

# ETHAN M. MCCORMICK



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June, 2024

## POSITIONS

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### University of Delaware, School of Education | Newark, DE, USA

Assistant Professor, Educational Statistics and Data Science

2024 - Present

Resident Faculty, Data Science Institute

2024 - Present

### Leiden University, Institute of Psychology | Leiden, ZH, NL

Affiliated Faculty, Methodology and Statistics

2024 - Present

Assistant Professor, Methodology and Statistics

2022 - 2024

### CenterStat

Consultant

2020 - 2023

Courses: *Multilevel Modeling, Structural Equation Modeling, Longitudinal Structural Equation Modeling, Network Analysis, Mixture Modeling, Measurement Modeling, Machine Learning, Causal Inference*

## EDUCATION & TRAINING

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### Radboud University | Nijmegen, GE, NL

2021 - 2022

Postdoctoral Fellow – *Lifespan Cognitive Dynamics Lab*

Donders Institute for Brain, Cognition, and Behaviour

### Rutgers University | Newark, NJ, USA

2020 - 2021

Postdoctoral Fellow – *Cole Neurocognition Laboratory*

Center for Molecular and Behavioral Neuroscience

### University of North Carolina at Chapel Hill

2020

Ph.D. in Developmental Psychology, Quantitative Psychology Concentration

Supervisor: Dr. Eva Telzer

Dissertation Title: *Neural Network Plasticity in Response to Experience: Contributions of Learning and Development*

### University of Illinois at Urbana-Champaign

2016

M.A. in Developmental Psychology

Supervisor: Dr. Eva Telzer

### University of Arkansas

2013

B.S. (Honors) in Biochemistry and Biology

## GRANTS AND AWARDS

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### VI.Veni.231G.012 (McCormick, PI)

2024 - 2027

Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO) Talent Programme Veni SSH

*TOETS Project: Tracking Ongoing Education Through Statistical modeling of Math Learning*

Role: Principle Investigator

Total Costs: €320,000

### 1R01MH129634-01 (Humphreys, PI)

2024 - 2026

National Institute of Mental Health

*Parent-child proximity and emerging psychopathology.*

Role: Co-Investigator

Total Costs: \$804,165 (\$75,888 subcontract)

**2023-1510-00** (McCormick, PI)

2024 - 2026

Jacobs Foundation Research Fellowship

*Modeling Complex Growth in Underlying Math Ability*

Role: Principal Investigator

Total Costs: 165,000 CHF

**INV-009195** (Lloyd-Fox, PI)

2023 - 2025

Bill & Melinda Gates Foundation

*BRIGHT IMPACT: Implementing Modelling Pathways for Accelerating neuroCognitive (global) Toolkits.*

Role: Co-Investigator

Total Costs: \$747,350

**202307720051** (Liu, Fellow)

2023 - 2027

China Scholarship Council (CSC) - Leiden University Scholarship

*Stepwise estimation approaches of growth mixture models.*

Role: Co-promotor, Daily supervisor

Supervision Team: Mark De Rooij, Promotor; Zsuzsa Bakk, Co-Promotor

**R25 MH125545-01** (Mills, PI)

2020

National Institute of Mental Health

*Modeling Developmental Change in the ABCD Study: Longitudinal Analyses for Clinical Outcomes.*

Role: Co-Investigator

Total Costs: \$121,800

**R01 DA051127** (Telzer, Lindquist, & Prinstein, Co-PIs)

2020 - 2024

National Institute on Drug Abuse

Neurobiological susceptibility to peer influence and drug use in adolescence.

Role: Consultant

Total Costs: \$3,395,273

Stanford PRISM Fellow

2019

ABCD Summer Workshop Travel Award (\$500)

2019

Dashiell Departmental Travel Award, UNC (\$1000)

2018

Dashiell Dissertation Startup Award, UNC (\$1000)

2017 - 2018

Ernest C. Davenport Award for Outstanding Research by a

Student Who Enhances Diversity, UNC (\$200)

2017 - 2018

Social Affective Neuroscience Society Travel Grant (\$250)

2015

Rhymer's Fellowship, UIUC

2014 - 2015



## SOFTWARE

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**leni (R-package)** 

creator, maintainer

Linear Estimation with Nonlinear Inference

**gimme (R-package)**  

contributor

Group Iterative Multiple Model Estimation

## PREPRINTS (TITLES LINK TO OPEN-ACCESS PDFS)

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† Denotes mentored student or trainee | \* Denotes senior/corresponding author role


**6. McCormick, E.M.** (*preprint*). A tutorial on formalizing and testing specific psychological theory using nonlinear models. <https://doi.org/10.31234/osf.io/4y7q9>

