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## DANIEL MCNEISH

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[Personal Website](#)  
[Google Scholar](#)  
[ResearchGate](#)  
Citizenship: USA

### ACADEMIC POSITIONS

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AUG 2017 – **Assistant Professor**  
Department of Psychology, Quantitative Area  
ARIZONA STATE UNIVERSITY, USA

JULY 2017 – **Faculty Affiliate**  
Center for Developmental Science  
UNIVERSITY OF NORTH CAROLINA-CHAPEL HILL, USA

AUG 2016 – JULY 2017 **Research Scientist (Quantitative Methodologist)**  
Center for Developmental Science  
UNIVERSITY OF NORTH CAROLINA-CHAPEL HILL, USA

JAN 2016 – AUG 2016 **Assistant Professor**  
Department of Methodology and Statistics  
UTRECHT UNIVERSITY, THE NETHERLANDS

### EDUCATION

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DEC 2015 **Ph.D., Measurement, Statistics, and Evaluation**  
UNIVERSITY OF MARYLAND, USA  
*Advisor: Dr. Gregory Hancock*

MAY 2013 **M.A., Measurement, Statistics, and Evaluation**  
UNIVERSITY OF MARYLAND, USA  
*Advisor: Dr. Robert Lissitz*

MAY 2011 **B.A., Psychology**  
WESLEYAN UNIVERSITY, USA  
*Mentor: Dr. Steven Stemler*

### AWARDS & RECOGNITION

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#### International

2018 Elected Member, Society for Multivariate Experimental Psychology (SMEP; limited to 65 members internationally)

2018 APA Division 5 Anne Anastasi Dissertation Award

2017 Runner-up, *Journal of Applied Statistics* Best Paper Prize

### Institutional

2016	Outstanding Dissertation, University of Maryland, Coll. of Education
2015	Outstanding Doctoral Student, University of Maryland, Coll. of Education
2015	Outstanding Graduate Assistant, University of Maryland
2013	Outstanding Master's Student, University of Maryland, Coll. of Education
2011	Walkley Prize for Excellence in Psychology, Wesleyan University
2011	Dean's List, Wesleyan University

### **PUBLICATIONS**

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Underlined italics indicates mentored student author at time of writing

### **PUBLICATION SUMMARY**

Total Publications = 55

Peer-reviewed Articles = 46 (36 methodological, 10 substantive)

Submitted Papers in Review = 10 (5 requested revisions, 5 under first review)

Google Scholar Citations = 742, h-index = 13, i-10 index = 16

ResearchGate Reads = 67,146

6 papers in *Psychological Methods* (5 as first author)

7 papers in *Multivariate Behavioral Research* (all as first author)

### **ACCEPTED & IN PRESS**

1. **McNeish, D.** (in press). Poisson multilevel models with small samples. *Multivariate Behavioral Research*.  
Impact Factor: 3.69 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
2. **McNeish, D.** & Kelley, K. (in press). Fixed effects models versus mixed effects models for clustered data: Reviewing the approaches, disentangling the differences, and making recommendations. *Psychological Methods*.  
Impact Factor: 6.49 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
3. **McNeish, D.** (in press). Should we use F-tests for model fit instead of chi-square in over-identified structural equation models?. *Organizational Research Methods*.  
Impact Factor: 4.92 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
4. Wentzel, K., Tomback, R., Williams, A., & **McNeish, D.** (in press). Perceptions of competence, control, and belongingness over the transition to high school: A mixed-method study. *Contemporary Educational Psychology*  
Impact Factor: 3.36 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
5. Silverman, R.D., Artzi, L., **McNeish, D.**, Hartranft, A., Martin-Beltran, M., & Percy, M. (in press). The relationship between media type and vocabulary learning in a cross age peer-learning program for linguistically diverse elementary school students. *Contemporary Educational Psychology*.  
Impact Factor: 3.36 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]

**2018**

6. **McNeish, D.** (2018). Thanks coefficient alpha, we'll take it from here. *Psychological Methods, 23*, 412-433.  
Impact Factor: 6.49 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
7. **McNeish, D.** & Hancock, G.R. (2018). The effect of measurement quality on targeted structural model fit indices: A comment on Lance, Beck, Fan, and Carter (2016). *Psychological Methods, 23*, 184-190.  
Impact Factor: 6.49 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
8. **McNeish, D., An, J.,** & Hancock, G.R. (2018). The thorny relation between measurement quality and fit index cut-offs in latent variable models. *Journal of Personality Assessment, 100*, 43-52.  
Impact Factor: 2.34 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]  
Web of Science *Highly Cited Paper* (top 1% in Psychology/Psychiatry)
9. **McNeish, D.** & Matta, T. (2018). Differentiating between mixed effects and latent curve approaches to growth modeling. *Behavior Research Methods, 50*, 1398-1414.  
Impact Factor: 3.60 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
10. **McNeish, D.** & Dumas, D.G. (2018). Calculating conditional reliability for dynamic measurement model capacity estimates. *Journal of Educational Measurement, 55*, 614-634.  
Impact Factor: 0.94 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
11. **McNeish, D.** (2018). Growth models with small samples and missing data. *Journal of Experimental Education, 86*, 690-701.  
Impact Factor: 1.87 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
12. **McNeish, D.** (2018). Approximating item difficulty with the Kaplan-Meier estimator. *Journal of Experimental Education, 86*, 308-324.  
Impact Factor: 1.87 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
13. Dumas, D.G. & **McNeish, D.** (2018). Increasing the consequential validity of reading assessment using dynamic measurement modeling. *Educational Researcher, 47*, 612-614.  
Impact Factor: 4.00 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
14. Wentzel, K., Muenks, K.M., **McNeish, D.**, & Russell, S. (2018). Emotional support, social goals, and classroom behavior: A multi-level multi-site study. *Journal of Educational Psychology, 110*, 611-627.  
Impact Factor: 4.43 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]
15. Hussong, A.M., Ennett, S.T., **McNeish, D.**, Rothenberg, W.A., Cole, V., Gottfredson, N.C., & Faris, R.W. (2018). Teen social networks and depression-substance use associations: Developmental and demographic variation. *Journal of Studies on Alcohol and Drug Use, 79*, 770-780.  
Impact Factor: 2.62 [2017 Journal Citation Reports® (Thomson Reuters, 2018)]

## 2017

16. **McNeish, D.**, Stapleton, L. M., & Silverman, R.D. (2017). On the unnecessary ubiquity of hierarchical linear modeling. *Psychological Methods, 22*, 114-140.

