

Dr. Sarah E. Schwartz

Research Assistant Professor

Curriculum Vitae

July 2019

📍 Utah State University
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Appointments

2015-present	Assistant Research Professor Utah State University ➤ Director, The Statistical Consulting Studio ➤ Instructor, graduate student quantitative methods and statistics courses	Psychology Department, College of Education and Human Services
2013-2015	Statistician Utah State University ➤ Acting Director, Office of Methodological and Data Sciences ➤ Instructor, graduate student quantitative methods and statistics courses	Office of Research Services, College of Education and Human Services
2005-2013	Statistician and Data Manager Utah State University ➤ Managed databases, clean data, and prepare custom datasets ➤ Performed statistical analyses and prepared publications, posters, presentations, and grant submissions ➤ Worked under three main grants and many co-investigators: University of Utah, BYU, Duke, John Hopkins, University of Maryland, ect.	Center for Epidemiology
2012	Data Manager Brigham Young University ➤ Managed databases and prepare custom datasets	Kenoi Genetics Lab
2006-2008	Adjunct Lecturer Utah State University ➤ Traditional, evening, and distance courses	Mathematics and Statistics Department
2000-2004	High School Teacher, Math and Science ➤ Sky View High School, Smithfield, Utah ➤ Logan River Academy, Logan, Utah	

Education

2013-2017	PhD: Mathematics, Specialization in Statistics Logan, Utah, USA ➤ Mentor: Dr. Chris Corcoran ➤ TA: Lecturer and grader ➤ RA: Simulation programmer, Cytel Software Inc.	Utah State University
2004-2006	MS: Statistics Logan, Utah, USA ➤ TA: Lecturer and grader ➤ RA: Statistician, Center for Epidemiology Studies	Utah State University
1998-2000	BS: Math and Chem Secondary Education Logan, Utah, USA ➤ Student Teaching: Sky View High School, Smithfield, Utah	Utah State University

Professional Memberships

American Statistical Association

- October 2018 - Present

Licenses

- 2001-2009 **Secondary Education Teaching License**
 State of Utah
 ➤ Endorsements: mathematics level 4 and chemistry

Software

- R, R Studio, and R Markdown (LaTeX)**
 ➤ Data cleaning and wrangling, statistical analysis, and reproducible reporting
- SAS, SPSS, MPlus, and G*Power**
 ➤ Data cleaning and wrangling, and statistical analysis
- REDCap and Qualtrics**
 ➤ Creating forms and collecting data

Awards

Mathematics and Statistics Department, Utah State University

- 2015: Department Academic Excellence Award
- 2014: Department Industrious Graduate Student Award
- 2005: Department Graduate Student Teacher of the Year Award

Contracts, Grants and Sponsored Research

Grants

- | | | |
|-----------|---|----------------|
| 2019-2022 | Sponsored by NSF, Federal
Jody Clarke Midura, Victor Raymond Lee, Jessica Shumway, Sarah Schwartz
➤ Research on the Development of An Assessment to Measure Kindergarten Children's Abilities to Reason Computationally With Mathematical Problem-Solving Skills | \$1,120,807.00 |
|-----------|---|----------------|

Service

- | | | |
|-------------|---|------------|
| 2019-2020 | President
Utah Chapter
➤ American Statistical Association | National |
| 2018-2019 | Vice President
Utah Chapter
➤ American Statistical Association | National |
| 2019 Spring | Committee Member
Psychology Department, Utah State University
➤ Borg Scholarship Committee | Department |
| 2017 Fall | Committee Member
College of Education and Human Services, Utah State University
➤ Search: Data Cluster (Office of Research Services) | College |

Directed Student Learning

PhD Committee Chair

Current:

- Amanda Hagman, Psychology - *Socio-Epidemiology Program*
 - Successfully proposed: Spring 2019

PhD Committee Member

Current:

- Sarai Holdbrook (*Dr. Sandra Gillam*), Disability Disciplines
 - Successfully proposed: Fall 2019
- Carla Orellana (*Dr. Ron Gillam*), Disability Disciplines
 - Successfully proposed: Fall 2019
- J. Scott Crapo (*Dr. Kay Bradford*), Human Development & Family Studies
 - Successfully proposed: Spring 2019
- Josh Mayti (*Dr. JoAnne Tschanz*), Psychology
 - Scheduled proposed: Summer 2019
- Chris Johnson (*Dr. Chris Corcoran*), Statistics
 - Committee Formed: Spring 2019

