

JESSICA FOSSUM

Assistant Professor of Psychology
Seattle Pacific University

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EDUCATION

Ph.D., Psychology, Quantitative
University of California, Los Angeles, CA 2023
Advisor: Amanda K. Montoya, PhD

M.A., Psychology, Quantitative
University of California, Los Angeles, CA 2020

B.A., Psychology
Seattle Pacific University, Seattle, WA 2019

B.S., Applied Mathematics
Seattle Pacific University, Seattle, WA 2019

TEACHING INTERESTS

Teaching motivates me to keep learning. I encourage students to think critically about the process of designing and conducting their own psychological experiments. I provide these active learning experiences in my courses because they are engaging for students. With student-centered learning, it is my hope that the skills I can teach my students translate beyond the classroom to their future careers and vocations.

TEACHING EXPERIENCE

SEATTLE PACIFIC UNIVERSITY

Assistant Professor, 2023-current

Introduction to Statistics for the Social and Behavioral Sciences (PSY 2360/SOC 2360/CRIM 2360)
Advanced Statistical Analysis (PSY 4428)
Data Analytics and Storytelling (PSY 4430; Graduate Level PSY 6950)
Quantitative Methods I: Inferential ANOVA (PSY 6950/CPY 7031/ORG 6600/ORG 7031)
Quantitative Methods II: Regression (PSY 6950/CPY 7032/ORG 6610/ORG 7032)

Instructor, 2022-2023

Introduction to Statistics for the Social and Behavioral Sciences (PSY 2360/SOC 2360/CRIM 2360)
Advanced Statistical Analysis (PSY 4428)
Research Methods and Statistics I (Graduate Level; PSY 6010)
Data Analytics and Storytelling (PSY 4430; Graduate Level PSY 6950)

PEPPERDINE UNIVERSITY

Adjunct Professor, 2022

Introductory Statistics: Psychology (PSYCH 210)

UCLA

Teaching Associate, 2019-2022

Advanced Psychological Statistics (Graduate Level Regression; Psych 250C)

Psychological Statistics (Psych 100A)

Introduction to Psychology (Psych 10)

Laboratory Teaching Assistant, 2021

Research Methods (Psych 100B)

Reader/Grader, 2020-2021

Advanced Psychological Statistics (Graduate Level; Psych 250A)

Introduction to Health Psychology (Psych 150)

SEATTLE PACIFIC UNIVERSITY

Grader/Learning Assistant, 2017-2019

Introduction to Statistics for the Sciences

UNIVERSITY OF WASHINGTON

Instructional Assistant, 2018

Understanding Statistics in Psychology

WORKSHOPS

Fossum, J. L. (2024, April). *Mediation and Statistical Power Analysis Workshop*. Invited workshop taught at the 2024 meeting of the Western Psychological Association, San Francisco, CA.

Montoya, A. K. & **Fossum, J. L.** (November). *Introduction to Moderation Analysis with PROCESS*. Invited workshop co-taught for the American Psychological Association Science Training Series, virtual.

Fossum, J. L. & Montoya, A. K. (2023, October). *Introduction to Mediation Analysis with PROCESS*. Invited workshop co-taught for the American Psychological Association Science Training Series, virtual.

Montoya, A. K. & **Fossum, J. L.** (2022, April). *Mediation Analysis Workshop*. Invited workshop co-taught at the 2022 meeting of the Western Psychological Association, Portland, OR.

TEACHING PEDAGOGY

CIRTL@UCLA Associate

2021

University of California, Los Angeles, CA

Center for the Integration of Teaching, Research, and Learning (NSF Funded)

Professional Development Classes: -Engaging Students in the Teaching of Statistics

Summer 2020

RESEARCH INTERESTS

My research focuses on statistical power for mediation, moderation, and conditional process models, with the goal of mentoring and training other researchers to use proper methods and techniques maximize their available resources. I also integrate my teaching and research together by focusing on active learning methods for introductory statistics. Additionally, I am passionate about methodology and transparency in psychological science through researching and implementing open science practices.

