

**Ross Jacobucci**  
118 Haggard Hall  
Notre Dame, Indiana 46556  
574-631-2589

**Curriculum Vitae**  
rjacobuc@nd.edu  
rjacobucci.com  
Skype: ross.jacobucci

## Professional History & Education

- **Assistant Professor of Psychology**  
*University of Notre Dame*  
2017 - Current  
Notre Dame, Indiana
- **Ph.D. Psychology**  
*University of Southern California (USC)*  
August 2017  
Los Angeles, California
  - Area: Quantitative Methods
  - Dissertation: Evaluating the Stability of Decision Tree Algorithms.
- **M.A. Psychology**  
*University of Southern California (USC)*  
December 2015  
Los Angeles, California
  - Area: Quantitative Methods
  - Thesis: Regularized Structural Equation Modeling.
- **M.A. Psychology**  
*University of Northern Iowa (UNI)*  
2011-2013  
Cedar Falls, Iowa
  - Individualized Study: Quantitative Emphasis
- **B.A. Psychology**  
*Luther College*  
June 2010  
Decorah, Iowa
  - Thesis: The Effect of Mental Imagery on Performance in Golf.

## Research Funding

### • Pending

Ross Jacobucci (PI) Under Review  
**IES Statistical and Research Methodology in Education: Early Career Grant**  
*Extending Regularized Structural Equation Modeling for Big Data in Education Research*  
Total Direct: \$139,759

Ross Jacobucci (Co-PI) & Brooke Ammerman (Co-PI) Under Review  
**NIH R03 MH120488-01**  
*The Implementation and Validation of Integrative Machine Learning for Predicting Suicide Outcomes*  
Total Direct: \$99,188

### • Ongoing

Ross Jacobucci (Co-PI) & Brooke Ammerman (Co-PI) 8/13/18-8/13/20  
**Advanced Diagnostics and Therapeutics Discovery Fund.**  
*Using Integrative Data Mining to Improve the Prediction of Suicide: An Initial Application.*  
Total Direct: \$41,068

Evan Kleiman (PI) 6/26/18-12/26/19  
**Military Suicide Research Consortium Common Data Elements**  
*Enhancing Identification of Suicide Risk among Military Service Members and Veterans: A Machine Learning Approach to Suicidality.*  
Role: Consultant

### • Completed

T32 AG000037-38      Crimmins (PI)      01/01/15-07/31/17  
**Sponsored: Ruth L. Kirschstein National Research Service Award (T32).**  
*Predoctoral trainee on the Multidisciplinary Research Training in Gerontology Grant at USC.*  
 Role: Predoctoral Trainee

- **Not Funded**

Ross Jacobucci (PI)  
**NIH RFA-MH-18-400 – Addressing Suicide Research Gaps: Aggregating and Mining Existing Data Sets for Secondary Analyses**  
*Integrative Data Mining in the Prediction of the Pathway to Suicide.*  
 Total Direct: \$540,750

## Books

**Jacobucci, R.** & Grimm, K. J. (under contract). *Exploratory data mining for social and behavioral scientists*. New York, NY: Guilford.

## Publications

- **Publications**

- Hong, M. R., **Jacobucci, R.** (in press). Review of Growth Modeling: Structural Equation and Multilevel Modeling Approaches (Grimm, Ram & Estabrook, 2017). *Psychometrika*.
- Ammerman, B. A., Serang, S., **Jacobucci, R.**, Burke, T., A., Alloy, L. B., & McCloskey, M. S. (accepted). Exploratory analysis of mediators in the relationship between childhood maltreatment and suicidal behavior. *Journal of Adolescence*.
- Usami, S., **Jacobucci, R.**, & Hayes, T. (in press). The performance of latent growth curve model based structural equation model trees to uncover population heterogeneity in growth trajectories. *Computational Statistics*.
- Stegmann, G., **Jacobucci, R.**, Serang, S., & Grimm, K. J. (2018). Recursive partitioning with nonlinear change trajectories. *Multivariate Behavioral Research*, 53, 559-570,.
- Burke, T. A., **Jacobucci, R.**, Ammerman, B. A., Piccirillo, M., McCloskey M., & Alloy, L. B. (2018). Identifying the relative importance of non-suicidal self-injury features in predicting suicidal ideation and behavior using exploratory data mining. *Psychiatry Research*, 262, 175-183.
- Ammerman, B. A., **Jacobucci, R.**, & McCloskey, M. S. (2018). Using exploratory data mining to identify important predictors of non-suicidal self-injury frequency. *Psychology of Violence*, 8, 515-525.
- Ammerman, B. A., **Jacobucci, R.**, Kleiman, E. M., Uyeji, L., & McCloskey, M. S. (2018). The relationship between nonsuicidal self-injury age of onset and severity of self-harm. *Suicide and Life Threatening Behavior*, 48, 31-37.
- Jacobucci, R.**, Grimm, K. J. (2018). Comparison of frequentist and Bayesian regularization in structural equation modeling. *Structural Equation Modeling*, 25, 639-649.
- Stegmann, G., **Jacobucci, R.**, Harring, J., & Grimm, K. J. (2018). Nonlinear mixed-effects modeling programs in R. *Structural Equation Modeling*, 25, 160-165.
- Serang, S., **Jacobucci, R.**, Brimhall, K. C., & Grimm, K. J. (2017). Exploratory mediation analysis via regularization. *Structural Equation Modeling*, 24, 733-744.
- Jacobucci, R.**, Grimm, K. J., & McArdle, J. J. (2017). A comparison of methods for uncovering sample heterogeneity: Structural equation model trees and finite mixture models. *Structural Equation Modeling*, 24, 270-282.

