

Ross Jacobucci
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 Notre Dame, Indiana 46556
 574-631-2589

Curriculum Vitae
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 March 24, 2020

Professional History & Education

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

Research Funding

• Ongoing

- Ross Jacobucci (PI) 1/1/20-12/31/20
Notre Dame Faculty Initiation Grant.
Dynamic Multimodal Assessment of Suicide Risk: An Initial Application.
 Total Direct: \$9,930
- Ross Jacobucci (PI) 7/1/19 - 6/30/21
 Loan Repayment Programs (Clinical)
National Institutes of Mental Health
Integrative Data Analysis for Increasing the Prediction of Suicide
- 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

• Completed

- Ross Jacobucci (PI) Academic Year 2018-2019
 Small Research and Creative Work grant
Institute for Scholarship in the Liberal Arts (ND)
Text Analysis for the Prediction of Suicide: A Pilot Study
 \$2,475

Books

Jacobucci, R., Grimm, K. J., & Zhang, Z. (under contract). *Machine learning for social and behavioral research*. New York, NY: Guilford.

Publications

* refers to undergraduate students, @ graduate advisees (@₁ for graduate advisees that I was not the primary mentor), and (+) for postdocs.

• Peer Reviewed Publications

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

@₁Hong, M., **Jacobucci, R.**, & Lubke, G. (in press). Deductive Data Mining. *Psychological Methods*.

Burke, T. A., **Jacobucci, R.**, Ammerman, B. A., & Diamond, G. (in press). Using machine learning to classify suicide attempt history among youth in medical care settings. *Journal of Affective Disorders*.

Serang, S., **Jacobucci, R.**, Stegmann, G., Brandmaier, A. M., Cui, D., & Grimm, K. J. (in press). Mplus Trees: Structural equation model trees using Mplus. *Structural Equation Modeling*.

Liang, X., & **Jacobucci, R.** (in press). Regularized Structural Equation Modeling to Detect Measurement Bias: Evaluation of Lasso, Adaptive Lasso and Elastic Net. *Structural Equation Modeling*.

Jacobucci, R., & Grimm, K. J. (in press). Machine learning and psychological research: The unexplored effect of measurement. *Perspectives on Psychological Science*.

Ammerman, B.A., **Jacobucci, R.**, Turner, B. J., Dixon-Gordon, K., & McCloskey, M.S. (in press). Quantifying the importance of lifetime frequency versus number of methods used in the consideration of NSSI severity. *Psychology of Violence*.

Vargas, I., Haefel, G.J., **Jacobucci, R.**, Boyle, J.T., Mayer, S.E., & Lopez-Duran, L. (in press). Negative Cognitive Style And Cortisol Reactivity To A Laboratory Stressor: A Preliminary Study. *International Journal of Cognitive Therapy*.

Serang, S. & **Jacobucci, R.** (2020). Exploratory mediation analysis of dichotomous outcomes via regularization. *Multivariate Behavioral Research*, 55, 69-86.

@₁Nelson, N. A., Bergeman, C. S., & **Jacobucci, R.** (2019). Future time perspective in mid-to-later life: The role of personality. *The Journal of Gerontology: Psychological Science*, gbz110.

Ammerman, B. A., Hong, M., Sorgi, K. M., **Jacobucci, R.**, Park, Y., & McCloskey, M. S. (2019). An examination of individual forms of nonsuicidal self-injury. *Psychiatry Research*, 278, 268-274.

Burke, T.A., Ammerman, B.A., & **Jacobucci, R.** (2019). The use of machine learning in the study of suicidal and non-suicidal self-injurious thoughts and behavior: A systematic review. *Journal of Affective Disorders*, 245, 869-884.

Jacobucci, R., Serang, S., & Grimm, K. J. (2019). A short note on complications in interpretation with the dual change score model. *Structural Equation Modeling*, 26, 924-930.

Ammerman, B.A., **Jacobucci, R.** & McCloskey, M.S. (2019). Re-considering important outcomes of the NSSI disorder diagnostic criterion A. *Journal of Clinical Psychology*, 75, 1084-1097.

Jacobucci, R., Brandmaier, A., & Kievit, R. (2019). A practical guide to variable selection in structural equation models with regularized MIMIC models. *Advances in Methods and Practices in Psychological Science*, 2, 55-76.

- Usami, S., **Jacobucci, R.**, & Hayes, T. (2019). The performance of latent growth curve model based structural equation model trees to uncover population heterogeneity in growth trajectories. *Computational Statistics*, *34*, 1-22.
- Ammerman, B. A., Serang, S., **Jacobucci, R.**, Burke, T., A., Alloy, L. B., & McCloskey, M. S. (2018). Exploratory analysis of mediators in the relationship between childhood maltreatment and suicidal behavior. *Journal of Adolescence*, *69*, 103-112.
- 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.
- 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
- 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

• Other Publications

- Jacobucci, R.**, @Shao, S., & @Hattori, M. (2020). On the integration of machine learning and psychometrics. *The Score (APA Div. 5 Newsletter)*.
- @Hong, M., **Jacobucci, R.**, & Lubke, G. (accepted). Deductive Data Mining. *Psychological Methods*. Hong, M. R., **Jacobucci, R.** (2019). Review of Growth Modeling: Structural Equation and Multilevel Modeling Approaches (Grimm, Ram & Estabrook, 2017). *Psychometrika*, *84*, 327-332.
- Grimm, K. J., **Jacobucci, R.**, McArdle, J. J. (January, 2017). Big data methods and psychological science. *Psychological Science Agenda*.

