

# Brenna Gomer

✉ brenna.gomer@usu.edu



## Education

- 2021    **Ph.D., University of Notre Dame** Psychology.  
Area: *Quantitative*.  
Advisor: Ke-Hai Yuan  
Dissertation: *Quantifying the Impact of Missing-Data Mechanism Uncertainty: A Tailored Sensitivity Analysis Approach for the Behavioral Sciences*.
- 2018    **M.S., University of Notre Dame** Applied and Computational Mathematics and Statistics (ACMS).  
Advisor: Fang Liu  
Thesis: *A Bayesian Approach to Identify Missing Data Mechanisms*.
- 2014    **B.A., University of California, Berkeley**  
Major (Double): *Statistics, Psychology*.

## Professional Positions

- 2021-Present    **Assistant Professor of Psychology, Utah State University**

## Publications

\* refers to graduate students, \*\* refers to graduate students of whom I was the primary advisor

### Published and In Press Manuscripts

- 1    **Gomer, B., & Yuan, K.-H.** (2023a). Missing data analysis. In D. McCaffrey & A. Rupp (Eds.), *International Encyclopedia of Education*, (4th ed.), Oxford, UK: Elsevier.
- 2    **Gomer, B., & Yuan, K.-H.** (2023b). A realistic evaluation of methods for handling missing data when there is a mixture of MCAR, MAR, and MNAR mechanisms in the same dataset. *Multivariate Behavioral Research*. <https://doi.org/10.1080/00273171.2022.2158776>
- 3    Yuan, K.-H., **Gomer, B.**, & Marcoulides, K. (2022). Smoothed quantiles for  $\chi^2$  type test statistics with applications. *MULTIVARIATE BEHAVIORAL RESEARCH*, 57, 223–242.  
<https://doi.org/10.1080/00273171.2020.1858018>
- 4    **Gomer, B.**, & Yuan, K.-H. (2021). Subtypes of the missing not at random mechanism. *PSYCHOLOGICAL METHODS*, 26(5), 559–598. <https://doi.org/10.1037/met0000377>
- 5    Merluzzi, T., Philip, E., Heitzmann, C., **Gomer, B.**, & Kim, D. (2021). Comorbidity, functional impairment, and emotional distress: A coping mediation model for persons with cancer. *ANNALS OF BEHAVIORAL MEDICINE*, 55(10), 994–1004. <https://doi.org/10.1093/abm/kaa122>
- 6    O’Loughlin, C., **Gomer, B.**, & Ammerman, B. (2021). The social context of nonsuicidal self-injury: Links to severity, suicide risk, and social factors. *JOURNAL OF CLINICAL PSYCHOLOGY*, 77(4), 1004–1017.  
<https://doi.org/10.1002/jclp.23073>
- 7    Yuan, K.-H., & **Gomer, B.** (2021). An overview of applied robust methods. *BRITISH JOURNAL OF MATHEMATICAL AND STATISTICAL PSYCHOLOGY*, 74, 199–246. <https://doi.org/10.1111/bmsp.12230>

- 8 **Gomer, B.** (2019). MCAR, MAR, and MNAR values in the same dataset: A realistic evaluation of methods for handling missing data (abstract). *MULTIVARIATE BEHAVIORAL RESEARCH*, 54, 153–155.  
<https://doi.org/10.1080/00273171.2018.1557033>
- 9 Deng, L., & **Gomer, B.** (2018). Review of tests and measurement for people who (think they) hate tests and measurement. *STRUCTURAL EQUATION MODELING: A MULTIDISCIPLINARY JOURNAL*, 57, 492–494.  
<https://doi.org/10.1080/10705511.2018.1437349>
- 10 **Gomer, B.**, Jiang, G., & Yuan, K.-H. (2018). New effect size measures for structural equation modeling. *STRUCTURAL EQUATION MODELING: A MULTIDISCIPLINARY JOURNAL*, 26, 371–389.  
<https://doi.org/10.1080/10705511.2018.1545231>

## Manuscripts Under Review

- 1 Kim, D., **Gomer, B.**, & Yoon, L. (preparing for resubmission). Positive emotion regulation and depressive symptoms in American and Korean samples.
- 2 \*Han, D., \*Nayeem, R., Cho, I., & **Gomer, B.** (under review). Hidden uncertainty in average: Evaluating uncertainty visualization in aggregate values on perceived data quality.