5. Sadeghi, N., Van Der Velpen, I., Baker, B., Batta, I., Genon, S., **McCormick, E.M.**, Michel, L., Moraczewski, D., Morton, J.B., Seraji, M., Shaw, P., Silva, R.F., Soleimani, N., Sprooten, E., Sørensen, Ø., Thomas, A.G., Wazana, A., Zhou, Z., Calhoun, V., Chakravarty, M.M., Kievit, R.A., Plachti, A., Zuo, X., & White, T. (*preprint*). What do we really know about the interplay between brain, behavior, and cognition from childhood to early adulthood? An international group effort to generate and share simulated datasets. <https://doi.org/10.31234/osf.io/3un9j>
4. Brandmaier, A.M., Lindenberger, U., & **McCormick, E.M.** (*preprint*). Optimal Two-Time Point Longitudinal Models for Estimating Individual-Level Change: Asymptotic Insights and Practical Implications. <https://doi.org/10.31234/osf.io/6dc8e>
3. †König, M., Smith, A., Moreno-Lopez L., Davidson, E., Dauvermann, M., Orellana, S., **McCormick, E.M.**, Kaçer, M., Ioannidis, K., & Van Harmelen, A.L. (*preprint*). Friendship buffering effects on mental health symptoms before and during the COVID-19 pandemic: a UK longitudinal study of young people with childhood adversity. <https://doi.org/10.31234/osf.io/g5d9z>
2. **McCormick, E.M.** (*preprint*). Deriving models of change with interpretable parameters: linear estimation with nonlinear inference. <https://doi.org/10.31234/osf.io/r4vxb>
1. **McCormick, E.M.**, Borgeest, G.S., & Kievit, R.A. (*preprint*). Interrupted mediation: A cautionary note on using derived metrics as intervening variables in path models. <https://doi.org/10.31234/osf.io/48xj5>




## PUBLICATIONS (TITLES LINK TO OPEN-ACCESS PDFS)

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### *In Press* (1)


38. **McCormick, E.M.**, & Bauer, D.J. (*in press*). How should we model the effect of “change” – or should we?. *Psychological Methods*. Accepted March 2024. <https://doi.org/10.1037/met0000663> |  Preprint

### 2024 (3)

37. **McCormick, E.M.**, Curran, P.J., & Hancock, G.R. (2024). Latent Growth Factors as Predictors of Distal Outcomes. *Psychological Methods*. Advance Online Publication. <https://doi.org/10.1037/met0000642> |  Preprint
36. †Michel L.C., **McCormick, E.M.**, & Kievit, R.A. (2024). Grey and white matter metrics demonstrate distinct and complementary prediction of differences in cognitive performance in children: Findings from ABCD (N= 11 876). *Journal of Neuroscience*, *44*(12). e0465232023oi. <https://doi.org/10.1523/JNEUROSCI.0465-23.2023> |  Preprint
35. †Parsons, S., & **McCormick, E.M.** (2024). Limitations of two time point data for understanding individual differences in longitudinal modeling – what can difference reveal about change?. *Developmental Cognitive Neuroscience*, *66*, 101353. <https://doi.org/10.1016/j.dcn.2024.101353> |  Preprint


### 2023 (4)

34. Duell, N., Perino, M.T., **McCormick, E.M.**, & Telzer, E.H. (2023) Differential processing of risk and reward in delinquent and non-delinquent youth. *Social Cognitive and Affective Neuroscience*, *18*(1), 1-9. <https://doi.org/10.1093/scan/nsad040>
33. **McCormick, E.M.**, Byrne, M.L., Flournoy, J.C., Mills, K.L., & Pfeifer, J.H. (2023). The Hitchhiker’s Guide to Longitudinal Models: A Primer on Model Selection for Repeated-Measures Methods. *Developmental Cognitive Neuroscience*, *63*, 101281. <https://doi.org/10.1016/j.dcn.2023.101281> |  Preprint | [Codebook Companion](#) | 
32. **McCormick, E.M.**, Cam-CAN, & Kievit, R.A. (2023). Poorer white matter microstructure predicts slower and more variable reaction time performance: evidence for a neural noise hypothe-


sis in a large lifespan cohort. *Journal of Neuroscience*, 43(19), 3557-3566. <https://doi.org/10.1523/JNEUROSCI.1042-22.2023> |  Preprint


31. †Jorgensen, N.A., Muscatell, K.A., **McCormick, E.M.**, Prinstein, M.J., Lindquist, K.A., & Telzer, E.H. (2023). Neighborhood Disadvantage, Race, and Neural Sensitivity to Social Threat and Reward among Adolescents. *Social Cognitive and Affective Neuroscience*, 18(1), 1-12. <https://doi.org/10.1093/scan/nsac053>

## 2022 (4)


30. †Metherell, T.E., Ghai, S., **McCormick, E.M.**, Ford T.J., & Orben, A. (2022). Digital exclusion predicts worse mental health among adolescents during COVID-19. *Scientific Reports*, 12, 19088. <https://doi.org/10.1038/s41598-022-23899-y> |  Rx Preprint