Impact Factor: 4.67 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]  
Web of Science *Highly Cited Paper* (top 1% in Psychology/Psychiatry)  
3<sup>rd</sup> most cited paper in this journal published in 2017 (Web of Science)  
Scopus 99<sup>th</sup> percentile for citations in Psychology

17. **McNeish, D.** (2017). Small sample methods for multilevel modeling: A colloquial elucidation of REML and the Kenward-Roger correction. *Multivariate Behavioral Research*, 52, 661-670.  
Impact Factor: 2.59 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]  
Scopus 97<sup>th</sup> percentile for citations in Statistics & Probability
18. **McNeish, D., & Wentzel, K.R.** (2017). Accommodating small sample sizes in three level models when the third level is incidental. *Multivariate Behavioral Research*, 52, 200-215.  
Impact Factor: 2.59 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
19. **McNeish, D. & Dumas, D.** (2017). Non-linear growth models as psychometric models: A second-order growth curve model for measuring potential. *Multivariate Behavioral Research*, 52, 61-85.  
Impact Factor: 2.59 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]  
Most cited paper in this journal published in 2017 (Web of Science)
20. **McNeish, D.** (2017). Challenging conventional wisdom for multivariate statistical models with small samples. *Review of Educational Research*, 87, 1117-1151.  
Impact Factor: 5.26 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
21. **McNeish, D.** (2017). Multilevel mediation with few clusters: A cautionary note on the multilevel structural equation modeling framework. *Structural Equation Modeling*, 24, 609-625.  
Impact Factor: 3.10 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
22. **McNeish, D.** (2017). Exploratory factor analysis with small samples and missing data. *Journal of Personality Assessment*, 99, 637-652.  
Impact Factor: 2.02 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]  
3<sup>rd</sup> most cited paper (tie) in this journal published in 2017
23. **McNeish, D., & Harring, J.R.** (2017). Corrected model fit criteria for small sample latent growth models with incomplete data. *Educational and Psychological Measurement*, 77, 990-1018.  
Impact Factor: 1.55 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
24. **McNeish, D.** (2017). Fitting residual error structures for growth models in SAS PROC MCMC. *Educational and Psychological Measurement*, 77, 587-612.  
Impact Factor: 1.55 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
25. **McNeish, D. & Harring, J.R.** (2017). The effect of model misspecification in growth mixture model class enumeration. *Journal of Classification*, 34, 223-248.  
Impact Factor: 3.08 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
26. **McNeish, D.** (2017). Missing data methods for arbitrary missingness with small samples. *Journal of Applied Statistics*, 44, 24-39.

Impact Factor: 0.66 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]  
2<sup>nd</sup> most cited paper (tie) published in this journal in 2017 (Web of Science)  
Runner-up for journal's 2017 Best Paper Prize  
One of three papers in the 2017 volume labeled a Highly Commended Paper  
Journal designated 'Most Read Paper' across all possible papers in 2017 & 2018

27. **McNeish, D.**, & Harring, J.R. (2017). Clustered data with small sample sizes: Comparing the performance of model-based and design-based approaches. *Communications in Statistics: Simulation and Computation*, 46, 855-869.  
Impact Factor: 0.46 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
28. Harring, J.R., **McNeish, D.**, & Hancock, G.R. (2017). Using phantom variables in structural equation modeling to assess model sensitivity to external misspecification. *Psychological Methods*, 22, 616-631.  
Impact Factor: 4.67 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
29. Hancock, G. R., & **McNeish, D.** (2017). More powerful tests of simple interaction contrasts for the two way factorial design. *Journal of Experimental Education*, 85, 24-35.  
Impact Factor: 1.59 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
30. Dumas, D. & **McNeish, D.** (2017). Dynamic measurement modeling: Using nonlinear growth models to estimate student learning capacity. *Educational Researcher*, 46, 284-292.  
Impact Factor: 3.83 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
31. Elzakkers, I.F.F.M., Danner, U.N., Sternheim, L.C., **McNeish, D.**, Hoek, H.W., & van Elburg, A.A. (2017). Mental capacity to consent to treatment and the association with outcome – a longitudinal study in anorexia nervosa patients. *British Journal of Psychiatry Open*, 3, 147-153.
32. Wentzel, K.R., Muenks, K., **McNeish, D.**, & Russell, S.L. (2017) Peer and teacher supports in relation to motivation and engagement: A multi-level study. *Contemporary Educational Psychology*, 49, 32-45.  
Impact Factor: 2.89 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
33. Silverman, R.D., Martin-Beltran, M., Peercy, M.M., Hartranft, A.M., **McNeish, D.**, Artzi, L., & Nunn, S.G. (2017). Effects of a cross-age peer learning program on the vocabulary and comprehension of ELs and Non-ELs in elementary school. *The Elementary School Journal*, 117, 485-512.  
Impact Factor: 1.15 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]
34. Silverman, R. D., Kim, Y., Hartranft, A. M., Nunn, S.J., **McNeish, D.** (2017). Effects of a multimedia enhanced reading buddies program in kindergarten and fourth grade. *Journal of Educational Research*, 110, 391-404.  
Impact Factor: 1.20 [2016 Journal Citation Reports® (Thomson Reuters, 2017)]

## 2016

35. **McNeish, D.**, & Stapleton, L.M. (2016). The effect of small sample size on two level model estimates: A review and illustration. *Educational Psychology Review*, 28, 295-314.