## Manuscripts in Preparation

- 1 \*\*Lee, S., & **Gomer, B.** (in preparation). Improving the generalizability of monte carlo simulation studies.
- 2 **Gomer, B.** (in preparation[a]). A counterintuitive effect of model misspecification and missing data on convergence rates and model parameter estimates.
- 3 **Gomer, B.** (in preparation[b]). A hypothesis testing framework for sensitivity analysis: Quantifying the impact of missing-data mechanism uncertainty.
- 4 **Gomer, B.**, Jiang, G., & Yuan, K.-H. (in preparation). Confidence intervals and empirically based cut-off criteria of an effect size measure for structural equation modeling.
- 5 **Gomer, B.**, & Yuan, K.-H. (in preparation). Implications for SEM and longitudinal data when there is MCAR, MAR, and MNAR values in the same dataset.
- 6 Kim, Y. M., & **Gomer, B.** (in preparation). Mixtures of missing-data mechanisms in multigroup invariance testing.
- 7 \*Whitwer, M., Wilson, S., Hammer, J., & **Gomer, B.** (in preparation). Engineering student mental health and help seeking.

## Presentations

---

### Talks

- 1 **Gomer, B.** *A tailored sensitivity analysis procedure for missing data in the social sciences*. Invited talk given at the USU Data Science Seminar. 2023.
- 2 **Gomer, B.** *A tailored sensitivity analysis procedure for the social sciences*. Paper presented at the Annual Meeting of the Psychometric Society, College Park, Maryland. 2023.
- 3 Kim, Y. M., & **Gomer, B.** *Mixture of missing-data mechanisms in multigroup invariance testing*. Paper presented at the Annual Meeting of the Psychometric Society, College Park, Maryland. 2023.
- 4 **Gomer, B.** *Subtypes of the missing not at random mechanism*. Invited talk given at the UCLA Quantitative Psychology Brown Bag. 2021.
- 5 **Gomer, B.** *Subtypes of the missing not at random mechanism*. Paper presented at the Annual Meeting of the Psychometric Society, Virtual. 2020.

## Symposia

- 1 **Gomer, B.** *A practical guide to subtypes of the Missing Not At Random mechanism.* Paper presented at the Annual Meeting of the Psychometric Society, Washington, D.C., United States. 2023.


## Posters

- 1 **Gomer, B.** *MCAR, MAR, and MNAR values in the same dataset: A realistic evaluation of methods for handling missing data.* Poster presented at the 16th Annual Society of Multivariate Experimental Psychology Graduate Student Conference, Albuquerque, New Mexico. 2018.
- 2 Merluzzi, T., **Gomer, B.**, & Philip, E. *Serious comorbidities and emotional quality of life: A coping mediation model for persons with cancer.* Poster presented at the Meeting of the International Psycho-oncology Society, Hong Kong, PRC. 2018.
- 3 **Gomer, B.**, Jiang, G., & Yuan, K.-H. *A comparison of three new effect size measures in SEM.* Poster presented at the Annual Meeting of the Psychometric Society, Zurich, Switzerland. 2017.

## Research Funding

---



### Funded

- 2023–2024     **NIH R21 CEBRA** (DA053818-01)  
*Co-Investigator.* PI - Amy Odum.  
Total Costs: \$393, 528  
"The Rodent Electronic Nicotine Delivery System (RENDS): Behavior, physiology, and epigenetics"



## Teaching

---



### Instructor

- 2021–Present     Psychological Statistics (PSY 3010)  
Psychology Department, Utah State University.
- Spring 2023     Longitudinal Data Analysis (PSY 7770)  
Psychology Department, Utah State University.

### Guest Lecturing



- 2019     *Introduction to Regression.* Experimental Psychology: Statistics  
Psychology Department, University of Notre Dame.
- 2018     *Using the MICE R package to do multiple imputation.* Missing Data  
Psychology Department, University of Notre Dame.

### Teaching Assistantships and Lab Instruction




- 2018–2020     **Teaching Assistant.** Statistics and Decision Analysis  
Lecture Instructor: Dr. Jen Waddel (2020), Dr. Jerry Wei (2018–2019)  
Mendoza College of Business, University of Notre Dame.
- 2020     **Teaching Assistant.** Longitudinal Data Analysis  
Lecture Instructor: Dr. Lijuan (Peggy) Wang  
Psychology Department, University of Notre Dame.

## Teaching (continued)




---

- 2019     **Teaching Assistant and Lab Instructor.** Experimental Psychology: Statistics  
Lecture Instructor: Dr. Lijuan (Peggy) Wang  
Psychology Department, University of Notre Dame.
- 2008     **Undergraduate Student Instructor.**  
Biology Department, University of California, Berkeley.