Past:

- Eliza Jex (*Dr. Robert L. Morgan*), Special Education
 - Successfully defended: Spring 2019

Masters Committee Member

Current:

- Carly Fox (*Dr. Sandra Gillam*), Disability Disciplines

Past:

- Fred Hintz (*Dr. Christian Geiser*), Psychology
 - Successfully defended: Spring 2018

Publications

Peer Reviewed Journals

Submitted or Under Review

6. Golson, ME, CM Benney, SE Schwartz, MB McClain, and B Harris (n.d.). Current State of ASD Knowledge in the General Population. *Research in Developmental Disabilities* **under review: 7-3-2019** ().
5. Harris, B, MB McClain, SE Schwartz, and CR Haverkamp (n.d.). Knowledge of Autism Spectrum Disorder Among School Psychology Graduate Students. *Contemporary School Psychology* **under review: 5-16-19** ().
4. Haverkamp, C, SE Schwartz, G Strait, J Strait, and C Benney (n.d.). Improving the Efficiency and Accessibility of Mindfulness Meditation: A Randomized Controlled Trial. *Journal of American College Health* **under review: 6-18-2019** (), manuscript ID: JACH-2019-06-0270.
3. McClain, MB, B Harris, CR Haverkamp, ME Golson, and SE Schwartz (n.d.). The ASKSP Revised (ASKSP-R) as a Measure of ASD Knowledge for Professional Populations. *Journal of Autism and Developmental Disorders* **under review: 7-8-2019** (), submission id: JADD-D-19-00630.
2. McClain, MB, GG Strait, JE Strait, CR Haverkamp, SE Schwartz, and CM Benney (n.d.). How Effective Are Reading Comprehension Interventions for Children with ASD? *Exceptional Children* **under review: 6-3-19** (), manuscript ID: ECX-19-0057.
1. Vázquez, AL, MM Domenech Rodríguez, T Barrett, SE Schwartz, NG Amador Buenabad, MN Bustos Gamiño, MdL Gutierrez López, and JA Villatoro Velázquez (n.d.). Innovative IDentification of Substance Use Predictors: Machine Learning in National Sample of Mexican Children. *Prevention Science* **under review: 12-17-2018** ().

2019

7. Bolton, DA, DM Cole, B Butler, M Mansour, G Rydalch, DW McDannald, and SE Schwartz (2019). Motor preparation for compensatory reach-to-grasp responses when viewing a wall-mounted safety handle. *cortex* **117**, 135–146.
6. Bolton, DA, SE Schwartz, M Mansour, G Rydalch, and DW McDannald (2019). Priming of grasping muscles when viewing a safety handle is diminished with age. *Maturitas* **121**, 7–12.
5. McClain, MB, B Harris, SE Schwartz, KJ Benallie, ME Golson, and CM Benney (2019). Brief Report: Development and Validation of the Autism Spectrum Knowledge Scale General Population Version: Preliminary Analyses. *Journal of autism and developmental disorders* **49**(7), 1–9.
4. McClain, MB, JD Shahidullah, KR Mezher, CR Haverkamp, KJ Benallie, and SE Schwartz (2019). School-Clinic Care Coordination for Youth with ASD: A National Survey of School Psychologists. *Journal of autism and developmental disorders*, 1–11.
3. Rattinger, GB, CL Sanders, E Vernon, SE Schwartz, S Behrens, CG Lyketsos, and JT Tschanz (2019). Neuropsychiatric symptoms in patients with dementia and the longitudinal costs of informal care in the Cache County population. *Alzheimer's & Dementia: Translational Research & Clinical Interventions* **5**, 81–88.
2. Vázquez, AL, MM Domenech Rodríguez, SE Schwartz, NG Amador Buenabad, MN Bustos Gamiño, MdL Gutierrez López, and JA Villatoro Velázquez (2019). Early adolescent substance use in a national sample of Mexican youths: Demographic characteristics that predict use of alcohol, tobacco, and other drugs. *Journal of Latinx Psychology*.
1. Wagner, DR, BJ Thompson, DA Anderson, and SE Schwartz (2019). A-mode and B-mode ultrasound measurement of fat thickness: a cadaver validation study. *European journal of clinical nutrition* **73**(4), 518.