Impact Factor: 2.59 [2015 Journal Citation Reports® (Thomson Reuters, 2016)]  
Most cited paper published in this journal in 2016 (Web of Science)  
Web of Science *Highly Cited Paper* (top 1% in Psychology/Psychiatry)  
Scopus 99<sup>th</sup> percentile for citations in Psychology

36. **McNeish, D., & Stapleton, L. M.** (2016). Modeling clustered data with very few clusters.

*Multivariate Behavioral Research*, 51, 495-518.

Impact Factor: 1.55 [2015 Journal Citation Reports® (Thomson Reuters, 2016)]  
Most cited paper published in this journal in 2016 (Web of Science)  
Scopus 99<sup>th</sup> percentile for citations in Statistics & Probability  
6<sup>th</sup> most downloaded paper in the journal across all years since launch of journal's website

37. **McNeish, D.** (2016). Estimation methods for mixed logistic models with small sample sizes.

*Multivariate Behavioral Research*, 51, 790-804.

Impact Factor: 1.55 [2015 Journal Citation Reports® (Thomson Reuters, 2016)]

38. **McNeish, D.** (2016). Using data-dependent priors to mitigate small sample size bias in latent growth models: A discussion and illustration using Mplus. *Journal of Educational and Behavioral Statistics*, 41, 27-56.

Impact Factor: 1.08 [2015 Journal Citation Reports® (Thomson Reuters, 2016)]  
AERA Top 10 most read paper for 2016  
2<sup>nd</sup> most cited paper published in this journal in 2016 (Web of Science)  
Scopus 97<sup>th</sup> percentile for citations in Education

39. **McNeish, D.** (2016). On using Bayesian methods to address small sample problems. *Structural Equation Modeling*, 23, 750-773.

Impact Factor: 3.23 [2015 Journal Citation Reports® (Thomson Reuters, 2016)]  
4<sup>th</sup> most cited paper published in this journal in 2016 (Web of Science)  
Scopus 99<sup>th</sup> percentile for citations in Economics & Econometrics

40. Stapleton, L.M., **McNeish, D.** & Yang, J.S. (2016). Multi-level and single-level models for measured and latent variables when data are clustered. *Educational Psychologist*, 51, 317-330.

Impact Factor: 5.68 [2015 Journal Citation Reports® (Thomson Reuters, 2016)]

41. Kang, Y., **McNeish, D.**, & Hancock, G. R. (2016). The role of measurement quality on practical guidelines for assessing measurement and structural invariance. *Educational and Psychological Measurement*. 76, 533-561.

Impact Factor: 1.49 [2015 Journal Citation Reports® (Thomson Reuters, 2016)]

### **2015 & Prior**

42. **McNeish, D.** (2015). Using Lasso for predictor selection and to assuage overfitting: A method long overlooked in behavioral sciences. *Multivariate Behavioral Research*, 50, 474-481.

Impact Factor: 2.48 [2014 Journal Citation Reports® (Thomson Reuters, 2015)]  
5<sup>th</sup> most cited paper published in this journal in 2015 (Web of Science)

43. **McNeish, D., & Dumas, D.** (2015). A second-order model for understanding potential [Abstract]. *Multivariate Behavioral Research*, 51, 727.

Impact Factor: 2.48 [2014 Journal Citation Reports® (Thomson Reuters, 2015)]

44. **McNeish, D.** (2014). Modeling sparsely clustered data: Design-based, model-based, and single-level methods. *Psychological Methods*, *19*, 552-563.  
 Impact Factor: 5.71 [2013 Journal Citation Reports® (Thomson Reuters, 2014)]  
 5<sup>th</sup> most cited paper published in this journal in 2014 (Web of Science)  
 Scopus 95<sup>th</sup> percentile for citations in Psychology
45. **McNeish, D.** (2014). Analyzing clustered data with OLS regression: The effect of a hierarchical data structure. *General Linear Model Journal*, *40*, 11-16.
46. Stemler, S. E., Elliott, J. G., **McNeish, D.**, Grigorenko, E. L. & Sternberg, R. J. (2012). Examining the construct and cross-cultural validity of the Teaching Excellence Rating Scale (TERS). *The International Journal of Educational and Psychological Assessment*, *9*, 121-138.

#### CHAPTERS, TECHNICAL REPORTS, & BRIEFS

47. Bauer, D.J., **McNeish, D.**, Baldwin, S.A., & Curran, P.J. (in press). Analyzing nested data: Multilevel modeling and alternative approaches. Chapter to appear in A. Wright & M. Hallquist (Eds.), *Handbook of research methods in clinical psychology*. Cambridge University Press.
48. **McNeish, D.**, *Lane, S.*, & Curran, P.J., (in press). Monte Carlo simulation studies. Chapter for new edition of G.R. Hancock & R.O. Mueller (Eds.), *The reviewer's guide to quantitative methods in the social sciences*.
49. Haring, J. R., **McNeish, D.**, & Zhu, X. (2016). On the adequacy of SEM model fit criteria to detect cohort effects in accelerated longitudinal designs. Technical report. University of Maryland, College Park.
50. **McNeish, D.**, Radunzel, J., & Sanchez, E. I. (2016). Adjusted differences in ACT<sup>®</sup> scores by race/ethnicity. *ACT Data Byte*, 2016-7.
51. **McNeish, D.**, Radunzel, J., & Sanchez, E. I. (2016). Adjusted differences in ACT<sup>®</sup> scores by parental education level. *ACT Data Byte*, 2016-6.
52. **McNeish, D.**, Radunzel, J., & Sanchez, E. I. (2016). Adjusted differences in ACT<sup>®</sup> scores by family income. *ACT Data Byte*, 2016-5.
53. **McNeish, D.**, Radunzel, J., & Sanchez, E. I. (2016). Relating student and school characteristics to performance on the ACT<sup>®</sup>. *ACT Data Byte*, 2016-4.
54. **McNeish, D.**, Radunzel, J., & Sanchez, E. I. (2015). Relating non-cognitive student characteristics to the ACT<sup>®</sup> College Readiness Assessment. *ACT Research Report Series*, RR2015-6.

