

# Jonathan L. Helm

153 North Life Sciences  
5500 Campanile Road  
San Diego State University  
San Diego, CA, 92182

Cell: (858) 232-7381  
E-mail: [jhelm@sdsu.edu](mailto:jhelm@sdsu.edu)  
<https://jonhelm.org>

## EDUCATION

<b>Ph.D., Quantitative Psychology</b> University of California, Davis Advisors: Emilio Ferrer, Kevin Grimm, & Keith Widaman Dissertation: Modeling Change in a Correlation Over Time	2013
<b>M.A., Quantitative Psychology</b> University of California, Davis Advisor: Emilio Ferrer	2010
<b>B.S., Psychology</b> University of California, Davis	2008

## ACADEMIC POSITIONS

<b>Assistant Professor</b> San Diego State University	2017-present
<b>Lecturer &amp; Post-Doctoral Researcher</b> University of California, Davis Advisors: Paul D. Hastings & Amanda Guyer	2016-2017
<b>Post-Doctoral Researcher</b> The Pennsylvania State University Advisors: Pamela Cole & Nilam Ram	2014-2016
<b>Post-Doctoral Researcher</b> University of California, Davis Advisors: Paul D. Hastings & Amanda Guyer	2013-2014

## AWARDS AND FELLOWSHIPS

Grants and Research Enterprise Writing Fellowship (GREW; \$3000)	2017
Dissertation Award (SMEP; \$1000)	2012
Merit Scholarship (UC Davis; \$6000)	2012
Travel Award (SMEP; \$900)	2012

## GRANTS

### **Submitted**

Allison Vaughn (PI)

Title: Social Networks and the Health of Sexual Minorities (R03 MD012852-01)  
Granting Agency: National Institutes of Health  
Role: Co-Investigator

Sarah Borowski (PI)

Title: Considering the Role of Vagal Tone in Adolescents' Behaviors within Friendships (F31)  
Granting Agency: National Institutes of Health  
Role: Consultant

### **Funded and In Progress**

Jonathan Helm (PI)

Title: Advanced Statistical Methods for the Social Sciences  
Granting Agency: University Grants Program at San Diego State University  
Total Cost: \$10,000  
Dates: 2018 – 2019  
Role: Principal Investigator

Jonathan Helm (PI)

Title: Course Inversion and Reflection in Psychology 670B  
Granting Agency: Center for Teaching and Learning at San Diego State University  
Total Cost: \$1,800  
Dates: 2018  
Role: Principal Investigator

Dustin Thoman (PI)

Title: Understanding the role of cultural and career purpose orientations in underrepresented minority science student success. (DRL 1420271/1644344)  
Granting Agency: National Science Foundation  
Total Cost: \$1,100,000  
Dates: 2014 – 2017  
Role: Consultant

## PUBLICATIONS

### Quantitative Publications

+ indicates undergraduate mentee; \* indicates graduate mentee; ^ indicates post-doctoral mentee

**Helm, J. L.** (*under review*). More efficient methods for estimating the Pearson product moment correlation coefficient.

**Helm, J. L.**, \*Miller, J., \*Kahle, S., \*Troxel, N., Hastings, P. D. (*in press*). On measuring and modeling physiological synchrony in dyads.

**Helm, J. L.**, Castro-Schilo, L., Castellarnau Illarramendo, A., Zavala Rojas, D., Oravecz, Z. (*in press*). Bayesian estimation of the true score multitrait-multimethod model with a split-ballot design. *Structural Equation Modeling*.

**Helm, J. L.**, Castro-Schilo, L., Oravecz, Z. (2017). Comparing Bayesian and frequentist estimation of multitrait-multimethod confirmatory factor models. *Structural Equation Modeling*, 24, 17 – 30.

Ram, N., **Helm, J. L.**, Gerstorf, D., Molenaar, P. C., Nesselroade, J. (2016). Has growth modeling led us astray? Reformulating models of development as differences in timing. *Gerontologist*, 211 – 211. [Abstract]

**Helm, J. L.** (2016). A review of latent variable modeling using R. *Structural Equation Modeling*, 23, 931 – 932. [Book review]

**Helm, J. L.**, Ram, N., Cole, P., Chow, S. M. (2016). Modeling self-regulation as a process using a multiple time-scale multiphase latent basis growth model. *Structural Equation Modeling*, 23, 635 – 648. doi: 10.1080/10705511.2016.1178580

+Serang, S., Zhang, Z., **Helm, J. L.**, Steele, J. S., Grimm, K. J. (2015). Evaluation of a Bayesian approach to estimating nonlinear mixed-effects mixture models. *Structural Equation Modeling*, 22, 202 – 215.