2018

4. Bringham, RF, DR Wagner, and S Schwartz (Jan. 2018). Wingate Anaerobic Test Reliability on the Velotron with Ice Hockey Players. *Journal of strength and conditioning research*.
3. Behrens, S, GB Rattinger, SE Schwartz, J Matyi, C Sanders, MS DeBerard, CG Lyketsos, and JT Tschanz (2018). Use of FDA approved medications for Alzheimer's disease in mild dementia is associated with reduced informal costs of care. *International psychogeriatrics* **30**(10), 1499–1507.
2. Montgomery, JW, JL Evans, JD Fargo, SE Schwartz, and RB Gillam (2018). Structural Relationship Between Cognitive Processing and Syntactic Sentence Comprehension in Children With and Without Developmental Language Disorder. *Journal of Speech, Language, and Hearing Research* **61**(12), 2950–2976.
1. Sanders, CL, HJ Wengreen, SE Schwartz, SJ Behrens, C Corcoran, CG Lyketsos, and JT Tschanz (2018). Nutritional Status is Associated With Severe Dementia and Mortality. *Alzheimer Disease & Associated Disorders* **32**(4), 298–304.

2017 and prior

14. Rattinger, GB, EB Fauth, S Behrens, C Sanders, SE Schwartz, MC Norton, C Corcoran, CD Mullins, CG Lyketsos, and JT Tschanz (2016). Closer caregiver and care-recipient relationships predict lower informal costs of dementia care: The Cache County Dementia Progression Study. *Alzheimer's & Dementia* **12**(8), 917–924.

13. Rattinger, GB, EB Fauth, S Behrens, C Sanders, SE Schwartz, MC Norton, C Corcoran, CD Mullins, CG Lyketsos, and JT Tschanz (2016). Closer caregiver and care-recipient relationships predict lower informal costs of dementia care: The Cache County Dementia Progression Study. *Alzheimer's & Dementia* **12**(8), 917–924.
12. Sanders, C, S Behrens, SE Schwartz, H Wengreen, CD Corcoran, CG Lyketsos, and JT Tschanz (2016). Nutritional status is associated with faster cognitive decline and worse functional impairment in the progression of dementia: the cache county dementia progression study 1. *Journal of Alzheimer's Disease* **52**(1), 33–42.
11. Rattinger, GB, SE Schwartz, CD Mullins, C Corcoran, IH Zuckerman, C Sanders, MC Norton, EB Fauth, JMS Leoutsakos, CG Lyketsos, et al. (Aug. 2015). Dementia severity and the longitudinal costs of informal care in the Cache County population. *Alzheimer's & Dementia* **11**(8), 946–954.
10. Hatch, DJ, SE Schwartz, and MC Norton (2015). Depression and antidepressant use moderate association between widowhood and Alzheimer's disease. *International journal of geriatric psychiatry* **30**(3), 292–299.
9. Peters, ME, SE Schwartz, D Han, PV Rabins, M Steinberg, JT Tschanz, and CG Lyketsos (2015). Neuropsychiatric symptoms as predictors of progression to severe Alzheimer's dementia and death: the Cache County Dementia Progression Study. *American Journal of Psychiatry* **172**(5), 460–465.
8. Gurgel, RK, PD Ward, SE Schwartz, MC Norton, NL Foster, and JT Tschanz (2014). Relationship of hearing loss and dementia: a prospective, population-based study. *Otology & neurotology: official publication of the American Otological Society, American Neurotology Society [and] European Academy of Otology and Neurotology* **35**(5), 775.
7. Fauth, EB, SE Schwartz, JT Tschanz, T Østbye, C Corcoran, and MC Norton (2013). Baseline disability in activities of daily living predicts dementia risk even after controlling for baseline global cognitive ability and depressive symptoms. *International journal of geriatric psychiatry* **28**(6), 597–606.
6. Rabins, PV, SE Schwartz, BS Black, C Corcoran, E Fauth, M Mielke, J Christensen, C Lyketsos, and J Tschanz (2013). Predictors of progression to severe Alzheimer's disease in an incidence sample. *Alzheimer's & Dementia* **9**(2), 204–207.
5. Tschanz, J, R Pfister, D Steffens, C Corcoran, K Smith, T Østbye, S Schwartz, K Welsh-Bohmer, and N M (2013). Stressful Events in Late-life: Effects on Cognitive Decline. The Cache County Study. *International Journal of Geriatric Psychiatry* **28**(8), 820–830.
4. Norton, MC, KR Smith, T Østbye, JAT Tschanz, SE Schwartz, C Corcoran, JC Breitner, DC Steffens, I Skoog, PV Rabins, et al. (2011). Early parental death and remarriage of widowed parents as risk factors for Alzheimer disease: the Cache County study. *The American Journal of Geriatric Psychiatry* **19**(9), 814–824.
3. Tschanz, JT, CD Corcoran, SE Schwartz, K Treiber, RC Green, MC Norton, MM Mielke, K Piercy, M Steinberg, PV Rabins, et al. (2011). Progression of cognitive, functional, and neuropsychiatric symptom domains in a population cohort with Alzheimer dementia: the Cache County Dementia Progression study. *The American Journal of Geriatric Psychiatry* **19**(6), 532–542.
2. Norton, MC, KR Smith, T Østbye, JT Tschanz, C Corcoran, SE Schwartz, KW Piercy, PV Rabins, DC Steffens, I Skoog, et al. (2010). Greater Risk of Dementia When Spouse Has Dementia? The Cache County Study: [See editorial comments by Dr. Peter P. Vitaliano, pp 976–978]. *Journal of the American Geriatrics Society* **58**(5), 895–900.
1. Norton, MC, KR Smith, T Ostbye, JT Tschanz, C Corcoran, SE Schwartz, KW Piercy, PV Rabins, DC Steffens, JC Breitner, et al. (2009). Spousal dementia caregiving as a risk factor for incident dementia. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* **5**(4), 380–381.