#### SOFTWARE

55. Peters, G.J. & **McNeish, D.** (2016). scaleStructure: scaleStructure (version 0.5-2) [Software]. Available from <https://cran.r-project.org/web/packages/userfriendlyscience>

#### **MANUSCRIPTS UNDER REVISION**

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56. **McNeish, D.** (under revision). Contextual effects without multilevel models. *Multivariate Behavioral Research*
57. **Smid, S.C., McNeish, D., Miočević, M., & van de Schoot, A.G.J.** (under revision). Bayesian versus frequentist estimation for structural equation models in small sample contexts: A systematic review. *Structural Equation Modeling*.
58. Dumas, D., **McNeish, D.**, Schreiber-Gregory, D., Durning, S.J., & Torre, D.M. (under revision). Dynamic measurement in health professions education: Rationale, application, and possibilities. *Academic Medicine*.
59. Hussong, A.M., Ennett, S.T., **McNeish, D.**, *Cole, V.*, Gottfredson, N., *Rothenberg, W.A.*, & Farris, R.J. (under revision). Social network interactions as mediators of depression-substance use associations across adolescence. *Development and Psychopathology*.

#### **SUBMITTED MANUSCRIPTS (UNDER FIRST REVIEW)**

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60. **McNeish, D.** & Matta, T.H. (under review). Flexible treatment of time-varying covariates with time unstructured data. *Multivariate Behavioral Research*
61. **McNeish, D.** (under review). Two-level dynamic structural equation models with small samples. *Structural Equation Modeling*.
62. **McNeish, D.** & Harring, J.R. (under review). Covariance pattern mixture models: Eliminating random effects to improve convergence and performance. *Psychological Methods*.
63. **McNeish, D.** (under review). A primer on two-level dynamic structural equation modeling for intensive longitudinal data. *Structural Equation Modeling*.
64. Silverman, R.D., **McNeish, D.**, Ritchey, K.D., Speece, D.L., & Mitchell, M. (under review). Early screening for decoding and language-related reading difficulties in 1<sup>st</sup> and 3<sup>rd</sup> grade. *Assessment for Effective Intervention*.

#### **RESEARCH SUPPORT**

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##### **GRANTS**

**Arizona State University**



- 2015-2020     **Applying novel technologies and methods to inform the ontology of self-regulation**  
 NATIONAL INSTITUTE ON DRUG ABUSE, AWARD # UH2DA041713  
 Budget: \$2,816,716  
 PIs: Lisa Marsch (Dartmouth)  
 Role: Co-Investigator
- Pending*
- 2019-2021     **Addressing Small Sample and Computational Issues in Mixture Models of Repeated Measures Data with Covariance Pattern Mixture Models**  
 (Pending)  
 INSTITUTE FOR EDUCATIONAL SCIENCES, STATISTICAL AND RESEARCH  
 METHODOLOGY (EARLY CAREER PROGRAM)  
 Proposed Budget: \$209,305  
 Role: PI
- 2019-2021     **Effects of Cannabis Potency on Cannabis Disorder Severity and Acute Consequences**  
 (Pending)  
 NATIONAL INSTITUTE OF HEALTH  
 Proposed Budget: \$431,750  
 PI: Madeline Meier (Arizona State)  
 Role: Co-Investigator
- 2019-2021     **Understanding Learning Trajectories of Verbal and Visuospatial Reasoning: A Dynamic Measurement Modeling Approach**  
 (Pending)  
 OFFICE OF NAVAL RESEARCH  
 Proposed Budget: \$450,583  
 PI: Emily Peterson (American University)  
 Role: Co-Investigator
- Unfunded*
- Unfunded     **Dynamic Measurement Modeling to Improve Psychometric Testing**  
 NATIONAL SCIENCE FOUNDATION, MMS PROGRAM  
 Proposed Budget: \$179,655  
 Role: PI  
 Rating: Competitive, 3.2 / 5.0  
 (38/86 proposals rated “Competitive”)
- Unfunded     **Re-Evaluating the Building Blocks of Cognitive Control**  
 NATIONAL SCIENCE FOUNDATION, COGNITIVE NEUROSCIENCE  
 Proposed Budget: \$599,107  
 PI: Chris Blais (Arizona State)  
 Role: Co-Investigator

University of North Carolina

2013-2018 **Harmonizing Substance Use and Disorder Measures to Facilitate**  
(Completed) **Multistudy Analyses**  
NATIONAL INSTITUTE ON DRUG ABUSE, AWARD #R01DA034636  
Budget: \$2,553,540  
PI: Daniel Bauer  
Role: Statistician

2014-2017 **Peer Mechanisms in the Internalizing Pathway to Substance Use**  
(Completed) NATIONAL INSTITUTE ON DRUG ABUSE, AWARD #R01DA037215  
Budget: \$689,930  
PI: Andrea Hussong  
Role: Statistician

University of Maryland

2014-2017 **The CLAVES Intervention Project: Developing a Supplemental**  
(Completed) **Intervention for Comprehension, Linguistic Awareness, and Vocabulary in**  
**English for Spanish Speakers**  
INSTITUTE FOR EDUCATION SCIENCES, AWARD #R305A140114  
Budget: \$1,470,182  
PIs: Patrick Proctor, Rebecca Silverman, Jeffrey Haring  
Role: Statistician