Widaman, K. F., **Helm, J. L.** (2014). Factor analysis. In R. Cautin & S. Lilienfeld (Eds.), *The Encyclopedia of Clinical Psychology* (pp. 1223 - 1248). Hoboken, NJ: Wiley-Blackwell.

Grimm, K. J., **Helm, J. L.** (2014). Latent class analysis and growth mixture models. In S.K. Whitbourne (Ed.), *The Encyclopedia of Adulthood and Aging* (pp. 731-737). Hoboken, NY: Wiley-Blackwell.

**Helm, J. L.**, Ferrer, E. (2013). Modeling Change in a Correlation Over Time Within a SEM Framework. *Multivariate Behavioral Research*, 48, 159. [Abstract]

Ferrer, E., **Helm, J. L.** (2013). Dynamical systems modeling of physiological coregulation in dyadic interactions, *International Journal of Psychophysiology*, 88, 296 - 308.

Widaman, K. F., **Helm, J. L.** (2012). Nocturnal emissions: A failure to replicate. *American Journal of Psychology*, 125, 39 – 50. doi: 10.5406/amerjpsyc.125.1.0039

Widaman, K. F., **Helm, J. L.**, Castro-Schilo, L., Pluess, M., Stallings, M. C., Belsky, J. (2012). Distinguishing ordinal and disordinal interactions. *Psychological Methods*, 17, 615 - 622.

**Helm, J. L.**, Sbarra, D. A., Ferrer, E. (2011). Assessing cross-partner associations in physiological responses via coupled oscillator models. *Emotion*, 12, 748 – 762. DOI: 10.1037/a0025036

McAssey, M. P., **Helm, J. L.**, Hsieh, F., Sbarra, D. A., Ferrer, E. (2011). Detecting synchrony in psychophysiological signals from dyadic interactions. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, 9, 41 – 53.

### **Substantive Publications**

+ indicates undergraduate mentee; \* indicates graduate mentee; ^ indicates post-doctoral mentee

Hastings, P. D., Serbin, L. A., Bukowski, W., **Helm, J. L.**, Stack, D. M., Ledingham, J. E., Schwartzman, A. E. (*under review*). Predicting psychosis-spectrum diagnoses in adulthood from social behaviors and neighborhood contexts in childhood.

\*Kahle, S., \*Miller, J., **Helm, J. L.**, Hastings, P. D. (*under review*). Integrating the expression, regulation, and physiology of emotion in preschoolers.

\*Wuermli, A. J., **Helm, J. L.**, Hastings, P. D., Yoshikawa, H., Wolf, S., Halpin, P., Dowd, A. J., Pisani, L. (*under review*). Investigating the psychometric properties and measurement invariance of the international development and early learning assessment in a diverse sample from Bhutan.

\*Wuermli, A. J., **Helm, J. L.**, Hastings, P. D., Yoshikawa, H., Dowd, A. J., Pisani, L., Borisova, I. (*under review*). The relations of household socioeconomic characteristics, learning materials, and caregiver-child learning activities with child outcomes in Bhutan.

^Won, B., \*DiQuattro, N. E., **Helm, J. L.**, Geng, J. (*under review*). Category boundaries modulate feature-based visual search.

\*Morales, S., Ram, N., Buss, K. A., Cole, P. M., **Helm, J. L.**, Chow, S. M. (*in press*). Age-related changes in the dynamics of fear regulation in early childhood.

^Vilgis, V., \*Gelardi, K. L., **Helm, J. L.**, Forbes, E. E., Hipwell, A. E., Keenan, K. K., Guyer, A. E. (*in press*). Dorsomedial prefrontal cortex activity to sad faces predicts later emotion suppression and depression in adolescent girls. *Child Development*.

Geng, J. J., \*DiQuattro, N. E., **Helm, J. L.** (*in press*). Distractor probability changes shape of the attentional template. *Journal of Experimental Psychology*.