Grimm, K. J., **Jacobucci, R.**, McArdle, J. J. (January, 2017). Big data methods and psychological science. *Psychological Science Agenda*.

Ammerman, B. A., **Jacobucci, R.**, Kleiman, E. M., Muehlenkamp, J. J., & McCloskey, M. S. (2017). Development and validation of empirically derived frequency criteria for NSSI disorder using exploratory data mining, *Psychological Assessment*, 29,221-231.

**Jacobucci, R.**, Grimm, K. J., & McArdle, J. J. (2016). Regularized structural equation modeling, *Structural Equation Modeling*, 23, 555-566. doi:10.1080/10705511.2016.1154793. PMID: 4937830

**Jacobucci, R.**, & McArdle, J. J. (2015). Abstract: Regularized structural equation modeling, *Multivariate Behavioral Research* 50, 736-736. doi:10.1080/00273171.2015.1121125.

Hayes, T., Usami, S., **Jacobucci, R.**, & McArdle, J. J. (2015). Using classification and regression trees (CART) and random forests to analyze attrition in longitudinal data: Results from two simulation studies, *Psychology and Aging*, 30, 911-929. doi:10.1037/pag0000046. PMID: 4743660

Skaar, N. R., Christ, T. J., & **Jacobucci, R.** (2014). Measuring adolescent prosocial and health risk behavior in schools: Initial development of a screening measure. *School Mental Health*, 6, 137-149. doi:10.1007/s12310-014-9123-y

## • Chapters

**Jacobucci, R.** & Grimm, K. J. (2018). Regularized estimation of multivariate latent change score models. *Advances in Longitudinal Models for Multivariate Psychology*.

Grimm, K. J. & **Jacobucci, R.** (2018). Individually varying time metrics in latent change score models. *Advances in Longitudinal Models for Multivariate Psychology*.

## • Technical Reports

**Jacobucci, R.** (2017). regsem: Regularized Structural Equation Modeling. *arXiv preprint arXiv:1703.08489*.

## • Manuscripts Under Review

Burke, T.A., Ammerman, B.A., & **Jacobucci, R.** (in revision). The use of machine learning in the study of suicidal and non-suicidal self-injurious thoughts and behavior: A systematic review.

Serang, S. & **Jacobucci, R.** (under review). Exploratory mediation analysis of dichotomous outcomes via regularization.

**Jacobucci, R.**, Brandmaier, A., & Kievit, R. (under review). Variable selection in structural equation models with regularized MIMIC models.

**Jacobucci, R.** (under review). Are decision trees reliable enough for psychological research?

## • Manuscripts in Preparation

Ammerman, B. A., Hong, M., Sorgi, K. M., **Jacobucci, R.**, & McCloskey, M. S. (in preparation). The most dangerous method: An examination of non-suicidal self-injury methods.

Grimm, K. J., & **Jacobucci, R.** (in preparation). Reliable trees: Reliability informed recursive partitioning for psychological data.

Ammerman, B.A., **Jacobucci, R.**, Turner, B. J., & McCloskey, M.S. (in preparation). Quantifying the importance of lifetime frequency versus number of methods used in the consideration of NSSI severity.

Ammerman, B.A., **Jacobucci, R.** & McCloskey, M.S. (in preparation). Re-considering important outcomes: Further exploration of the NSSI disorder frequency criteria.