2011-2014 **Developing a Cross-Age Peer-Tutoring Program to Promote the**  
(Completed) **Vocabulary and Comprehension of English Learners**  
INSTITUTE FOR EDUCATION SCIENCES, AWARD #R305A110142  
Budget: \$1,500,000  
PI: Rebecca Silverman  
Role: Statistician

FELLOWSHIPS

2013-2015 **Flagship Fellowship**, UNIVERSITY OF MARYLAND  
Funding: \$50,000 + tuition remission

2011-2015 **Dean's Fellowship**, UNIVERSITY OF MARYLAND  
Funding: \$35,000 + tuition remission

2014-2015 **All-S.T.A.R. Fellowship**, UNIVERSITY OF MARYLAND  
Funding: \$10,000

2013-2014 **Merit Fellowship**, UNIVERSITY OF MARYLAND  
Funding: \$2,000

2010 **Quantitative Analysis Center Fellowship**, WESLEYAN UNIVERSITY  
Funding: \$3,800

### TRAVEL AWARDS

- 2015 SMEP Conference Travel Award (\$1500)  
2013, 2015 HDQM Graduate Student Travel Grant (\$400 each)

### DATA AWARDS

- 2017 **Kingsbury Research Award, NWEA**  
Awardees: Denis Dumas & Daniel McNeish  
Award: Access to restricted data and technical support from NWEA

### TEACHING

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#### INSTRUCTOR OF RECORD

- 2017 ARIZONA STATE UNIVERSITY  
Course: PSY 539 Multilevel Models for Psychological Research  
PSY 230 Introduction to Statistics  
Fall 2017 Course Review Rating (PSY539, 29 students): 1.0 / 5.0  
Fall 2018 Course Review Rating (PSY539, 24 students): pending  
\*LOWER RATINGS ARE BETTER AT ASU\*
- 2016 UNIVERSITY COLLEGE UTRECHT  
Course: MET23 Applied Multivariate Statistics  
MET2A Analysis of Behavioral Data (Intro to Psychometrics)  
MET22 Applied Multivariate Statistics (MET23 + MET2A)  
Spring 2016 Course Review Rating (MET23, 24 students): 4.8/5.0  
Spring 2016 Course Review Rating (MET2A, 23 students): 4.6/5.0  
Summer 2016 Course Review Rating (MET22, 29 students): 4.8/5.0
- 2012-2013, UNIVERSITY OF MARYLAND  
2015 Course: EDMS 451 Introduction to Educational Statistics (2012-13, 2015)  
EDMS 646 General Linear Models I (2015)  
Fall 2012 Course Review Ratings (EDMS 451, 30 students): 3.8/4.0  
Spring 2013 Course Review Ratings (EDMS 451, 30 students): 3.9/4.0  
Summer 2015 Course Review Ratings (EDMS 451, 11 students): 3.8/4.0

#### SHORT COURSES & INVITED WORKSHOPS

- 2018 MAR **Multilevel Modeling with Small Samples**  
Small Sample Solutions Conference  
Utrecht, the Netherlands  
Materials presented by Joop Hox  
(Health issue precluded me from attending in person)
- 2017 AUG **Bayesian Analysis to Deal with Small Samples**  
18<sup>th</sup> EUROPEAN CONFERENCE ON DEVELOPMENTAL PSYCHOLOGY  
Utrecht, the Netherlands

With Rens van de Schoot

2017 APR     **Modeling Multilevel Data with Small Sample Sizes**  
11<sup>th</sup> INTERNATIONAL MULTILEVEL CONFERENCE  
Utrecht, the Netherlands  
With Rens van de Schoot

2016 JUL     **Introduction to Structural Equation Modeling with Mplus**  
UTRECHT UNIVERSITY SUMMER SCHOOL  
Utrecht, the Netherlands  
With Rens van de Schoot  
Course Review Rating (instructor specific, 75 students): 4.7/5.0

### **OTHER**

2012           **Teaching Assistant**  
UNIVERSITY OF MARYLAND  
Courses: EDMS 451 Introduction to Educational Statistics  
          EDMS 645 Quantitative Research Methods

2012           **Teaching Trainee Program**  
UNIVERSITY OF MARYLAND  
Course: EDMS 451 Introduction to Educational Statistics

### **ADVISING & MENTORING**

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#### **Graduate Advising**

- Andrea Savord (primary advisor), 2017 –
- Sanne Smid (Utrecht Univ., secondary advisor), 2016 –

#### **Social Science Research Methods Certificate Program**

- Daniel Coven (STP, Chair = McNeish)

#### **Dissertation Committees**

- Ryan Stoll (PSY – Clinical, Chair = Pina)
- Gabriela Stegmann (PSY – Quant, Chair = Grimm)
- Kari Lien (SHS, Chair = Scherer)

#### **Comprehensive Exam Committees**

- Kimberly Fine (PSY - Quant, Chair = Grimm)
- Gabriela Stegmann (PSY – Quant, Chair = Grimm)

#### **Undergraduate Mentoring**

- Pepijn Hufen (UCU), MSc student at London School of Economics
- Evelien Schat (UCU), MSc '18 in Statistics at Utrecht University

## PRESENTATIONS

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Italics and underline indicates student co-author