## Tutoring

- 2017     **Volunteer Math Tutor.**  
The Excel Center, South Bend, Indiana.
- 2014–2016     **Tutor for Mathematics and Statistics.** *Head Statistics Tutor.*  
Bay Area Tutoring Centers, San Ramon, California.
- 2012–2013     **Tutor for Mathematics and Statistics.**  
Las Positas Tutorial Center, Las Positas College.

## Workshops

- 2020     **"Make Friends with SAS"**  
Longitudinal Data Analysis Course.  
Psychology Department, University of Notre Dame.  
Topics: SAS
- 2016     **"Prepare for the AP Statistics Exam"**  
Bay Area Tutoring Centers, San Ramon, California.  
Topics: hypothesis testing, sampling distributions, probability, descriptive statistics
- 2012     **"How to Cram for Math"**  
Las Positas College Tutorial Center, Las Positas College.  
Topics: mnemonics, learning styles, and study skills


## Mentoring

---



### Graduate Students

- 2022-2023     Sean Lee  
Psychology, Utah State University



### Support for Graduate Instructors

- 2023     Caleb Farley (Instructor of record), Psychological Statistics (PSY 3010)

### Undergraduate Teaching Fellows

-  Taylor Stagg, Psychological Statistics (PSY 3010)
- 2022     Jayne Jones, Psychological Statistics (PSY 3010)

### Student Committees

-  **Dissertation Committee Member.** David Longhurst,  
Psychology, Utah State University
-  **Dissertation Committee Member.** Umar Shehzad,  
Instructional Technology and Learning Sciences, Utah State University

## Mentoring (continued)

---

- **Dissertation Committee Member.** Dongyun Han, Computer Science, Utah State University
- **Dissertation Committee Member.** Mudasir Mustafa, Sociology and Anthropology, Utah State University
- **Dissertation Committee Member.** Atul Subedi, Civil and Environmental Engineering, Utah State University

## Consulting

---

- 2019 ■ **Statistical Consultant.**  
Psychology Department, University of Notre Dame.  
Provide guidance and statistical advice to psychology faculty and graduate students regarding experimental design and statistical analysis.

## Service

---

### Professional Service

- 2023–present ■ **Inter-Institution Quantitative Brown Bag Organizer**  
Organize bi-weekly research seminar on quantitative topics across 6 institutions.
- **Ad-hoc Reviewer.** Behaviormetrika.
  - **Ad-hoc Reviewer.** Journal of Educational and Behavioral Statistics.
  - **Ad-hoc Reviewer.** Educational and Psychological Measurement.
  - **Ad-hoc Reviewer.** Multivariate Behavioral Research.
  - **Ad-hoc Reviewer.** Structural Equation Modeling: A Multidisciplinary Journal.
- 2019 ■ **Reviewer.** 17th Annual Society of Multivariate Experimental Psychology Graduate Student Conference.





### University Service

- 2022–2023 ■ **Equity, Diversity, and Inclusion Committee Member.**  
Psychology Department, Utah State University.
- 2019–2020 ■ **Faculty Meeting Representative: Quantitative Area.**  
Psychology Department, University of Notre Dame.  
Attend area and departmental faculty meetings to relay graduate student concerns and inform graduate students about departmental issues.
- 2019–2020 ■ **STEMentor.**  
Association for Women in Science (AWIS), University of Notre Dame.  
Initiate, encourage, and engage participation of women in STEM by mentoring a female undergraduate student with similar career interests.

## Service (continued)




---

### Community Service

- 2018–2019     **"What's the Chance of That?" Workshop Co-leader.**  
Expanding Your Horizons, University of Notre Dame.  
Introduced fun probability concepts through games in a conference for middle-school girls interested in STEM.
- 2017–2018     **Social Responsibility of Researchers.**  
Reilly Center, University of Notre Dame.  
Gained skills and training related to ethical issues and social responsibilities of researchers, such as how to communicate with the media.
- 2017     **Judge, Behavioral Sciences Committee Chair.**  
Northern Indiana Regional Science Engineering Fair.
-  **"Learn about College" Workshop Leader.**  
Expanding Your Horizons, University of Notre Dame.  
Talked about my college experiences and answered questions in this conference for middle-school girls interested in STEM.

### Fellowships, Honors, and Awards

---

- 2016 - 2021     University of Notre Dame Presidential Fellow
- 2020     Psychology Department's Excellence in Graduate Student Teaching Award
- 2018     SMEP Conference Travel Award