## Presentations

## • Oral Presentations

- Jacobucci, R.**, Hong, M., Brandmaier, A., Ammerman, B., & McCloskey, M. (2018, October). *Assessing Continuous Versus Categorical Diagnosis Using Latent Variable Modeling*. Invited talk given at the Arizona State Quantitative Psychology brown bag.
- Jacobucci, R.**, Hong, M., Brandmaier, A., Ammerman, B., & McCloskey, M. (2018, October). *Assessing Continuous Versus Categorical Diagnosis Using Latent Variable Modeling*. Invited talk given at the Quantitative Develop Systems Methodology Core at Penn State University.
- Jacobucci, R.**, Hong, M., Brandmaier, A., Ammerman, B., & McCloskey, M. (2018, September). *Assessing Continuous Versus Categorical Diagnosis Using Latent Variable Modeling*. Talk given at the Quantitative Studies Group at the University of Notre Dame.
- Stegmann, G., **Jacobucci, R.**, Serang, S., & Grimm, K. J. (2018, July). *Identifying divergent nonlinear growth trajectories using recursive partitioning*. International Meeting of Psychometric Society. New York, NY.
- Jacobucci, R.** (2018, July). *Flexible specification of large structural equation models with regularization*. Invited talk given at the Max Planck Institute for Human Development in Berlin, Germany.
- Grimm, K. J., Stegmann, G., **Jacobucci, R.**, & Serang, S. (2018, March). Machine learning approaches to understanding differences in longitudinal change trajectories. Keynote address at the 6th Annual Meeting of the Texas Universities' Educational Statistics and Psychometrics Alliance.
- Jacobucci, R.** (2017, November). *Exploratory data mining for a single outcome in clinical research*. Paper presented at the 51st Annual Convention for the Association for Behavioral and Cognitive Therapies, San Diego, California.
- Ammerman, B. A., **Jacobucci, R.**, Turner, B. J., Serang, S., & McCloskey, M. S. (2017, November). *Quantifying the importance of lifetime frequency versus number of methods used in the consideration of NSSI severity*. Paper presented at the 51st Annual Convention for the Association for Behavioral and Cognitive Therapies, San Diego, California.
- Jacobucci, R.**, Serang, S., & Ammerman, B.A. (2017, November). *Multivariate approaches to exploratory data mining with the application of exploratory mediation for self-injury*. Paper presented at the 51st Annual Convention for the Association for Behavioral and Cognitive Therapies, San Diego, California.
- Burke, T. A., **Jacobucci, R.**, Ammerman, B.A., Hamilton, J. L., & Alloy, L. B. (2017, June). *Using exploratory data mining to compare importance of risk factors in predicting recent versus former history of non-suicidal self-injury*. Paper presented at the 51st Annual Convention for the Association for Behavioral and Cognitive Therapies, San Diego, California.
- Kleiman, E.M., **Jacobucci, R.**, Ammerman, B.A., Turner, B.J., Beale, E.E., Fedeor, S., Huffman, J.C., & Nock, M. K. (2017, June). *What affect states are most strongly associated with suicidal ideation? A real-time monitoring, exploratory data mining study*. Paper presented at the 51st Annual Convention for the Association for Behavioral and Cognitive Therapies, San Diego, California.
- Zelinski, E. M., **Jacobucci, R.** (2017, July). *Heterogeneity in cognitive change trajectories of older adults observed from structural equation model trees*. Alzheimers Association International Conference in London, UK
- Burke, T. A., **Jacobucci, R.**, Ammerman, B. A., Piccirillo, M., McCloskey M., & Alloy, L. B. (2017, April). *Identifying the relative importance of non-suicidal self-injury features in predicting suicidal ideation and behavior using exploratory data mining*. Paper presented at the 50th Annual Conference of American Association of Suicidology in Pheonix, Arizona.
- Jacobucci, R.**, Zelinski, E. M. (2016, November). *The bi-directional relationship between health and cognition in older age*. Paper presented at the Gerontological Society of America Annual Meeting, New Orleans, Louisiana.
- Peters, K., **Jacobucci, R.**, Prescott, C., Walters, E., McArdle, J. J. (2016, November). *Computerized adaptive testing of cognitive abilities in the Project Talent Aging Study*. Paper presented at the Gerontological Society of America Annual Meeting, New Orleans, Louisiana.