### INTERNATIONAL

1. Dumas, D. & **McNeish, D.** (April, 2019). Increasing the consequential validity of reading assessment using dynamic measurement modeling. Paper to be presented at the annual meeting of the American Educational Research Association (AERA), Toronto, ON, Canada.
2. **McNeish, D.** & Dumas, D. (2018, September). Dynamic measurement modeling: using nonlinear growth models to estimate learning capacity. Frontiers in Educational Measurement Conference, Oslo, Norway.
3. Smid, S.C., Depaoli, S., **McNeish, D.**, Miocevic, M., & van de Schoot, A.G.J. (2018, March). Bayesian SEM with informative priors: Precautions and guidelines. Paper presented at the Small Sample Size Solutions (S4) Conference, Utrecht, the Netherlands.  
Won award for best student talk at the conference.
4. **McNeish, D.** (2017, August). *Do Bayesian methods cure small sample issues?*. Part of a symposium on Bayesian SEM with small samples (with Smid, S.C., Zondervan-Zwijenburg, M.A.J., Schrooten, I., & van de Schoot, A.G.J) at the 18<sup>th</sup> European Conference on Developmental Psychology, Utrecht, the Netherlands.
5. Smid, S.C., **McNeish, D.**, & van de Schoot, A.G.J. (2017, August). *Bayesian vs. maximum likelihood estimation for small samples: A systematic review*. Part of a symposium on Bayesian SEM with small samples (with Smid, S.C., Zondervan-Zwijenburg, M.A.J., Schrooten, I., & van de Schoot, A.G.J) at the 18<sup>th</sup> European Conference on Developmental Psychology, Utrecht, the Netherlands.
6. **McNeish, D.** (April, 2017). *Multilevel mediation with small samples*. Paper presented the 11<sup>th</sup> International Multilevel Conference, Utrecht, the Netherlands.
7. Elzackers, I.F.F.M., Danner, U.N., Sternheim, L.C., **McNeish, D.**, Hoek, H.W., & van Elburg, A.A. (2016, October). *Anorexia nervosa and mental capacity: a longitudinal study*. Poster presented at the 21st annual meeting of the Eating Disorders Research Society (EDRS), Taormina, Sicily, Italy.

### NATIONAL

8. **McNeish, D.** & Harring (2019, March). Covariance pattern mixture models to improve convergence and small sample performance. Paper submitted as part of a symposium “Longitudinal Data Analysis: From Measurement to Modeling” (with Bauer, D.J., Grimm, K.J., & Harring, J.R.) at the Society for Research on Child Development biannual meeting, Baltimore, MD, USA.
9. **McNeish, D.** & Harring, J.R. (2018, October). Covariance mixture models. Paper presented at the 58<sup>th</sup> annual meeting of the Society for Multivariate Experimental Psychology (SMEP), Albuquerque, NM, USA.

10. Dumas, D.G. & **McNeish, D.** (2018, August). Dynamic measurement modeling: Using nonlinear growth models to estimate student learning capacity. Paper presented at the annual convention for the American Psychological Association (APA), San Francisco, CA, USA.
11. Dumas, D.G. & **McNeish, D.** (2018, March). Dynamic measurement modeling: Using non-linear growth models to estimate student learning capacity. Part of the symposium “Prioritizing Growth But Underutilizing Growth Scales: Implications of Advances in Growth Modeling for Educational Policy and Practice” (with Yeow Meng Thum, Megan Kuhfeld, and Jim Soland) at the 15<sup>th</sup> meeting of the Society for Research of Educational Effectiveness, Washington, D.C., USA.
12. Montalbano, C., Allen, E., Greene, J. A., Murphy, P. K., Butler, A., Firetto, C. M., Wei, L., & **McNeish, D.** (2017, August). *Investigating changes in relational reasoning in small-group discourse across time and ability*. Paper presented at the 2017 annual meeting of the American Psychological Association (APA), Washington, D.C., USA
13. Smid, S., **McNeish, D.**, & van de Schoot, A.G.J. (2017, May). *Structural equation models with small samples: Bayesian vs maximum likelihood estimation*. Poster presented at the 29<sup>th</sup> Association for Psychological Science (APS) annual convention, Boston, MA, USA.
14. Smid, S., **McNeish, D.**, & van de Schoot, A.G.J. (2017, May). *Bayesian structural equation models with small samples. Part of the symposium entitled, “What the Dutch can do with prior information”* at the 2017 Modern Modeling Methods (M3) Conference, Storrs, CT, USA.
15. Muenks, K., **McNeish, D.**, & Wentzel, K. (2017, April). *Social support, goal pursuit, and classroom behavior of adolescents: a multi-level study*. Paper presented at the annual meeting of the Society for Research in Child Development, Austin, TX, USA.
16. Muenks, K., **McNeish, D.**, & Wentzel, K. (2017, April). *Social support, goal pursuit, and classroom behavior of adolescents: a multi-level study*. Paper presented at annual meeting of the American Educational Research Association, San Antonio, TX, USA.
17. Dumas, D. & **McNeish, D.** (2017, April) *Can we measure student potential?* Paper presented at the annual meeting of the American Educational Research Association, San Antonio, TX, USA.
18. Muenks, K., **McNeish, D.**, & Wentzel, K. (2016, August). *Relations between peer and teacher supports, motivation, and engagement in adolescent students*. Poster presented at the annual meeting of the American Psychological Association, Division 15, Denver, CO, USA.
19. **McNeish, D.**, & Dumas, D. (2016, May). *Non-linear growth models as measurement models: A second-order growth curve model for measuring potential*. Paper presented at the 2016 Modern Modeling Methods (M3) Conference, Storrs, CT, USA.