- \*Parra, L., Benibgui, M., **Helm, J. L.**, Hastings, P. D. (*in press*). The buffering effect of peer support on the links between family rejection and psychosocial adjustment in LGB emerging adults. *Journal of Social and Personal Relationships*.
- \*Parra, L., Benibgui, M., **Helm, J. L.**, Hastings, P. D. (2016). Minority stress predicts depression in lesbian, gay, and bisexual emerging adults via elevated diurnal cortisol. *Emerging Adulthood, 4*, 365-372.
- Belsky, J., Newman, D. A., Widaman, K. F., Rodkin, P., Pluess, M., Fraley, R. C., Berry, D., **Helm, J. L.**, Roisman, G. I. (2015). Differential susceptibility to effects of maternal sensitivity? A study of candidate plasticity genes. *Development and Psychopathology, 27*, 725 – 746.
- Tseng, W. L., Guyer, A. E., Briggs-Gowan, M. J., Axelson, D., Birmaher, B., Egger, H. L., **Helm, J. L.**, Stowe, Z., Towbin, K. A., Wakschlag, L. S., Leibenluft, E., Brotman, M. A. (2015). Behavior and emotion modulation deficits in preschoolers at risk for bipolar disorder. *Depression and Anxiety, 32*, 325 – 334.
- \*Han, G., **Helm, J. L.**, Iucha, C., Zahn-Waxler, C., Hastings, P. D., Klimes-Dougan, B. (2015). Are executive functioning deficits concurrently and predictively associated with depressive and anxiety symptoms in adolescents? *Journal of Clinical and Adolescent Psychology*. DOI: 10.1080/15374416.2015.1041592
- Helm, J. L.**, Sbarra, D. A., Ferrer, E. (2014). Coregulation of heart rate variability in adult romantic partners, *Emotion, 14*, 522 - 531.
- Hastings, P. D., **Helm, J. L.**, Mills, R. S. L., Serbin, L. A., Stack, D. M., Schwartzman, A. E. (2015). Dispositional and environmental predictors of the development of internalizing problems in childhood: Testing a multilevel model. *Journal of Abnormal Child Psychology, 43*, 831 – 845.
- DeRose, L. M., Shiyko, M., Levey, S., **Helm, J. L.**, Hastings, P. D. (2014). Early maternal depression and social skills in Adolescence: A marginal structural modeling approach. *Social Development, 23*, 753 – 769.
- Mills, R. S. L., Hastings, P. D., Serbin, L. A., Etezadi, J., Stack, D. M., Schwartzman, A. E., Li, H. H., **Helm, J. L.** (2011). Temperamental, parental and contextual contributors to early-emerging internalizing problems: A new integrative analysis approach. *Social Development*. doi: 10.1111/j.1467-9507.2011.000629.x

### INVITED PRESENTATIONS

- Helm, J. L.** (2018). *Reproducing Analyses of Variance using Structural Equation Models*. Presentation at the Western Psychological Association's annual Conference
- Helm, J. L.** (2018). *Longitudinal Data Analysis in the Social Sciences*. Workshop presentation at California State University, Long Beach.

**Helm, J. L.** (2018). *Bayesian Approaches for Psychological Science*.  
Presentation at the Developmental Methods biannual Conference.

## PRESENTATIONS

Stack, D.M., Hastings, P.D., Serbin, L.A., Bukowski, W.M., **Helm, J.L.**, Ledingham, J.E., & Schwartzman, A.E. (2018). Psychosis-spectrum disorders in adulthood are predicted by childhood social characteristics and disadvantaged neighborhood contexts. Research talk presented at Life History Research Society Conference.

**Helm, J. L.**, Castro-Schilo, L., Zavala-Rojas, D., DeCastellarnau, A., Oravecz, Z. (2018). Bayesian Estimation of the True Score Multitrait – Multimethod with a Split-Ballot Design. Research talk presented at the Small Sample Research Conference.

Grimm, K. J., O'Rourke, H., **Helm, J. L.** (2017). Return of the bivariate growth model: Separating within and between-person effects in longitudinal panel data. Society for Research in Child Development Biennial Meeting.

**Helm, J. L.**, Castro-Schilo, L. (2017). *Bayesian Estimation of the Correlated Trait – Correlated Method Model*. Research talk presented to the statistics department at the University of California, Davis.

**Helm, J. L.** (2016). *Measuring and Modeling Multivariate and Intensive Longitudinal Data (MILD)*. Research talk presented to the Psychology Department. California State University, San Diego, CA.

**Helm, J. L.** (2016). *New Approaches for Understanding Multivariate and Intensive Longitudinal Data (MILD)*. Research talk presented to the Psychology Department. Michigan State University, East Lansing, MI.

**Helm, J. L.** (2016). *Measuring and Modeling Multivariate and Intensive Longitudinal Data (MILD)*. Research talk presented to the Psychology Department. California State University, Sacramento, CA.

**Helm, J. L.**, Castro-Schilo, L. (2015). *The Benefits of Bayesian Analysis for Data with low Information*. Research talk presented to the Psychology Department. The Pennsylvania State University, State College, PA.

**Helm, J. L.**, Ram, N. (2015). Different Perspectives on Statistical Modeling of Physiological Covariation. Research talk presented to the American Psychological Society.