- Jacobucci, R.**, Grimm, K. J. (2016, October). *Pseudo-continuous testing of the latent difference score model*. Paper invited for presentation at the conference to honor the work of Jack McArdle, Richmond, Virginia.
- Grimm, K. J., **Jacobucci, R.** (2016, October). *Individually-varying time metrics in latent change score models*. Paper invited for presentation at the conference to honor the work of Jack McArdle, Richmond, Virginia.
- Jacobucci, R.**, Grimm, K. J., McArdle, J. J. (2016, July). *Comparison of frequentist and Bayesian regularization in structural equation modeling*. Paper presented at the International Meeting for the Psychometric Society, Asheville, North Carolina.
- Ammerman, B. A., **Jacobucci, R.**, Kleiman, E. M., Muehlenkamp, J., J. & McCloskey, M. S. (2015, November). *The exploration and validation of an empirically derived frequency criteria for NSSI Disorder*. Paper presented at the 49th Annual Convention for the Association for Behavioral and Cognitive Therapies, Chicago, Illinois
- Jacobucci, R.**, Prindle, J. J., McArdle, J. J. (2015, September). *An Application of Exploratory Data Mining in Project TALENT*. Paper presented at the International Meeting for Intelligence Research Annual Conference, Albuquerque, New Mexico.

## • Poster Presentations

- Jacobucci, R.**, & Zelinski, E. M. (2017, July). *Exploratory Search for Heterogeneity in Change Across Old Age Using Structural Equation Model Trees*. Poster presented at the International Association of Gerontology and Geriatrics, San Francisco, California.
- Khoddam, R., Cho, J., Jacobucci, R., Prescott, C. A., & Leventhal, A. M. (2017, March). *Bivariate Latent Difference Score Modeling to Examine the Relationship between Conduct Problems and Cigarette Smoking among Adolescents*. Poster presented at the Society for Research on Nicotine and Tobacco annual meeting, Florence, Italy.
- Ammerman, B. A., **Jacobucci, R.**, & McCloskey, M. S. (2016, June). *The Prediction of Non-Suicidal Self-Injury Frequency Using Random Forests*. Poster presented at the 11th Annual Meeting of the International Society for the Study of Self-Injury, Eau Claire, Wisconsin.
- Jacobucci, R.**, Hayes, T., Zelinski, E. M. (2015, November). *Evaluating Methods for Generalizing from a Convenience Sample*. Poster presented at the 68th Annual Scientific Meeting of the Gerontological Society of America, Orlando, Florida.
- Zelinski, E., **Jacobucci, R.**, Kennison, R., & Zak, D. (2014, November). *Can a convenience sample produce generalizable results?* Poster session presented at the Gerontological Society of America Annual Scientific Meeting, Washington, DC.
- Jacobucci, R.**, Williams, J. E., & Thiruselvam, I. (2013, January). *A confirmatory factor analysis of the short form for the IPIP-NEO five-factor model personality scale*. Poster session presented at the Society for Personality and Social Psychology, New Orleans, Louisiana.
- Jacobucci, R.**, Brownfield, C., & Williams, J. E. (2012, December). *Intelligence as a factor in criminal offender risk assessment*. Poster session presented at the International Society for Intelligence Research, San Antonio, Texas.
- Jacobucci, R.**, Williams, J. E., & Thiruselvam, I. (2012, March). *Convergent validity of two short form measures of the five factor model of personality*. Poster session presented at the Iowa Psychological Association Spring Conference, Ames, Iowa.

## Software

**Jacobucci, R.** (2017). regsem: Performs Regularization on Structural Equation Models (version 0.8.1) [Software]. Available from <https://cran.r-project.org/web/packages/index.html>

**Jacobucci, R.,** Stewart, S., Abdoell, M., Serang, S., & Stegmann, G. (2017). longRPart2: Recursive Partitioning of Longitudinal Data (version 0.0.1) [Software]. Available from <https://cran.r-project.org/web/packages/longRPart2/index.html>

**Jacobucci, R.** (2017). dtree: Decision Trees (version 0.2.3) [Software]. Available from <https://cran.r-project.org/web/packages/dtree/index.html>

**Jacobucci, R.** (2016). autosem: Performs Specification Search in Structural Equation Models (version 0.1.0) [Software]. Available from <https://cran.r-project.org/web/packages/autoSEM/index.html>

## Awards/Honors

### **2016 USC Psychology Department Travel Grant Award**

Travel award to present at the 2016 Psychometric Society Meeting.

Amount: \$500

### **2015 SMEP Conference Travel Award**

Travel award to present at the 13th Annual Society of Multivariate Experimental Psychology Graduate Student Conference.

Amount: \$1500

### **2015 ISIR Conference Travel Award**

Travel award to present at the annual meeting of the International Society for Intelligence Research.

Amount: \$1500

### **2014 SMEP Workshop Travel Award**

Travel award to attend the 2014 APA Advanced Training Institutes on Structural Equation Modeling in Longitudinal Research and Exploratory Data Mining in Behavioral Research.