20. **McNeish, D.,** & Dumas, D. (2015, October). *A second-order model for understanding potential*. Poster presented at the annual meeting of the Society for Multivariate Experimental Psychology, Los Angeles, CA, USA.
21. **McNeish, D.,** & Harring, J.R. (2015, May). *Small sample robust model fit criteria in latent growth models with non-informative dropout*. Paper presented at the Modern Modeling Methods (M3) Conference, Storrs, CT, USA.
22. **McNeish, D.,** Radunzel, J., & Sanchez, E. I. (2015, April). *Relating non-cognitive student characteristics to ACT<sup>®</sup> scores: An application of sparsely clustered data methods*. Paper presented at the annual meeting of the American Educational Research Association (AERA), Division D: Measurement & Research Methodology, Chicago, IL, USA.
23. **McNeish, D.** (2015, April). *Using Lasso for selection and to assuage overfitting: A method long ignored in educational research*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Educational Statisticians, Chicago, IL, USA.
24. **McNeish, D.,** *An, J.,* & Hancock, G. R. (2015, April). *Factor indicator reliability and fit-indices: More evidence against golden rule cut-offs in latent variable models*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Structural Equation Modeling, Chicago, IL, USA.
25. **McNeish, D.** (2015, April). *Bayesian latent growth models with small samples: An empirical Bayes alternative using data-dependent priors*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Structural Equation Modeling, Chicago, IL, USA.
26. **McNeish, D.,** & Stapleton, L. M. (2015, April). *Clustered data mean you need multilevel models, right?*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Multilevel Modeling, Chicago, IL, USA.
27. **McNeish, D.** (2014, May). *Small sample size and growth curve models in the SEM framework: Assessing model fit criteria and parameter estimate bias*. Paper presented at the 2014 Modern Modeling Methods (M3) Conference, Storrs, CT, USA.
28. **McNeish, D.** (2014, April). *Variance component adjustment for latent growth and multi-level models in an SEM framework*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Structural Equation Modeling, Philadelphia, PA, USA.
29. **McNeish, D.,** & Hancock, G. R. (2014, April). *The reliability paradox in multiple sample covariance structure models*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Structural Equation Modeling, Philadelphia, PA, USA.

30. **McNeish, D.** (2014, April). *A new estimation method for item parameters in IRT with small sample sizes: Applying Kaplan-Meier to item response data*. Paper presented at the annual meeting of the National Council of Measurement in Education (NCME), Philadelphia, PA, USA.
31. **McNeish, D., & Harring, J. R.** (2013, May). *Clustered data with a small number of clusters: Comparing the performance of model-based and design based approaches*. Paper presented at the 2013 Modern Modeling Methods Conference (M3), Storrs, CT, USA.
32. **McNeish, D., & Stapleton, L. M.** (2013, April). *The effect of the number of clusters on multilevel model estimates: A review and illustration*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Multilevel Modeling, San Francisco, CA, USA.
33. **Hancock, G. R., & McNeish, D.** (2013, April). *More powerful tests of simple interaction contrasts for the two way factorial design*. Paper presented at the annual meeting of the American Educational Research Association (AERA), SIG: Educational Statisticians, San Francisco, CA, USA.

#### **REGIONAL**

34. **McNeish, D., & Stemler, S. E.** (2011, April). *Key components in the measurement of teaching excellence*. Paper presented at the annual meeting of the New England Educational Research Organization (NEERO), New Bedford, MA, USA.
35. **McNeish, D., Kobrin, D., Cheng, J., & Lin, Y.** (2011, April). *The association between demographics and bus disciplinary status in the Middletown school district*. Poster presented at the Connecticut State Department of Education 6th Annual Data Showcase, Waterbury, CT, USA.

#### **INSTITUTIONAL**

36. **McNeish, D.** (2018, September). *Random effects are killing your mixture models*. Presented at Arizona State University for the Quantitative Design And Data Analysis seminar, Tempe, AZ, USA.
37. **McNeish, D.** (2016, February). *Lies your SEM fit indices have been telling you*. Presented at Utrecht University for the Research Methods working group, Utrecht, the Netherlands.
38. **McNeish, D.** (2016, January). *Data-dependent priors for growth models with small samples*. Presented at Utrecht University for the Bayesian Statistics working group, Utrecht, the Netherlands.
39. **McNeish, D., An, J., & Hancock, G. R.** (2015, March). *Factor indicator reliability and fit-indices: More evidence against golden rule cut-offs in latent variable models*. Presented at the University of Maryland, College Park as part of the Measurement, Statistics, and Evaluation program Research Day, College Park, MD, USA.



40. **McNeish, D.** (2014, December). *An EDMS student's advice for conducting research in graduate school*. Presented at the University of Maryland, College Park as part of the Monday Symposium on Measurement and Statistics, College Park, MD, USA.
41. **McNeish, D.**, Radunzel, J., & Sanchez, E. I. (2014, August). *Relating non-cognitive student characteristics to the ACT<sup>®</sup> College Readiness Assessment*. Poster presented at Summer Intern Open House at ACT, Inc., Iowa City, IA, USA.
42. **McNeish, D.**, Radunzel, J., & Sanchez, E. I. (2014, July). *Relating non-cognitive student characteristics to the ACT<sup>®</sup> College Readiness Assessment*. Presented to the Statistical, Measurement, and Workforce Research Departments at ACT, Inc., Iowa City, IA, USA.
43. **McNeish, D.**, & Stapleton, L. M. (2013, April). *The effect of the number of clusters on multilevel model estimates: A review and illustration*. Paper presented at the University of Maryland Graduate Research Interaction Day (GRID), College Park, MD, USA.
44. **McNeish, D.** (2010, July). *Measuring adaptability in military personnel*. Poster presented at the annual poster session for the Quantitative Analysis Center and Howard Hughes Medical Institute Program, Middletown, CT, USA.

#### **INVITED**

45. **McNeish, D.** & Haring, J.R. (2018, September). IH8REM: Covariance pattern mixture models. Presentation given at the Innovations in Latent Variable and Random Effects Modeling (ILVREM) Conference, Colorado Springs, CO, USA.
46. **McNeish, D.** (2017, March). *Is Bayes a solution for small samples?* Presented at colloquium series co-sponsored by the Educational Psychology and Statistics Departments, University of Connecticut, Storrs, CT, USA.
47. **McNeish, D.** (2017, February). *Is Bayes a solution for small samples?* Presented at the University of Illinois, Urbana-Champaign, IL, USA.
48. **McNeish, D.** (2017, January). *Is Bayes a solution for small samples?* Presented at Arizona State University, Tempe, AZ, USA.
49. **McNeish, D.**, & Stapleton, L. M. (2015, October). *Clustered data: Are multilevel models really necessary?* Presented at the University of Maryland, Baltimore as part of the Maryland Longitudinal Data System Center Research Series, Baltimore, MD, USA.
50. **McNeish, D.** & Dumas, D.G. (2015, September). A second-order structured latent curve model for measuring potential. Presentation given at the Innovations in Latent Variable and Random Effects Modeling (ILVREM) Conference, Minneapolis, MN, USA.