**Helm, J. L.**, Castro-Schilo, L. (2014). *Bayesian versus Frequentist Estimation of Multi-Trait Multi-Method Confirmatory Factor Models*. Research talk presented at Modern Modeling Methods Conference.

- Helm, J. L.**, Grimm, K. J. (2014). *Higher Order Taylor Polynomial Methods to Estimate Nonlinear Mixed Effects Models for Longitudinal Panel Data*. Research talk presented to the Society of Research in Child Development: Developmental Methodology.
- Helm, J. L.**, Castro-Schilo, L. (2014). *Differences in Estimation Frameworks for Multi-Trait Multi-Method Confirmatory Factor Models*. Research talk presented to the Society of Research in Child Development: Developmental Methodology.
- Helm, J. L.**, Ram, N. (2014). *Articulating Developmental Change with Simple and Complex Growth Models*. Teaching talk presented to the Society of Research in Child Development: Developmental Methodology.
- Castro-Schilo, L., Gates, K., Grimm, K. J., **Helm, J. L.** (2014). Autoregressive latent change model: A new tool for idiographic analysis. Society for Research in Child Development Themed Meeting: Developmental Methodology.
- Helm, J. L.**, Hastings, P. D., Miller, J. (2014). *Issues, Questions, and Tentative Answers in Studying Physiological Synchrony*. Research talk presented to the Society of Research in Child Development: New Conceptualization in the Study of Parenting-At-Risk
- Hastings, P. D., **Helm, J. L.**, Mills, R. S. L., Serbin, L. A., Stack, D. M. (2012). *Adverse socialization experiences predict the development of internalizing problems in preschoolers with high temperamental inhibition or elevated salivary cortisol levels*. Research talk presented to the International Society for the Study of Behavioral Development.
- Widaman, K. F., Grimm, K. J., **Helm, J. L.** (2012). *Factorial invariance in longitudinal investigations: Accurately charting growth over time*. Society for Research in Child Development Themed Meeting: Developmental Methodology.
- Widaman, K.F., **Helm, J. L.**, Castro-Schilo, L., Pluess, M., Stallings, M. C., Belsky, J. (2012). *Reparameterizing Regression Models to Test Interaction Hypotheses More Informatively*. Research talk presented to the Society for Research in Child Development.
- Widaman, K. F., **Helm, J. L.** (2011). *Nocturnal Emissions: A Failure to Replicate*. Research talk presented to the Society of Multivariate Experimental Psychology.
- Helm, J. L.**, Aichele, S. A. (2010). *Understanding Maximum Likelihood*. Research talk presented to the Psychology Department. University of California, Davis, CA.
- Helm, J. L.**, Ferrer, E. (2009). *Physiological Linkage in Romantic Relationships*. Research talk presented to the Psychology Department. University of California, Davis, CA.

**Helm, J. L., Ferrer, E. (2009).** *Physiological Correspondence of Romantic Partners in Different Interaction Tasks*. Research talk presented to the Psychology Department. University of California, Davis, CA.

**Helm, J. L., Ferrer, E. (2009).** *Modeling Heart Rate and Respiration via Coupled Linear Oscillator Models*. Research talk presented to the Psychology Department. University of California, Davis, CA.

## TEACHING

### **Course Instructor (8 courses; > 370 students total)**

Course Title: Intermediate Statistics for Psychological Research, 2017

Course Title: Research Methods in Psychology; 2016

Course Title: Statistical Analysis of Psychological Data; 2016, 2017

Course Title: Introductory Statistics for the Behavioral Sciences; 2013

### **Workshop Instructor (5 workshops; > 100 students total)**

Workshop Title: Longitudinal Data Analysis; 2010 - 2015

### **Workshop Instructor (4 workshops; > 80 students total)**

Workshop Title: Data Mining; 2011 - 2015

### **Workshop Instructor (4-hour lecture; > 150 students total)**

Workshop Title: Growth Modeling; 2014

## SERVICE

### **Reviewer**

*Psychological Methods, Multivariate Behavioral Research, Structural Equation Modeling, Educational and Psychological Measurement, International Journal of Psychophysiology, Psychophysiology, Developmental Psychopathology, Child Development, Developmental Psychology, Journal of Research Personality, Social Psychology and Personality Science*

### **Intra-Departmental Service**

Curriculum Committee

2017 - present

### **Dissertation Committees**

Chelsea Hays

Joint Doctoral Program (SDSU)

### **Masters Committees**

Garam Lee

Masters in Applied Psychology (SDSU)

### **Coordinator and Calendar Administrator**

Quantitative Psychology Colloquium, UC Davis

Fall 2010 – Spring 2011

### **Prospective Student Visit Coordinator,**

Winter 2010 - 2012



Quantitative Psychology, UC Davis