PUBLICATIONS

 <https://orcid.org/0000-0002-4907-0160>

Lohmann, A., Montoya, A., Huizing, A., Penning de Vries, B.B.L., Clouth, F., **Fossum, J. L.**, Ketelaar, J., Claramunt Gonzalez, J., Luijken, K., Heslen, L., Nab, L., Nijman, R., Tibbe, T., Alter, U., Wang, Y.A., & Groenwold, R.H.H. (2023). Replicability of Simulation Studies for the investigation of statistical methods: The RepliSims Project. *Royal Society Open Science*.

Fossum, J. L. & Montoya, A. K. (2023). When to Use a Different Test for Power Analysis and Data Analysis for Mediation. *Advances in Methods and Practices in Psychology*, 6(2). <https://doi.org/10.1177/25152459231156606>

Bilder, R., Widaman, K., Bauer, R., Drane, D., Loring, D., Umfleet, L., Reise, S., Vannier, L. C., Wahlstrom, D., **Fossum, J. L.**, Wong, E., Enriquez, K., Whelan, F., & Shih, S. (2022). Construct Identification in the Neuropsychological Battery: What Are We Measuring? *Neuropsychology*. <https://doi.org/10.1037/neu0000832>

Ramos, G., Delgadillo, D., **Fossum, J.**, Montoya, A. K., Thamrin, H., Rapp, A., Escovar, E., & Chavira, D. (2021). Discrimination and Internalizing Disorders in Rural Latinx Youth: An Ecological Model of Etiology. *Children and Youth Services Review*, 130. <https://doi.org/10.1016/j.childyouth.2021.106250>

Montoya, A. K., Krenzer, W. D. L. & **Fossum, J. L.** (2021). Opening the Door to Registered Reports: Census of Journals Publishing Registered Reports. *Collabra: Psychology*, 7(1). <https://doi.org/10.1525/collabra.24404>

WORKS IN PROGRESS

Fossum, J. L. & Carpenter, T. P. (submitted to *Journal of Research in Personality*). Talk about feeling bad: How guilt- and shame-proneness predict disclosure.

ENCYCLOPEDIA ENTRIES

Fossum, J. L. & Montoya, A. K. (2022). Heterogeneity. In B. B. Frey (Ed.), *Encyclopedia of Research Design* (2nd ed.). Thousand Oaks, CA: SAGE.

WHITE PAPERS

Fossum, J. L. & Montoya, A. K. (2022). RepliSIMS - replication report for Fritz and MacKinnon (2007). *Zenodo*. <https://doi.org/10.5281/zenodo.5975520>

PRESENTATIONS

INVITED TALKS

Fossum, J. L. (2023, July). Impacts of Model Specification on Statistical Power and Type I Error Rate in Moderated Mediation Analysis. Presented at the Psychology Summer Speaker Series at Case Western Reserve University, virtual.

SYMPOSIA

Fossum, J. L. (2023, April). Invited discussant for symposium, “An audit of our own: Introducing the CCTC 2020 toolkit for socially responsive research.” Western Psychological Association Convention, Portland, Oregon.

Fossum, J. L., Lafit, G., & Montoya, A. K. (2022, July). Power analysis methods for mediation and moderated mediation models. Presented at the International Meeting of the Psychometric Society Annual Meeting, Bologna, Italy.

Fossum, J. L. & Montoya, A. K. (2021, February). Comparison of power analysis methods for mediation. Presented at the Society for Personality and Social Psychology Annual Meeting, Virtual. 

PEER-REVIEWED PRESENTATIONS

*Mentored Undergraduate Student

Montoya, A. K., Krenzer, W. D. L., Tibbe, T. D., **Fossum, J. L.** (2023, February) Getting started with registered reports. Presented at the Society for Personality and Social Psychology, Virtual.

Bilder, R., Widaman, K. F., Bauer, R. M., Drane, D., Loring, D. W., ... **Fossum, J. L.**, ... & Shih, S. (2022). P80. Free Range Factors in Clinical Neuropsychology: Do Real World Assessments Follow the Norms?. *Biological Psychiatry*, 91(9), S119-S120.