PhD Dissertation

1. Schwartz, SE (2017). “Exact Approaches for Bias Detection and Avoidance with Small, Sparse, or Correlated Categorical Data”. PhD thesis.

Not Peer Reviewed

Online eBooks

2. Schwartz, SE and TS Barrett (2018). *Explaining Psychological Statistics: A Companion in R*. https://sarbearschwartz.github.io/Quant_I/.
1. Schwartz, SE and TS Barrett (2019). *Encyclopedia of Quantitative Methods in R*. <https://cehs-research.github.io/eBooks/>.

Teaching: Graduate Level Courses

PSY 7650: Multilevel and Marginal Models for the Social Sciences

Coverage of multilevel (*ie, mixed-effects, hierarchical linear*) and marginal (*ie, GEE*) models for both continuous and categorical outcomes. Includes application of these methods to many types of cross-sectional and longitudinal research designs (*eg, experimental, case-control, cohort, cross-over, complex sample, randomized controlled trials*). Software: R and R Studio.

- 2019 Fall (*scheduled*)
- 2018 Fall
- 2017 Fall
- 2016 Fall

PSY 6600: Statistical Foundataions (*previously: Research Design and Analysis I*)

Research design and statistical concepts for research in education, human services, and psychology, with emphasis on the selection and interpretation of statistical analyses. Focus on inference and ANOVA based methods. Includes a combination of traditional face-to-face and distance-site students. Software: R and R Studio starting in 2018, SPSS prior. (*Summer sessions condensed to 7 weeks*)

- 2020 Spring, Summer (*scheduled*)
- 2019 Spring, Summer
- 2018 Spring, Summer
- 2017 Spring, Summer
- 2016 Summer
- 2015 Summer

Teaching: Undergraduate Level Courses

STAT 2000: Statistical Methods

Introduction to statistical concepts, graphical techniques, probability, distributions, estimation, one and two sample testing, chi-square tests, and simple linear regression, one-way ANOVA. Software: StatCrunch.

- 2014 Spring, Fall
- 2005 Spring, Fall

STAT 1040 Introduction to Statistics

Descriptive and inferential statistical methods. Emphasis on conceptual understanding and statistical thinking. Examples presented from many different areas. Software: *none*.

- 2008 Spring (*mostly distance sites*)
- 2007 Spring, Fall
- 2006 Fall

MATH 1050 College Algebra

Functions: graphs, transformations, combinations, and inverses. Polynomial, rational, exponential, logarithmic functions, and applications. Systems of equations and matrices. Partial fractions. Software: graphing calculators.