- **Chapters**

Grimm, K. J., Stegmann, G., **Jacobucci, R.**, & Serang, S. (in press). Big data in developmental psychology. In S. E. Woo, L. Tay, & R. W. Proctor (Eds.), *Big data methods for psychological research: New horizons and challenges*. Washington, DC: American Psychological Association.

Jacobucci, R. & Grimm, K. J. (2018). Regularized estimation of multivariate latent change score models. *Advances in Longitudinal Models for Multivariate Psychology: A Festschrift for Jack McArdle*, 109-125. Routledge, London.

Grimm, K. J. & **Jacobucci, R.** (2018). Individually varying time metrics in latent change score models. *Advances in Longitudinal Models for Multivariate Psychology: A Festschrift for Jack McArdle*. Routledge, London.

- **Technical Reports**

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

Presentations

- **Invited Presentations**

Jacobucci, R. (2020, October). *Using imperfectly measured predictors in machine learning*. Talk to be presented at the Workforce Science workshop at Rice University in Houston, Texas.

Jacobucci, R. (2019, May). *Flexible specification of large structural equation models with regularization*. Keynote speech given at the Big Data in Psychology Pre-Conference in Dubrovnik, Croatia. Video: <https://www.psycharchives.org/handle/20.500.12034/2118>

Jacobucci, R. (2019, February). *Novel assessment strategies for improving our understanding of mental health*. Invited talk given at the Quant Methods colloquium at Vanderbilt University.

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 Developmental Systems Methodology Core at Penn State University.

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.

- **Oral Presentations**

McClure, K.E., **Jacobucci, R.**, & Ammerman, B.A. (2020, March). Disclosure of Suicidality and Open-Response Questions: A Blended Text Mining Approach. Paper submitted for presentation at the 54th Annual Convention for the Association for Behavioral and Cognitive Therapies, Philadelphia, Pennsylvania.

Jacobucci, R. (2019, November). The use text mining for clinical research: An overview of the methodology. Paper presented at the 53rd Annual Convention for the Association for Behavioral and Cognitive Therapies, Atlanta, Georgia.

Ammerman, B.A., Wilcox, K. T., & **Jacobucci, R.** (2019, November) A nuanced examination of the relationship between social connectedness and suicidal ideation. Paper presented at the 53rd Annual Convention for the Association for Behavioral and Cognitive Therapies, Atlanta, Georgia.

Park, Y., O'Loughlin, C. M., **Jacobucci, R.**, & Ammerman, B.A. (2019, November). Examining person-specific reasons for living in the prediction of suicidal ideation: A text mining approach. Paper presented at the 53rd Annual Convention for the Association for Behavioral and Cognitive Therapies, Atlanta, Georgia.

- Wilcox, K. T., **Jacobucci, R.**, McCloskey, M. S. & Ammerman, B.A. (2019, November). Evaluating personal narratives of interpersonal relationships via text mining to predict nonsuicidal self-injury. Paper presented at the 53rd Annual Convention for the Association for Behavioral and Cognitive Therapies, Atlanta, Georgia.
- 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.
- 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). *Psuedo-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. et al. (2020). regsem: Performs Regularization on Structural Equation Models (version 1.5.2) [Software]. Available from <https://cran.r-project.org/web/packages/index.html>

Serang, S., **Jacobucci, R.**, Grimm, K. J., Stegmann, G., & Brandmaier, A. M. (2020). MplusTrees: Decision Trees with Structural Equation Models Fit in 'Mplus' (version 0.1.1) [Software]. Available from <https://cran.r-project.org/web/packages/MplusTrees/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. (2018). dtree: Decision Trees (version 0.4.2) [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

2019 Anastasi Dissertation Award

Division 5, American Psychological Association

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 & 2018, University of Notre Dame

Graduate Regression

PSY60101 - 01: Quantitative Methods in Psychology II

Spring 2018, 2019, & 2020, University of Notre Dame

Machine Learning for Social & Behavioral Research

Joint Undergraduate & Graduate

Fall 2019, 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.

Professional Activities

- **Editorial Boards**

Journal for Quantitative and Computational Methods in Behavioral Sciences (QCMB)

- **Reviewing**

Journal of Consulting and Clinical Psychology; Structural Equation Modeling; Advances in Methods and Practices in Psychological Science; Multivariate Behavioral Research; Journal of Mathematical Psychology; Psychological Methods; Behavior Research Methods; Psychometrika; BMJ Open

- **Grant Reviewing**

Swiss National Science Foundation