*Yang, N., **Fossum, J. L.**, & Montoya, A. K. (2022, May). *Extending Mediation Analysis to Within-subjects Data With Dichotomous Outcomes*. Presented at UCLA Undergraduate Research Week, Los Angeles, CA.

Fossum, J. L., Gill, B., & Hossler, J. (2019, May). *Agree with me, κ ? Interrater reliability using Cohen's Kappa*. Presented at the Erickson Conference, Seattle Pacific University, Seattle, WA.

Fossum, J. L., Mavrakis, L., & Lau, W. (2019, April). *The aftermath: Resource allocation post-disaster via quadcopter*. Presented at the Annual Meeting of the Pacific Northwest Section of the Mathematical Association of America, Portland, OR.

Fossum, J. L., Gill, B., & Hossler, J. (2019, April). *Agree with me, κ ? Interrater reliability using Cohen's Kappa*. Presented at the Annual Meeting of the Pacific Northwest Section of the Mathematical Association of America, Portland, OR.

Fossum, J. L., Johnson, T., & Carpenter, T. P. (2018, May). *I'm guilty and I need to talk about it*. Presented at the School of Psychology, Family, and Community Research Conference, Seattle Pacific University, Seattle, WA.

COLLOQUIA

Fossum, J. L. (2022, April). Construct Identification in the Neuropsychological Battery: Conclusions from the Data Analysis. National Neuropsychology Network Laboratory Meeting, UCLA Semel Institute, Los Angeles, CA.

Fossum, J. L., Ramos, G., & Montoya, A. K. (2022, January). Modeling Latent Interactions Using the Product Indicator Approach: An Applied Example with Clinical Data in R. Quantitative Psychology Seminar, UCLA, Los Angeles, CA.

Fossum, J. L., Krenzer, W. L. D., & Montoya, A. K. (2021, August). Census on Registered Reports. Annual NSF Grant Advisory Board Meeting, QRClab, virtual.

Fossum, J. L. & Montoya, A. K. (2021, January). Comparing Power Analysis and Data Analysis Procedures for Different Tests of Mediation. Quantitative Psychology Seminar, UCLA, virtual.

Fossum, J. L. & Montoya, A. K. (2019, November). Applying Interrater Reliability Calculations to Journal Policy Data. Quantitative Psychology Seminar, UCLA, Los Angeles, CA.

POSTER PRESENTATIONS

*Mentored Undergraduate Student

Luijken, K., Lohmann, A. L., Alter, U., Gonzalez, J. C., Clouth, F. J., **Fossum, J. L.**, Hesen, L., Huizing, A. H. J., Ketelaar, J., Montoya, A. K., Nab, L., Nijman, R. C. C., Penning de Vries, B. B. L., Tibbe, T. D., Wang, Y. A., & Groenwold, R. H. H. (2023, August). *Simulation Replication Challenge*. Poster accepted for presentation at the International Society for Clinical Biostatistics Conference, Milan, Italy.

Fossum, J. L. & Montoya, A. K. (2023, April). *Choosing Simulation Study Parameters from Current Practices*. Poster accepted for presentation at the Western Psychological Association Annual Convention, Riverside, CA.

*Yang, N., **Fossum, J. L.**, & Montoya, A. K. (2023, April). *Extending Mediation Analysis to Within-Subjects Data with Dichotomous Outcomes*. Poster accepted for presentation at the Western Psychological Association Annual Convention, Riverside, CA.

Fossum, J. L. & Montoya, A. K. (2022, May). *Modeling Latent Interactions Using the Product Indicator Approach: An Applied Example with Clinical Data in R*. Poster accepted for presentation at the Association for Psychological Science Annual Convention, Chicago, IL.

*Yang, N., **Fossum, J. L.**, & Montoya, A. K. (2022, May). *Extending Mediation Analysis to Within-subjects Data With Dichotomous Outcomes*. Poster accepted for presentation at the UCLA Psychology Undergraduate Research Conference, Los Angeles, CA.

Fossum, J. L. & Carpenter, T. P. (2021, May). *Disclosing information: The related roles of guilt- and shame-proneness*. Poster accepted for presentation at the Association for Psychological Science Annual Convention, virtual.