Amount: \$1000

### **2014 APA Science Directorate Travel Award**

Travel award to attend the 2014 APA Advanced Training Institutes on Structural Equation Modeling in Longitudinal Research and Exploratory Data Mining in Behavioral Research.

Amount: \$500

### **Intercollegiate Academics Fund Travel Award, UNI, Fall 2012**

Award allocated to promote and support the presentation of research at an academic conference.

Amount: \$650

### **Graduate Student Opportunity Fund For Travel, UNI, Fall 2012**

Award to support travel for graduate students presenting at an academic conference.

Amount: \$250

### **College of Social and Behavioral Sciences Graduate Research Award, UNI, Fall 2012**

Award allocated for the purchase of expenses related to thesis research.

Amount: \$500

### **Graduate College Tuition Scholarship, UNI, Fall 2012**

Scholarship based on academic performance.

### **Academic All-American, Golf, 2009, 2010**

An award given out by the Golf Coaches Association of America based on academic and athletic performance.

## Teaching Experience

- Classes

### **Undergraduate Psych Statistics**

PSY30100 - 03: Experimental Psychology I - Statistics  
Fall 2017, University of Notre Dame

### **Graduate Regression**

PSY60101 - 01: Quantitative Methods in Psychology II  
Spring 2018, University of Notre Dame

## • **Workshops**

### **Exploratory Data Mining via SEARCH Strategies**

8/15/2016-8/19/2016 & 8/14/2017-8/18/2017

University of Michigan, Ann Arbor, MI.

Role: Lecturer and lab instructor.

Lecture Topic: Structural Equation Model Trees

Lab Topics: R, Regression, Clustering, Factor Analysis, Decision Trees & Extensions, SEM Trees.

### **Big Data: Exploratory Data Mining in Behavioral Research**

APA Advanced Training Institutes. 6/6/2016-6/10/2016 & 6/5/2017-6/9/2017

Arizona State University, Tempe, AZ

Role: Lecturer and lab instructor.

Lecture Topic: Structural Equation Model Trees

Lab Topics: Decision Trees, Random Forests, Boosting, & SEM Trees.

### **Structural Equation Modeling in Longitudinal Research**

APA Advanced Training Institutes. 6/6/2016-6/10/2016 & 5/30/2017-6/3/2017

Arizona State University, Tempe, AZ

Role: Lab instructor.

Lab Topics: Longitudinal Factor Analysis & Alternate Change Score Models.

### **Exploratory Data Mining via SEARCH Strategies**

6/8/2015-6/12/2015, University of Michigan, Ann Arbor, MI

Role: Lab instructor.

Lab Topics: R, Regression, Clustering, Factor Analysis, Decision Trees & Extensions, SEM Trees.

### **Big Data: Exploratory Data Mining in Behavioral Research**

APA Advanced Training Institutes. 6/1/2015-6/5/2015, Arizona State University, Tempe, AZ

Role: Lab instructor.

Lab Topics: Decision Trees & Extensions, SEM Trees, Heuristic Search Algorithms.

## • **Lecturing**

*Exploratory Factor Analysis*, Multivariate Analysis of Behavioral Data, Fall 2016, USC

*The application of SEM Trees in Project TALENT*, Big Data: Exploratory Data Mining in Behavioral Research Workshop, Summer 2014, USC.

*Graphing in R*, Graduate Consultation and Computer Center Lecture Series, Spring 2014, USC.

*Item Factor Analysis*, Graduate Consultation and Computer Center Lecture Series, Spring 2014, USC.

*Factor Indeterminacy*, Workshop in Quantitative Methods – Mathematical Psychology, Spring 2014, USC

*Estimation in Factor Analysis*, Workshop in Quantitative Methods – Mathematical Psychology, Spring 2014, USC

*Statistical Learning-Part 3: Advanced Algorithms*, Graduate Consultation and Computer Center Lecture Series, Fall 2014, USC.

*Statistical Learning-Part 1: Preprocessing*, Graduate Consultation and Computer Center Lecture Series, Fall 2014, USC.

*Exploratory Factor Analysis*, Introduction to Psych Statistics, Spring 2012, UNI

## Professional Activities

- **Consulting**

Team member of environmental-brain aging psychometrics working group for the Environmental Determinants of Cognitive Aging R01, Summer 2013 - Spring 2014, USC.

- **Reviewing**

Journal of Consulting and Clinical Psychology  
Structural Equation Modeling  
Multivariate Behavioral Research  
Behavior Research Methods  
Psychometrika  
BMJ Open