29. †Do, K.T., **McCormick, E.M.**, Prinstein, M.J., Lindquist, K.A., & Telzer, E.H. (2022). Intrinsic connectivity within the affective salience network moderates adolescent susceptibility to negative and positive peer norms. *Scientific Reports*, 12, 17463. <https://doi.org/10.1038/s41598-022-17780-1>

28. **McCormick, E.M.**, Arnemann, K.L., Ito, T., Hanson, S.J., & Cole, M.W. (2022). Latent functional connectivity underlying multiple brain states. *Network Neuroscience*, 6(2), 570-590. [https://doi.org/10.1162/netn\\_a\\_00234](https://doi.org/10.1162/netn_a_00234) |  Rx Preprint

27. Kievit, R.A, **McCormick, E.M.\***, Fuhrmann, D.\*, Deserno, M.\*, & Orben, A\*. (2022). Using large, publicly available data sets to study adolescent development: opportunities and challenges. *Current Opinion in Psychology*, 44, 303-308. \*denotes equal contribution <https://doi.org/10.1016/j.copsyc.2021.10.003> |  Preprint

## 2021 (3)

26. **McCormick, E.M.** (2021). Multi-Level Multi-Growth Models: New opportunities for addressing developmental theory using advanced longitudinal designs with planned missingness. *Developmental Cognitive Neuroscience*, 51, 101001. <https://doi.org/10.1016/j.dcn.2021.101001> |  Rx Preprint

25. **McCormick, E.M.**, Peters, S., Crone, E.A., & Telzer, E.H. (2021). Longitudinal Network Reorganization Across Learning and Development. *NeuroImage*, 229, 117784. <https://doi.org/10.1016/j.neuroimage.2021.117784> |  Rx Preprint

24. Duell, N., van Hoorn, J., **McCormick, E.M.**, Prinstein, M.J., & Telzer, E.H. (2021). Hormonal and neural correlates of prosocial conformity in adolescents. *Developmental Cognitive Neuroscience*, 48, 100936. <https://doi.org/10.1016/j.dcn.2021.100936>

## 2020 (4)

23. Kwon, S-J., Do, K.T., **McCormick, E.M.**, & Telzer, E.H. (2020). Neural correlates of conflicting social influence on adolescent risk-taking. *Journal of Research on Adolescence*, 31(1), 139-152. <https://doi.org/10.1111/jora.12587>

22. Do, K.T., **McCormick, E.M.**, & Telzer, E.H. (2020). Neural sensitivity to conflicting attitudes supports greater conformity toward positive over negative influence in early adolescence. *Developmental Cognitive Neuroscience*, 45, 100837. <https://doi.org/10.1016/j.dcn.2020.100837>

21. van Hoorn, J., **McCormick, E.M.**, Perino, M.T., Rogers, C.R., & Telzer, E.H. (2020). Differential behavioral and neural profiles in high-risk youth with conduct problems during risky decision-making. *Journal of Research on Adolescence*, 30(3), 599-615. <https://doi.org/10.1111/jora.12546>

20. Chen, X., **McCormick, E.M.**, Ravindran, N., Telzer, E.H., & McElwain, N.L. (2020). Maternal emotion socialization in early childhood predicts adolescents' amygdala-vmPFC functional connectivity to emotion faces. *Developmental Psychology*, 56(3), 503-515. <http://dx.doi.org/10.1037/dev0000852>

## 2019 (5)

19. Perino, M.T., Guassi Moreira, J., **McCormick, E.M.**, & Telzer, E.H. (2019). Apples to apples? Neural correlates of emotion regulation differences between high and low risk adolescents. *Social Cognitive and Affective Neuroscience*, 14(8), 827-836. <https://doi.org/10.1093/scan/nsz063>
18. Kwon, S-J., Ivory, S.L., **McCormick, E.M.**, & Telzer, E.H. (2019). Behavioral and neural dysregulation to social reward and links to internalizing symptoms in adolescents. *Frontiers in Behavioral Neuroscience*, 13, 158. <https://doi.org/10.3389/fnbeh.2019.00158>
17. **McCormick, E.M.**, McElwain, N.L., & Telzer, E.H. (2019). Alterations in adolescent dopaminergic systems as a function of early mother-toddler attachment: a prospective longitudinal examination. *International Journal of Developmental Neuroscience*, 78, 122-129. <https://doi.org/10.1016/j.ijdevneu.2019.06.010>
16. Do, K.T, **McCormick, E.M.**, & Telzer, E.H. (2019). The neural development of prosocial behavior from childhood to adolescence. *Social Cognitive and Affective Neuroscience*, 14(2), 129-139. <https://doi.org/10.1093/scan/nsy117>
15. **McCormick, E.M.**, Gates, K.M., & Telzer, E.H. (2019). Model-based network discovery of developmental and performance-related differences during risky decision-making. *NeuroImage*, 188, 456-464. <https://doi.org/10.1016/j.neuroimage.2018.12.042>