*Yang, N., **Fossum, J. L.**, & Montoya, A. K. (2021, May). *Moderated Mediation Analysis Across Different Research Areas*. Poster accepted for presentation at UCLA Undergraduate Research Week, virtual.

Fossum, J. L. & Montoya, A. K. (2021, April). *Current practices and sample sizes used for moderated mediation*. Poster accepted for presentation at the Western Psychological Association Annual Convention, virtual.

Fossum, J. L. & Montoya, A. K. (2020, February). *Power analysis in mediation and moderated mediation* [In-progress research gala]. American Educational Research Association Annual Meeting, San Francisco, CA. (conference canceled)

Fossum, J. L. & Carpenter, T. P. (2020, February). *Effects of social judgement on shame and guilt*. Poster accepted for presentation at the meeting of the Society for Personality and Social Psychology, New Orleans, LO.

Aaron, J., **Fossum, J. L.**, & Carpenter, T. P. (2020, February). *“I feel bad,” “I see you hurting,” or “I take responsibility”*: Examination of transgression narrative variables predicting apology. Poster accepted for presentation at the meeting of the Society for Personality and Social Psychology, New Orleans, LO.

Fossum, J. L., Carpenter, T. P., Haarman, S., & Tsang, J. (2019, May). *I feel bad and I need to talk about it*. Poster accepted for presentation at the School of Psychology, Family, and Community Research Conference, Seattle Pacific University, Seattle, WA.

Butler, R., **Fossum, J. L.**, Mavrakis, L., & Lau, W. (2019). *The aftermath: Resource allocation post-disaster via quadcopter*. Poster accepted for presentation at the 17th Annual Erickson Conference, Seattle Pacific University, Seattle, WA.

Fossum, J. L., Carpenter, T. P., Haarman, S., & Tsang, J. (2019). *I’m guilty and I need to talk about it*. Poster accepted for presentation at the School of Psychology, Family, and Community Research Conference, Seattle Pacific University, Seattle, WA.

Fossum, J. L., Carpenter, T. P., Johnson, T., Blonski, R., Haarman, S., Assaad, S., & Tsang, J. (2019). *I’m guilty and I need to talk about it*. Poster accepted for presentation at the meeting of the Society for Personality and Social Psychology, Portland, OR.

Blondefield, C., Onishi, L., **Fossum, J. L.**, Hamasaki, M., McDonald, J., Isenberg, N., & Carpenter, T. P. (2018, May). *Guilty and ashamed: Why aren’t women unhappier and less self-forgiving?* Poster accepted for presentation at the School of Psychology, Family, and Community Research Conference, Seattle Pacific University, Seattle, WA.

Isenberg, N., Carpenter, T. P., McDonald, J., Blondefield, C., **Fossum, J. L.**, Hamasaki, M., & Onishi, L. (2018, March). *Guilty and ashamed: Why aren’t women unhappier and less self-forgiving?* Poster accepted for presentation at the meeting of the Society for Personality and Social Psychology, Atlanta, GA.

RESEARCH EXPERIENCE

Graduate Research Fellow 2019 – 2023
University of California, Los Angeles, CA Quantitative Research Collaboratory
Supervisor: Amanda K. Montoya, PhD

Graduate Data Analyst 2021 – 2022
University of California, Los Angeles, CA National Neuropsychology Network
Supervisor: Steven P. Reise, PhD

repliCATS 2020 – 2021
The University of Melbourne, Australia Collaborative Assessment for Trustworthy Science
Phase 1 Replication Claim Assessment, COVID Claim Assessment, Phase 2 Reimagining Peer Review

Undergraduate Senior Research Assistant 2011 – 2013
Seattle Pacific University, Seattle, WA
Supervisor: Tom Carpenter, PhD

RESEARCH PRODUCTS

Moderated Mediation Article Database
DOI: 10.25346/S6/7UTGQH
<https://www.jlfossum.com/home/moderated-mediation-article-database>

MENTORSHIP

Director of Research for the MS in Research Psychology program at Seattle Pacific University (current).