- 2004 Fall

MATH 1010 Intermediate Algebra

Review of introductory algebra concepts. Topics include manipulating and simplifying expressions, solving equations and inequalities, graphing equations, and inequalities. Real world applications including linear, quadratic, polynomial, rational, exponential, and radical functions.

- 2006 Summer

Teaching: College-wide Workshop Series

The Statistical Consulting Studio: 2-3 hour sessions held several times a semester, open to faculty and graduate students.

Time-to-Event Modeling: Survival Analysis (SPSS & R)

In some situations, we are most concerned with monitoring participants to see if an event like death or relapse occurs, yet due to time constraints, attrition, and other factors some participants are censored (eg. KM plots and Cox Regression).

- 2019 Spring
- 2018 Spring

Intro to Multilevel & Marginal Models: MLM, HLM, & GEE

Where your participants are nested (eg. students in classes) or you are monitoring repeated measurements (eg. longitudinal), correlation between observations should not be ignored, but leveraged. This workshop will give you the foundation to get started.

- 2019 Spring
- 2018 Spring

Random Forests: Classification and Regression Trees

Introduction to a novel approach for prediction and variable selection, especially dealing with large numbers of potential predictors and allowing for interactions, collinearity, missingness, and unbalancedness across groups. Introduction to CART trees and random forests focus on variable screening and examples in the literature.

- 2019 Spring
- 2017 Spring, Fall

Effect Size and Power Analysis Using G*Power

Review effect size measures for various types of study designs and learn how to report them appropriately, including converting between various effect size measures. Cover power analysis and learn to use the free G*Power software, as well as conversion Excel files

- 2018 Fall
- 2017 Fall
- 2015 Fall

Missing Data and Multiple Imputations

Cover: (1) Identification of patterns and sources of missingness in data, (2) diagnosing mechanisms of missingness, and (3) traditional and modern techniques for dealing with missing data...including multiple imputation methods

- 2018 Fall

Powerful Publishable Plots: The Grammar of Graphics

The do's and don't of good graphics, not specifically to any one software package.

- 2018 Fall
- 2016 Spring

Drop in Statistical Software Summer Sessions

Installation, orientation, & workflow, Importing & wrangling data, Summary tables & graphics, Running Analyses, Tabulation & visualization of results...R and SPSS

- 2018 Fall (3 sessions)
- 2018 Summer (6 sessions)

Reproducible Workflow: Intro to SPSS, via Syntax

Do you use SPSS only by clicking on the menus? Have you ever wanted to learn how to use SPSS syntax? Learn how to be more efficient, have more control, and save time, by using syntax for data management and statistical analysis. No SPSS background required.

- 2018 Spring

Exact Methods for Categorical Data (SPSS, R, & StatXact)

Not all data is 'normal' or continuous. Other samples are small, sparse, or highly correlated. If standard ANOVA and Regression methods are out, what can you do instead? Come find out about methods you can use in these situations.

- 2018 Spring

Multiple Linear Regression Refresher (SPSS & R)

Did you know that ANOVA is just a special case of regression? Regression permits the inclusion of continuous predictors, customized interactions, quadratic terms, and can better model the results of observational studies.

- 2018 Spring

Logistic Regression

Introduction to modeling dichotomous (binary) outcomes and interpreting results, including interactions. Focus on demystify odds, log odds, odds ratios, and probabilities, while also covering assumptions and interpretation of results.

➤ 2017, Fall

GEE: Generalized Estimating Equations

Introduction to GEEs for clustered and nested data (cross-sectional) and repeated measures (longitudinal)

➤ 2017 Spring

Intro to R: the Tidyverse way

Introduction to R via R Studio using the tidyverse packages import, tidy, transform, visualization, models, and results

➤ 2016 Fall

Explore Your Data with ggplot in R

Interactive, hands-on workshop assumes some familiarity with R

➤ 2016 Spring

Introduction to R & R Studio, For Absolute Beginners

Lecture and Interactive, hands-on workshop suggest coming with a laptop preloaded with R and R Studio

➤ 2015 Fall

Talks**USU Data Analytics Student Seminar Series**

What should I “git”? Getting started with Git and GitHub using the Git Kracken interface for version control and collaborative research.

➤ Jan. 19, 2019