## 2018 (10)

14. **McCormick, E.M.**, & Telzer, E.H. (2018b). Contributions of default mode network stability and deactivation to adolescent task engagement. *Scientific Reports*, 8(1), 18049. <https://doi.org/10.1038/s41598-018-36269-4>
13. van Hoorn, J., **McCormick, E.M.**, Rogers, C.R., Ivory, S.L., & Telzer, E.H. (2018). Differential effects of parent and peer presence on neural correlates of risk taking in adolescence. *Social Cognitive and Affective Neuroscience*, 13(9), 945-955. <https://doi.org/10.1093/scan/nsy071>
12. **McCormick, E.M.**, van Hoorn, J., Cohen, J.R., & Telzer, E.H. (2018). Functional connectivity in the social brain across childhood and adolescence. *Social Cognitive and Affective Neuroscience*, 13(8), 819-830. <https://doi.org/10.1093/scan/nsy064>
11. Rogers, C.R., **McCormick, E.M.**, Van Hoorn, J., & Telzer, E.H. (2018). Neural correlates of sibling closeness and association with externalizing behavior in adolescence. *Social Cognitive and Affective Neuroscience*, 13(9), 977-988. <https://doi.org/10.1093/scan/nsy063>
10. Muscatell, K.A., **McCormick, E.M.**, & Telzer, E.H. (2018). Subjective social status and neural processing of race in Mexican American adolescents. *Development and Psychopathology*, 30(5), 1837-1848. <https://doi.org/10.1017/s0954579418000949>
9. van Hoorn, J., **McCormick, E.M.**, & Telzer, E.H. (2018). Moderate social sensitivity in a risky context supports adaptive decision-making in adolescence: Evidence from brain and behavior. *Social Cognitive and Affective Neuroscience*, 13(5), 546-556. <https://doi.org/10.1093/scan/nsy016>
8. Telzer, E.H., **McCormick, E.M.**, Peters, S., Cosme, D., Pfeifer, J.H., & van Duijvenvoorde, A.C.K. (2018). Methodological considerations for developmental longitudinal fMRI research. *Developmental Cognitive Neuroscience*, 33, 149-160. <https://doi.org/10.1016/j.dcn.2018.02.004>
7. **McCormick, E.M.**, Perino, M.T., & Telzer, E.H. (2018). Not just social sensitivity: Selective adolescent suppression of social feedback during risk taking. *Developmental Cognitive Neuroscience*, 30, 134-141. <https://doi.org/10.1016/j.dcn.2018.01.012>
6. **McCormick, E.M.**, & Telzer, E.H. (2018a). Not doomed to repeat: Enhanced neural tracking of errors promotes adaptive task performance during adolescence. *Journal of Cognitive Neuroscience*. 30(3), 281-289. [https://doi.org/10.1162/jocn\\_a\\_01206](https://doi.org/10.1162/jocn_a_01206)



5. Qu, Y., Pomerantz, E.M., **McCormick, E.M.**, & Telzer, E.H. (2018). Youth's conceptions of adolescence predict longitudinal changes in prefrontal cortex activation and risk taking. *Child Development*, 89(3), 773-783. <https://doi.org/10.1111/cdev.13017>

2017 (3)

4. **McCormick, E.M.**, Qu, Y., & Telzer, E.H. (2017). Activation in context: Differential conclusions drawn from cross-sectional and longitudinal analyses of adolescents' cognitive control-related neural activity. *Frontiers in Human Neuroscience*, 11, 141. <https://doi.org/10.3389/fnhum.2017.00141>

3. **McCormick, E.M.**, & Telzer, E.H. (2017b). Failure to retreat: Blunted sensitivity to negative feedback supports risky behavior in adolescents. *NeuroImage*, 147, 381-389. <http://dx.doi.org/10.1016/j.neuroimage.2016.12.041>

2. **McCormick, E.M.**, & Telzer, E.H. (2017a). Adaptive adolescent flexibility: Neurodevelopment of decision-making and learning in a risky context. *Journal of Cognitive Neuroscience*, 29, 413-423. [https://doi.org/10.1162/jocn\\_a\\_01061](https://doi.org/10.1162/jocn_a_01061)

2016 (1)

1. **McCormick, E.M.**, Qu, Y., & Telzer, E.H. (2016). Adolescent neurodevelopment of cognitive control and risk-taking in negative family contexts. *NeuroImage*, 124, 989-996. <http://dx.doi.org/10.1016/j.neuroimage.2015.09.063>

## BOOK CHAPTERS

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1. Curran, P.J., Strauss, C., **McCormick, E.M.**, & McGinley, J.S. (2023). A multivariate growth curve model for three-level data. In H. Cooper (Ed.) *APA Handbook of Research Methods in Psychology*, Second Edition. Washington, DC: American Psychological Association.