Mentored a rotating team of four to six undergraduate research assistants coding articles using moderated mediation analysis to create a database of over 500 example articles through weekly meetings and quarterly training sessions (2019-2022).

Co-Mentored undergraduate student Nickie Yang's Psychology Research Opportunity Program (PROPS) project on dichotomous outcomes for within-subjects mediation analysis (2022-2023).

HONORS & AWARDS

Graduate Division, UCLA Graduate Research Mentorship (\$20,000)	2021-2022
Society for the Improvement of Psychological Science Graduate Travel Award (\$400)	2022
Society for Personality and Social Psychology Graduate Registration Award (\$50)	2021
Seattle Pacific University Alpha Kappa Sigma Honor Society	2019
Seattle Pacific University President's Award Nominee	2019
Department of Psychology, Seattle Pacific University The Philip Ashton Award (\$1,500)	2019
Mathematical Contest in Modeling, COMAP Finalist	2019
Erickson Conference, Seattle Pacific University Best Poster Award	2019
Seattle Pacific University SERVE Grant (\$500)	2018 and 2019
Associated Students of Seattle Pacific, Seattle Pacific University Conference Travel Grant (\$350)	2018 and 2019
Department of Psychology, Seattle Pacific University Joy Fisher Hammersla Social Psychology Award (\$3,000)	2018
University Ministries, Seattle Pacific University Barnabas Student Leadership Award (\$500)	2018

MEMBERSHIPS

American Educational Research Association
American Psychological Association
Association for Psychological Science
Center for the Integration of Research, Teaching and Learning (UCLA)
Society for Personality and Social Psychology
Society for the Improvement of Psychological Science

JOURNAL REVIEWING

Meta-Psychology
Collabra: Psychology
Personality and Social Psychology Bulletin
Multivariate Behavioral Research
Emerging Adulthood

OPEN REVIEWS

Collins, E., & Watt, R. (2021). Using and Understanding Power in Psychological Research: A Survey Study. *Collabra: Psychology*, 7(1), 28250. Article. Review

(co-review) Olvera Astivia, O. L., Gadermann, A., & Guhn, M. (2019). The relationship between statistical power and predictor distribution in multilevel logistic regression: A simulation-based approach. *BMC Medical Research Methodology*, 19. Article. Review

COURSEWORK

Advanced Psychological Statistics
Statistical Computing
Bayesian Statistics
Mediation, Moderation, and Conditional Process Analysis
Statistical Modeling
Linear Algebra
Health Psychology
Missing Data
Power and Sample Size Determination
Multivariate Analysis with Latent Variables
Psychological Measurement
Mathematical Statistics
Mathematical Modeling
Probability and Statistics
Quantitative Psychology Seminar
Structural Equation Modeling

SERVICE

Steering Committee, Bethany Presbyterian Church Young Adults Group 2023-Present

Volunteer Statistics Tutor, UPchieve 2020-Present

Panel Member, Advanced Research Methods in Psychology: Graduate School Conversation
California State University, Monterey Bay 2021

Research Mentor, AP Research Student Project 2020-2021
Pawling High School Science Research, NY

SOCIETY SERVICE

Methodology Poster Submission Reviewer 2022
Association for Psychological Science

Undergraduate Research Award Reviewer 2021
Society for Personality and Social Psychology

UNIVERSITY SERVICE

Research Mentor and Panel Member 2022
Undergraduate Research Journal of Psychology, UCLA

Quantitative Area Representative 2021
Graduate Admissions Virtual Open House
Department of Psychology, UCLA

Graduate Student Buddy 2021
Department of Psychology, UCLA

Graduate Student Mentor 2021
Graduate-Undergraduate Mentorship Program, UCLA

Volunteer 2020
Explore Your Universe Event, UCLA

Panel Member, Graduate School Application Process Panel 2020
UCLA Psychology Internship Seminar (Psych 194)

Graduate Student Representative 2020
UCLA Psychology Graduate Open House

"Cautions of Mediation" written for the *Psychology in Action* Blog, UCLA March, 2020
<https://www.psychologyinaction.org/psychology-in-action-1/2020/1/25/cautions-of-mediation>