kriener-Althen, K., Wihardini, D., & Xia, T. (2017, July). Issues in Applying Multidimensional Item Response Models. Zurich, Switzerland: *International Meeting of the Psychometric Society.*
- Feuerstahler, L. M.**, & Wilson, M. (2017, July). Scale Alignment in Multidimensional Item Response Models. Zurich, Switzerland: *International Meeting of the Psychometric Society.*
- Feuerstahler, L. M.**, & Waller, N. G. (2013, October). Estimation of the 4-Parameter IRT Model in Real and Simulated Psychopathology Data with Marginal Maximum Likelihood. St. Petersburg, FL: *Annual Meeting of the Society of Multivariate Experimental Psychology.*
- Feuerstahler, L. M.**, Waller, N. G., & John, M. T. (2013, March). Imputation Methods for Not Applicable Responses to the OHIP. Seattle, WA: *Meeting of the International Association for Dental Research.*

TEACHING EXPERIENCE

Graduate

Bayesian Statistics (Fordham): Fall 2021, Spring 2024
 Item Response Theory w/ Lab (Fordham): Fall 2018, Spring 2021, 23
 Introduction to Psychological Statistics w/ Lab (Fordham): Fall 2019-23
 Psychometric Theory (Fordham): Spring 2020, Fall 2022
 Hierarchical and Longitudinal Modeling (Berkeley, *Lab Instructor*): Fall 2017
 Multivariate Statistics for Social Scientists (UMN, *Teaching Assistant*): Spring 2013-15
 Applied Psychological Measurement (UMN, *Teaching Assistant*): Fall 2012-14

Undergraduate

Statistics (Fordham): Fall 2018-20, 23; Spring 2019-21
 Introduction to Psychological Measurement and Data Analysis (UMN): Summer 2015
 Introduction to Research Methods (UMN, *Lab Instructor*): Fall 2011, Spring 2012

Workshop

High Performance Computing Tutorial: With Applications to Monte Carlo Simulation in R (Fordham, two weeks in Fall 2023)

ACADEMIC ADVISING AND MENTORING

Direct Mentorship

Doctoral Dissertation

Ezgi Aytürk, Jungwon Rachael Ahn, Danny Lorenzi (in progress),
Jay Plourde (in progress), Xing Chen (in progress)

Master's Thesis

Danny Lorenzi, Jay Plourde, Xing Chen, Opa Nyamulani (in progress)

Independent Research (Master's Thesis Equivalent)

Jungwon Rachael Ahn, Fabio Setti (in progress)

Committee Member (Reader)

Doctoral Dissertation

Matthew Smith, Amanda Leeder, Emily Ho, Yihzi Zhang, Evan Auguste, Neshat Yazadani, Ye Feng, Ying Han, Melanie Silverman, Mark Himmelstein, Jill Stadterman (in progress), Michelle Leon (in progress), Zihuan Cao (in progress)

Master's Thesis

Michelle Leon, Hayley Cook-Thibeau, Hyunjung Lee, Cong Liu, Zhixing Liu (in progress)

Undergraduate Honor's Thesis

AvaGrace Palazzolo

Undergraduate Advising

2019 – present Psychology Major Advising Program, Fordham College Rose Hill

AWARDS AND FUNDING

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|-----------|---|
| 2023-2024 | <i>Differential Item Functioning with Multi-Group Membership and Random Person Effects</i> Co-PI: Danny Lorenzi* Role: Principal Investigator, <i>Funded</i> |
| 2023 | <i>Integrating Task-Based Phenotypes and Health Records to Personalize Depression Treatment</i> NIMH PI: Angus MacDonald III, PhD Role: Consultant, <i>Submitted</i> |
| 2023 | <i>Open-Source Teaching of Undergraduate Statistics in Psychology</i> Fordham GSAS Summer Professional Development Award, <i>Funded</i> |