## MANUSCRIPTS UNDER REVIEW

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7. Adise, S., Machel, C.J., Myer, K.P., Ottino-Gonzalez J., **McCormick, E.M.**, Millstein, J., Goran, M.I., & Sowell, E.R. (*under review*). Smaller subcortical volume of the accumbens and caudate precede weight gain in youth with high financial adversity: findings from the ABCD Study. *Developmental Cognitive Neuroscience*.

6. Dugan, K., **et al.** (*stage 1 registered report under review*). A Prospective, Longitudinal Study of the Associations between Childhood and Adolescent Interpersonal Experiences and Adult Attachment Orientations. *Journal of Personality and Social Psychology*.

5. Brandmaier, A.M., Lindenberger, U., & **\*McCormick, E.M.** (*minor revision*). Optimal Two-Time Point Longitudinal Models for Estimating Individual-Level Change: Asymptotic Insights and Practical Implications. *Developmental Cognitive Neuroscience*.

4. †König, M., Smith, A., Moreno-Lopez L., Davidson, E., Dauvermann, M., Orellana, S., **McCormick, E.M.**, Kaçer, M., Ioannidis, K., & Van Harmelen, A.L. (*under review*). Friendship buffering effects on mental health symptoms before and during the COVID-19 pandemic: a UK longitudinal study of young people with childhood adversity. *Development and Psychopathology*.

3. **McCormick, E.M.** (*revision resubmitted*). Deriving models of change with interpretable parameters: linear estimation with nonlinear inference. *Psychometrika*.

2. †Leshin, J.C., **McCormick, E.M.**, Doyle, C.M., Gates, K.M., Nam, C.S., & Lindquist, K.A. (*under review*). Situating Brain Activity in Social and Cultural Contexts During Emotion. *Emotion*.

1. **McCormick, E.M.**, Borgeest, G.S., & Kievit, R.A. (*revise and resubmit*). Interrupted mediation: A cautionary note on using derived metrics as intervening variables in path models. *Perspectives on Psychological Science*.

8. **McCormick, E.M.**, & Sørensen, Ø. (*in prep*). Time-varying parameter dynamic structural equation modeling.
7. Sørensen, Ø., & **McCormick, E.M.** (*in prep*). Semiparametric estimation with time-varying covariates in dynamic structural equation models.
6. **McCormick, E.M.** (*in prep*). Bayesian linearized estimation for nonlinear growth models in time-unstructured data.
5. **McCormick, E.M.** (*in prep*). Formalizing and testing specific psychological theory using nonlinear models. \*proposal accepted at *Advances in Methods and Practices in Psychological Science*
4. Liu, Y., **McCormick, E.M.**, de Rooij, M., & Bakk, Z. (*in prep*). A Two-step estimator for growth mixture models with covariates.
3. Aczel, B., ..., **McCormick, E.M.**, ... & Nosek, B.A. (*in prep*). Investigating the analytical robustness of the social and behavioural sciences.
2. Schaaf, J.V., Sørensen, Ø., **McCormick, E.M.**, & Kievit, R.A. (*in prep*). Advocating a new standard for time series modeling: Asymmetrical temporal dynamics using thresholded dynamics parameters
1. **McCormick, E.M.** (*in prep*). Moderating the consequences of longitudinal change for distal outcomes.

INVITED TALK/WORKSHOP PRESENTATIONS (SINCE 2020)

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18. **McCormick, E.M.** (May 2024). Applications of longitudinal modeling to distal outcome research in the Gambia. Workshop presented to the BRIGHT Impact Group, University of Cambridge, Cambridge, UK.
17. **McCormick, E.M.** (April 2024). Introduction to Longitudinal Modeling. Workshop presented online to the University of the Sunshine Coast HDR/EMCR group, AU.
16. **McCormick, E.M.** (March 2024). Twins separated at birth? A discussion about Structural Equation Modeling and Multilevel Modeling. Talk presented online to the Jacobs Center for Productive Youth Development R Peer Mentoring Group, University Zürich, CH.
15. **McCormick, E.M.** (January 2024). Models of Change for Understanding Learning and Development. Talk presented to the University of Delaware School of Education, USA.
14. **McCormick, E.M.** (November 2023). Deriving models of change with interpretable parameters: linear estimation with nonlinear inference. Talk presented online to the Psicostats group, Università Delgi Studi Di Pavoda, IT.
13. **McCormick, E.M.** (September 2023). Mixed Effect and Structural Equation Modeling for Longitudinal Analysis. Talk presented online to the Quant Family Collective, USA.
12. **McCormick, E.M.** (September 2023). Introductory and Advanced Longitudinal Modeling. Workshops presented at the 2023 Flux Congress Annual Meeting, Santa Rosa, CA, USA.
11. **McCormick, E.M.** (March 2023). Introduction to Longitudinal Modeling. Workshop presented to the Department of Psychology & MRC Cognition and Brain Sciences Unit. Cambridge, UK.
10. **McCormick, E.M.** (February 2023). Time coding effects in latent growth factors as predictors of distal outcomes. Talk presented to the SEMantics Group, King's College London, London, UK.
9. **McCormick, E.M.** (February 2023). Introduction to SEM. Workshop presented to the Embodied Cognition Group, Aarhus University. Seville, ES.