51. Preston, A., Stapleton, L. M., & **McNeish, D.**, (2015, May). *Visual Representations of Data: Review and Recommendations*. Presented at the University of Maryland, Baltimore as part of the Maryland Longitudinal Data System Center Research Series, Baltimore, MD, USA.
52. **McNeish, D.** (2014, November). *Clustered data mean you need multilevel models, right?* Presented at the Harvard University, Cambridge, MA, USA.
53. **McNeish, D.**, Stapleton, L. M., & Preston, A. (2014, November). *Strategies for missing data in educational research*. Presented at University of Maryland, College Park as part of the Maryland Longitudinal Data System Center Research Series, Baltimore, MD, USA.
54. **McNeish, D.** (2014, September). *Small sample inference with latent growth models*. Presented at the Innovations in Latent Variable and Random Effects Modeling Conference, Colorado Springs, CO, USA.
55. Stapleton, L. M., **McNeish, D.**, & Mao, X. (2013, December). *Approaches for causal inference in educational policy research*. Presented at University of Maryland, Baltimore as part of the Maryland Longitudinal Data System Center Research Series, Baltimore, MD, USA.

## **RESEARCH AND WORK EXPERIENCE**

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| 2013-2015 | <p><b>Research Analyst</b><br/> MARYLAND LONGITUDINAL DATA SYSTEM CENTER<br/> Baltimore, MD, USA<br/> <i>Supervisor: Laura Stapleton</i></p>            |
| 2014      | <p><b>Statistical Research Intern</b><br/> ACT, INC.<br/> Iowa City, IA, USA<br/> <i>Supervisors: Justine Radunzel and Edgar Sanchez</i></p>            |
| 2013      | <p><b>Psychometrician/Statistician Intern</b><br/> AMERICAN INSTITUTES FOR RESEARCH<br/> Washington, D.C., USA<br/> <i>Supervisor: Harold Doran</i></p> |
| 2011-2013 | <p><b>Research Assistant</b><br/> UNIVERSITY OF MARYLAND<br/> College Park, MD, USA<br/> <i>Supervisor: André Rupp</i></p>                              |
| 2009-2011 | <p><b>Research Assistant</b><br/> WESLEYAN UNIVERSITY PSYCHOMETRIC LABORATORY<br/> Middletown, CT, USA<br/> <i>Lab Director: Steven Stemler</i></p>     |

2010            **Research Apprentice**  
WESLEYAN UNIVERSITY QUANTITATIVE ANALYSIS CENTER  
Middletown, CT, USA  
*Mentor: Steven Stemler*

#### **WORKSHOPS ATTENDED**

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1. Introduction to Machine Learning (Utrecht Univ., 2016)
2. Multilevel Structural Equation Modeling with xxM (Univ. of Conn., 2015)
3. Cross-Classified and Multiple Membership Models (Univ. of MD, 2014)
4. Analyzing Survey Data with Missing Values (Census Bureau, 2014)
5. Bayesian Non-Parametric Regression Modeling (Univ. of Conn., 2014)
6. Introduction to Quantile Regression (Univ. of Conn, 2013)
7. Bayesian Statistical Modeling (Univ. of MD, 2013)
8. Advanced Topics in Structural Equation Modeling (Univ. of MD, 2012)
9. Introduction to Structural Equation Modeling (Univ. of MD, 2012)

#### **PROFESSIONAL SERVICE**

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##### **Profession**

2018            Small Sample Size Solutions Conference organizing committee  
2016            International Multilevel Conference organizing committee  
2014            NCME Annual Meeting Session Chair  
2013-2014      AERA Structural Equation Modeling SIG Newsletter Assistant

##### **Manuscript Reviewing**

74 reviews in 29 journals

##### **METHODOLOGICAL & STATISTICAL**

*BMC Medical Research Methodology, Behavior Research Methods, British Journal of Mathematical and Statistical Psychology, Communications in Statistics: Simulation and Computation, Educational and Psychological Measurement, Frontiers in Applied Mathematics & Statistics, Journal of the American Statistical Association, Journal of Applied Statistics, Journal of Classification, Journal of Educational and Behavioral Statistics, Journal of Experimental Education, Methodology, Multivariate Behavioral Research, Organizational Research Methods, Psychological Methods, Statistical Methods in Medical Research, Structural Equation Modeling*

##### **EMPIRICAL**

*American Education Research Journal, Child Development, Contemporary Educational Psychology, Developmental Psychology, Educational Psychologist, Evaluation Review, Journal of Educational Psychology, Journal of Personality Assessment, Perspectives on Psychological Science, Psychological Science, Review of Educational Research, Studies in Higher Education*

##### **EDITORIAL BOARDS**

2017- 2020    *Organizational Research Methods*  
Impact Factor: 4.92, ranked 5/82 in Applied Psychology

**Proposal Reviewing**

Advances in Multilevel Modeling for Educational Research Conference, Society for Multivariate Experimental Psychology Annual Meeting, Guilford Press Methodology in Social Sciences Series

**SOFTWARE PROFICIENCY**

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Advanced:	SAS, <i>Mplus</i> ,
Basic/Intermediate:	SPSS, Stata, GPower, HLM, LISREL, Excel, WinBugs, R