- 2023 *The PFAS Exposure Burden Calculator: A Biologically-Informed Tool for Harmonizing PFAS Biomarkers Across Studies and Time*
NIH
PI: Shelley Liu, PhD
Role: Co-Investigator, *Not Funded, Preparing to Resubmit*
- 2022-2023 *Development of a PROMIS Measure for Adult Dental Patients*
NIDCR 5R01DE028059-03
PI: Mike T. John, PhD, DMD, MPH
Role: Subaward PI, *Funded*
- 2022 *Doctoral Dissertation Research: Pre-Assembly Methods for Cognitive Diagnostic Multistage Adaptive Test (CD-MST)*
Co-PI: J. Rachael Ahn*
Role: Principal Investigator, *Funded*
- 2022 *Innovative Assessment of Parental Flooding and Its Impact on Maternal Responses to Impairing Emotional Outbursts in Children with ADHD*
NIMH R21 PA-21-235
Role: Co-Investigator, *Not Funded*
- 2021 Outstanding Reviewer, *Journal of Educational and Behavioral Statistics*
- 2021 *CFPB's Financial Well-Being Scale Research 2021*
Awarded to Abt Associates
CFPB contract 9531CB20A0005, task 9531CB21F0070
Role: Consultant, *Funded*
- 2020 *Investigation of Habenular Functional Connectivity as a Putative Predictor of Compulsive Drug Abuse*
NIH R21DA053513
Role: Statistician; *Not Funded*
- 2020 *Adaptation and Validation of a Measure of Self-Identification as a Researcher for Postsecondary Students (IR-P)*
GRANT13190778
Role: Advisory Board; *Not Funded*
- 2019 *Understanding Scientific Practices and Cross-Cutting Concepts in Multiple Contexts: Physical, Life, and Earth & Space Science*
IES R305A200483
Role: Advisory Board; *Not Funded*

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| 2018 | <i>Understanding Scientific Practices in Multiple Contexts: Physical, Life, and Earth & Space Science</i> IES R305A190519 Role: Advisory Board; <i>Not Funded</i> |
| 2016 – 2017 | Institute of Education Sciences (IES) Postdoctoral Fellow |
| 2015 | Society of Multivariate Experimental Psychology (SMEP) Workshop Travel Award, \$1,000 |
| 2013 | Gough Student Travel and Research Award, \$600 |
| 2011 – 2012 | University of Minnesota Graduate School Block Grant Fellowship, \$11,000 |

ACADEMIC SERVICE

External

Grant Review Advisory Panels

- 2024 *Institute of Educational Sciences*
- 2023 *Methodology, Measurement and Statistics; National Science Foundation*

Editorial Board

- 2022 – present *Psych*
- 2021 – present *Assessment*
- 2020 – present *Measurement: Interdisciplinary Research and Perspectives*

Ad-hoc Reviewer

Journals:

Applied Psychological Measurement, Assessment, Behavior Research Methods, BMC Medical Education, BMC Psychiatry, BMC Psychology, British Journal of Mathematical and Statistical Psychology, Computational Brain & Behavior, Educational and Psychological Measurement, Entropy, Foundations, Health and Quality of Life Outcomes, International Journal of Environmental Research and Public Health, Journal of Educational and Behavioral Statistics, Journal of Educational Measurement, Measurement: Interdisciplinary Research and Perspectives, Multivariate Behavioral Research, Psych, Psychological Assessment, Psychometrika, Psychiatry Research, Quantitative and Computational Methods in Behavioral Sciences, Sage Open (also served as Article Editor)

Book Publishers: *CRC Press, Sage*

Individual Grants: *Israel Science Foundation, National Science Foundation*

Other: *EBSCO Pathways to Research*

Psychometric Society
 2018, 19, 23 Poster judge at International Meeting of the Psychometric Society
 2019 - 20 Session chair at International Meeting of the Psychometric Society
 National Council on Measurement in Education
 2018 - present (most years) Annual conference abstract reviewer
 2021-present (most years) Conference session chair, discussant

Internal

Fordham University
 2023 - present Academic Integrity Committee
 2022 - present Member, Fulbright/Marshall Scholarship Review Panel
 2022 - present Member, Library Committee
 2020 - present Member, Faculty Evaluation Committee

Fordham University, Department of Psychology
 2023 - 24 Member, Search Committee, Anne Anastasi Professor of Psychometrics and Quantitative Psychology (Endowed Chair)
 2023 - 24 Member, Search Committee, Tenure-Track Assistant Professor in Psychometrics and Quantitative Psychology
 2023 Chair, Open-Source Undergraduate Statistics Project
 2023 Member, Search Committee, Visiting Assistant Professor
 2022 Chair, Undergraduate Statistics Curriculum Revision
 2022 - present Lead, Teacher Training for Undergraduate Statistics
 2021 - present Member, Graduate Curriculum Committee
 2019 - 21 Member, Distinguished Fellowship Committee
 2018 - present Member, Psychometrics and Quantitative Psychology PhD Admissions Committee
 2018 - 21 Member, Undergraduate Curriculum Committee

PROFESSIONAL MEMBERSHIPS

Association for Psychological Science
 National Council on Measurement in Education
 Psychometric Society

TECHNICAL SKILLS

Contributed R Packages
 flexmet (on CRAN), scaleAlign (on CRAN), vwm
 Programming Languages and Software
 R, LaTeX, html, python, stan, Stata, Matlab, SPSS, MPlus, OpenMX,
 XCalibre, ConQuest, Mathematica