8. **McCormick, E.M.** (November 2022). Introduction to SEM. Workshop presented to the Department of Experimental Psychology, University of Oxford. Oxford, UK.
7. **McCormick, E.M.** (October 2022). Establishing Trajectories in Longitudinal Models. Workshop presented to the University of Zürich Department of Psychology. Zürich, CH.
6. **McCormick, E.M.** (March 2022). Advanced considerations in longitudinal modeling. Pre-conference workshop presented at the 2022 Flux Congress Annual Meeting, Paris, FR.
5. **McCormick, E.M.** (March 2022). Selecting the right model for analyzing already-collected longitudinal data. Practical presented to the Fetal, Infant, & Toddler Neuroimaging Group (FIT'NG) Trainee Committee (remotely). <https://vimeo.com/691030727/2fdbfdcf2f>
4. **McCormick, E.M.**, (February 2022). Linking brain structure and behavioral variability in dynamic structural equation models. Talk presented as a part of the Mellenbergh Lecture Series for the Psychological Methods group at the University of Amsterdam, Amsterdam, NL (remotely). <https://sites.google.com/view/mellenberghlectures/lectures>
3. **McCormick, E.M.** (January 2022). Bringing dynamic structural equation models to bear to model inter-individual differences in intra-individual performance variability. Talk presented at the Radoud University Medical Center's Neurodevelopmental Disorders Group Meeting, Nijmegen, NL.
2. **McCormick, E.M.** (December 2020). Multi-level, multi-growth models: new opportunities for addressing developmental theory. Talk presented at the University of Melbourne, AU (remotely).
1. **McCormick, E.M.** (November 2020). Multi-level, multi-growth models: new opportunities for addressing developmental theory. Talks presented at Cambridge University, UK and the University of Oregon, OR, USA (remotely).

## CONFERENCE TALK PRESENTATIONS (SINCE 2020)

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9. **McCormick, E.M.** (June 2024). Deriving models of change with interpretable parameters: linear estimation with nonlinear inference. Talk to be presented at the Modern Modeling Methods (M<sup>3</sup>) Conference. University of Connecticut, Storrs, CT, USA.
8. **McCormick, E.M.** (May 2024). Deriving Models of Change with Interpretable Parameters: Linear Estimation with Nonlinear Inference. Talk and poster presented at the Association for Psychological Science 2024 Annual Convention. San Francisco, CA, USA.
7. **McCormick, E.M.** (March 2024). Bridging the gap between theoretical and statistical models in education and development. Talk presented at the Jacobs Research Foundation Annual Meeting, Barranquilla, CO.
6. **McCormick, E.M.** (March 2024). Latent Growth Factors as Predictors of Distal Outcomes. Talk presented at the Meeting of the Working Group Structural Equation Modeling, University of Twente, Enschede, NL.
5. **McCormick, E.M.** (March 2024). Deriving mixed-effects models of change with interpretable parameters: linear estimation with nonlinear inference. Talk presented at the International Congress on Multilevel Analysis, Utrecht University, Utrecht, NL.
4. **McCormick, E.M.** (September 2023). Using novel longitudinal models to test specific developmental hypotheses - examples in the study of adversity. Talk presented at the 2023 Flux Congress Annual Meeting, Santa Rosa, CA, USA.
3. **McCormick, E.M.**, Pagliaccio, D., Romeo, R.R., & Cardenas-Iniguez, C. (September 2022). Combatting LGBTQIA+ Discrimination in Access and Opportunity: A Call to Action for the Flux Society. Talk presented at the 2022 Flux Congress Annual Meeting, Paris, FR.



**2. McCormick, E.M.** (September 2022). Advanced Modeling of Longitudinal Data in Developmental Cognitive Neuroscience. Pre-conference Workshop presented at the 2022 Flux Congress Annual Meeting, Paris, FR.

**1. McCormick, E.M.** (September 2021). Leveraging missing data to model simultaneous growth processes. Talk presented at the 2021 Flux Congress Annual Meeting, Remote.

## CONFERENCE POSTER PRESENTATIONS

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**22.** Liu, Y., Bakk, Z., **McCormick, E.M.**, & De Rooij (July 2024). Two-step estimator for growth mixture model with covariates in the presence of direct effects. Poster to be presented at the 2024 International Meeting of the Psychometric Society, Prague, CZ.

**21.** **McCormick, E.M.**, Telzer, E.H., & Gates, K.M. (August 2019). Reliability in clustering solutions derived from resting state fMRI: Insights from the Human Connectome Project. Poster presented at the 2019 Flux Congress Annual Meeting, New York City, NY, USA.

**20.** Duell, N., Van Hoorn, J., **McCormick, E.M.**, & Telzer, E.H (August 2019). The culture of socioeconomic status and social reward processing in adolescence. Poster presented at the 2019 Flux Congress Annual Meeting, New York City, NY, USA.

**19.** Jorgensen, N.A., **McCormick, E.M.**, Lindquist, K.A., Prinstein, M.J., & Telzer, E.H (August 2019). The culture of socioeconomic status and social reward processing in adolescence. Poster presented at the 2019 Flux Congress Annual Meeting, New York City, NY, USA.

**18.** Kwon, S-J., Do, K.T., **McCormick, E.M.**, & Telzer, E.H (August 2019). Neural correlates of conflicting social influences on adolescent risk-taking. Poster presented at the 2019 Flux Congress Annual Meeting, New York City, NY, USA.

**17.** Ravindran, N., McElwain, N.L., **McCormick, E.M.**, & Telzer, E.H (March 2019). Warmth and negativity in mother-adolescent relationships: Associations with adolescents' neural responses to angry faces. Poster presented at the 2019 Biennial Meeting of the Society for Research in Child Development, Baltimore, MD, USA.

**16.** Chen, X., **McCormick, E.M.**, McElwain, N.L., & Telzer, E.H (March 2019). Maternal emotion talk in early childhood predicts adolescents' neural activity when labeling facial emotion. Poster presented at the 2019 Biennial Meeting of the Society for Research in Child Development, Baltimore, MD, USA.

**15.** **McCormick, E.M.**, & Telzer, E.H. (September 2018). Model-based network discovery of developmental and performance-related differences during risky decision-making. Poster presented at the 2018 Flux Congress Annual Meeting, Berlin, DE.

**14.** **McCormick, E.M.**, & Telzer, E.H. (May 2018). Functional dynamics of the social brain: Network insights from the Human Connectome Project. Poster presented at the 2018 Flux Society Satellite Conference, Chapel Hill, NC, USA.

**13.** Chen, X., **McCormick, E.M.**, McElwain, N.L., & Telzer, E.H. (May 2018). Maternal mental-state talk in early childhood predicts adolescents' neural activity to ambiguous facial emotions. Poster presented at the 2018 Flux Society Satellite Conference, Chapel Hill, NC, USA.

**12.** Qu, Y., Pomerantz, E.M., **McCormick, E.M.**, & Telzer, E.H. (April 2018). Youth's conceptions of adolescence predict longitudinal changes in prefrontal cortex activation and risk taking during adolescence. Poster presented at the 2018 Social for Research on Adolescence Biennial Meeting, Minneapolis, MN, USA.

**11.** Do, K.T., **McCormick, E.M.**, & Telzer, E.H. (April 2018). Is blood thicker than water? How conflicting parent and peer attitudes influence the neural correlates of adolescent conformity. Poster presented at the 2018 Social for Research on Adolescence Biennial Meeting, Minneapolis, MN, USA.

10. **McCormick, E.M.**, van Hoorn, J., & Telzer, E.H. (March 2017). Functional network architecture of the social brain during childhood and adolescence. Poster presented at the 2017 Flux Congress Annual Meeting, Portland, OR, USA.
9. Ivory, S.I., **McCormick, E.M.**, & Telzer, E.H. (March 2017). Can't fight this feeling: The impact of emotional faces on adolescents' cognitive control. Poster presented at the 2017 Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA, USA.
8. van Hoorn, J., **McCormick, E.M.**, & Telzer, E.H. (March 2017). Social learning and adaptive risk-taking in adolescence: Evidence from brain and behavior. Poster presented at the 2017 Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA, USA.
7. **McCormick, E.M.**, & Telzer, E.H. (March 2017). Not just social sensitivity: Selective adolescent suppression of social information during risk taking. Poster accepted to the 2017 Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA, USA.
6. **McCormick, E.M.**, & Telzer, E.H. (September 2016). Two roads diverge: Context-specific outcomes associated with decreased neural sensitivity to negative feedback during adolescence. Poster presented at the Fourth Annual Meeting of the Flux Congress, St. Louis, MO, USA.
5. **McCormick, E.M.**, & Telzer, E.H. (April 2016). Adaptive adolescent flexibility: Decision-making in a risky context. Poster presented at the 2016 Meeting of the Social and Affective Neuroscience Society, New York, NY, USA.
4. Do, K.T., **McCormick, E.M.**, & Telzer, E.H. (April 2016). Prosocial and social brain development from childhood to adolescence. Poster presented at the 2016 Meeting of the Social and Affective Neuroscience Society, New York, NY, USA.
3. **McCormick, E.M.**, & Telzer, E.H. (September 2015). Longitudinal links between negative family relationships and adolescent cognitive control-related neural processing. Poster presented at the Third Annual Meeting of the Flux Congress, Leiden, NL.
2. **McCormick, E.M.**, & Telzer, E.H. (September 2015). Longitudinal links between negative family relationships and adolescent cognitive control-related neural processing. Poster presented at the Satellite Meeting for the Society for Research in Child Development, Leiden, NL.
1. **McCormick, E.M.**, & Telzer, E.H. (April 2015). Necessity of longitudinal analyses for understanding the neural development of cognitive control. Poster presented at the 2015 Meeting of the Social and Affective Neuroscience Society, Boston, MA, USA.

## SUPERVISION

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Jacob Westlund	Leiden University, Supervisor <b>Masters Project &amp; Thesis</b> , Spring 2024: "Regularization approaches for combining heterogenous questionnaire data."	<i>2024</i>
Yuqi Liu	Leiden University, Supervisor <b>Masters Project &amp; Thesis</b> , Spring 2023: "Time-coding effects in Latent Class Growth Mixture Models." <b>PhD Thesis</b> , Fall 2023 - present: "Stepwise estimation approaches of growth mixture models."	<i>2023 - present</i>
Léa Michel	Radboud University Medical Center, Co-supervisor <b>PhD Thesis</b> , Fall 2021 - present: "The brain structural mechanisms of cognitive development"	<i>2023 - present</i>

## INSTITUTIONAL SERVICE

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Flux Strategic Plan Task Force	2023-2024
Quant Family Collective - Speaker and Faculty Mentor	2023 - present
Flux Diversity Working Group Member	2022 - present
Flux Diversity Session Planning Committee	2022
Flux LGBTQIA+ Affinity Group Coordinator	2021 - present
Flux Programme Committee Member	2022
Neuroscience Club Graduate School Panel, UNC	2019
fMRI Methodology & Coding Summer Seminar, UNC	2018
NeuroGrads Organizer, UNC	2018
Diversity Admissions Committee, UNC	2017 - 2018
Developmental Seminar Planning Committee, UNC	2017 - 2018
fMRI Methodology & Coding Summer Seminar, UNC	2017
fMRI Methodology & Coding Summer Seminar, UNC	2016
Graduate Student Recruitment Organizer, UIUC	2015 - 2016
fMRI Methodology Summer Seminar, UNC	2015

## PROFESSIONAL AFFILIATIONS

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Association for Psychological Science	Member
Flux Society for Developmental Cognitive Neuroscience	Member
Society for Multivariate Experimental Psychology	Invited Guest
Psychometric Society	Member
Society for Research on Child Development	Member

## AD HOC REVIEWER

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**Methodological Journals:** *Psychological Methods; Multivariate Behavioral Research; Structural Equation Modeling; Behavior Research Methods; Advances in Methods and Practices in Psychological Science (AMPPS)*

**Substantive Journals:** *Developmental Cognitive Neuroscience; Nature Neuroscience; Nature Communications; Trends in Cognitive Science; Journal of Neuroscience; Psychological Science; Child Development; Child Development Perspectives; Proceedings of the National Academy of Sciences (PNAS); Scientific Reports; Human Brain Mapping; Biological Psychiatry; Cognitive, Behavioral, and Affective Neuroscience; Social Cognitive and Affective Neuroscience; Cerebral Cortex; NeuroImage; Journal of Experimental Gerontology*

## TEACHING EXPERIENCE

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### Bachelors Courses

**Instructor**, *Multivariate Data Analysis* Spring 2023; 2024  
Leiden University

**Supervisor**, *Bachelors Project* Spring 2023  
Leiden University

**Instructor**, *Introduction to Statistics* Summer 2020  
University of North Carolina at Chapel Hill

### Masters & Ph.D. Courses

**Instructor**, *Psychometrics and Structural Equation Modeling* Fall 2023  
Leiden University

**Instructor**, *Regression Modeling* Fall 2023  
Leiden University

<b>Instructor</b> , <i>Applied Multivariate Data Analysis</i> Leiden University	<i>Spring 2023; 2024</i>
<b>Instructor</b> , <i>Data Visualization</i> Leiden University	<i>Spring 2023; 2024</i>
<b>Instructor</b> , <i>fMRI Data and Statistics</i> Leiden University	<i>Spring 2023; 2024</i>
<b>Supervisor</b> , <i>Masters Project</i> Leiden University	<i>Spring 2023; 2024</i>

## TECHNICAL STRENGTHS

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<b>Programming Languages</b>	R, Python, Julia, MATLAB, Bash
<b>Analysis Techniques</b>	ANOVA, Regression, Mediation, Moderation, Multi-Level Modeling, Structural Equation Modeling, Latent Curve Modeling, Dynamic Structure Equation Modeling, Time Series Analysis, Computational Modeling, Neural Network Analyses, Data Simulation, CART Analysis, Latent Class Analysis, Latent Profile Analysis, Mixture Models, Growth Mixture Models
<b>Statistical Software</b>	R, MPlus, SAS, Python, MATLAB, HLM, SPSS