

**Zixi Chen**

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**EDUCATION BACKGROUND**

Sep. 2015 – May. 2020 (Expected)

**Michigan State University**

East Lansing, MI, USA

College of Education

PhD candidate in *Measurement and Quantitative Methods*

Dissertation: *Sensitivity Analysis of Robust Standard Errors for Clustering Data with Latent Level of Clusters*

Committee: *Dr. Kenneth Frank (Chair), Dr. Jeffrey Wooldridge, Dr. Spyros Konstantopoulos, Dr. Kimberly Maier*

Sep. 2012 – Dec. 2014

**The Pennsylvania State University**

State College, PA, USA

College of Education

Master of Arts in *Educational Theory and Policy*

Dual title in *Comparative and International Education*

Minor in *Applied Statistics*

Sep. 2008 – Jun. 2012

**Hunan Normal University (湖南师范大学)**

Changsha, Hunan, China

College of Education

Bachelor in *English with Teaching Specialization*

**RESEARCH AREA & STATISTIC SKILLS**

**Research Interest:**

- Casual Inference of Quasi-experimental Designs
- Computational Social Science: Text Mining, Social Network Analysis

**Statistical and Data Analytic Skills:**

- Causal Inference: Difference-in-Difference, Comparative Interrupted Time Series, Value-added Models
- Hierarchical Linear Modeling

- Longitudinal Data Analysis
- Social Network Analysis
- Data Mining/Text-as-data Analysis
- Survey Design and Sampling
- Mixed Methods

**Statistical Software and Programming Language:**

Advanced: Stata, R

Proficient: SPSS, SQL

Familiar: Python

**METHODOLOGY TRAINING (Doctoral Level)**

**Credited Doctoral Level Courses**

Offered by Michigan State University

- CEP 920 Instrument Construction
- CEP 921 Psychometric Theory I
- CEP 923 Item Response Theory
- CEP 930 Inquiry in Education
- CEP 933 Quantitative Methods II
- CEP 934 Multivariate Statistics
- CEP 935 Hierarchical Linear Models
- CEP 991B Special Topics: Social Networks (I & II)
- STT 861 Theory of Probability & Statistics I
- STT 862 Theory of Probability & Statistics II
- HDFS 892 Structural Equation Modeling

**Long-term Workshops**

Offered by Summer Program in Quantitative Methods of Social Research (ICPSR)  
University of Michigan

- Exploratory Data Mining via SEARCH Strategies

Offered by Summer Institute in Computational Social Science (SICSS)  
Princeton University and University of Northwestern

- Computational Social Science

Offered by The Center for Integrated Latent Variable Research (CILVR)  
University of Maryland

- Latent Space Social Network Analysis

### Short-term Workshops

Offered by Center for Statistical Training and Consulting (CSTAT)  
Michigan State University

- Introduction to SAS
- Introduction to Text Mining
- Hierarchical Linear Models
- Introduction to Generalized Linear Models
- Introduction to Missing Data Analysis
- Introduction to Survival Analysis
- Introduction to Variable Selection in Regression
- Mediation and Moderation
- Item Response Theory: Introductory and Intermediate Aspects

### PROJECT AND TEACHING

In Michigan State University:

Teachers in Social Media Project  
(Sep. 2015 – Present)

East Lansing, Michigan

- Member of the quantitative analysis team, qualitative analysis team, as well as support for the computer science team.
- Develop and conduct more than 500 teacher surveys and interviews, then organized the cleaning of the data.
- Develop and conduct sampling design for a national-representative teacher sample in Pinterest
- Lead the record linkage of more than 300 teachers' Pinterest data with survey data and administrative data, then organized the cleaning of these multiple data resources.
- Lead in statistical modeling such as comparative interrupted time series (CITS) model, mixture growth models (MGM) and value-added models (VAM) with using teachers' social media big data, survey rich data, and administrative data.
- Lead in computational modeling, such as latent Dirichlet allocation (LDA), structural topic modeling (STM), sentiment analysis (SA) and emotion analysis (EA), using teachers' social media big data.
- Manage qualitative coding of teachers' Pinterest data based on cognitive levels and Common Core State Standards and conduct the inter-rater reliability (IRR).
- Develop and assist in grants application and writing with a specialization in formulating research questions and models.

## Teaching Assistant

(Aug. 2017 – May.2019)

East Lansing, Michigan

- Course CEP 933: Quantitative Methods 2  
(Supervised by Dr. Kenneth Frank)
- Course CEP 932: Quantitative Methods 1  
(Supervised by Dr. Spyros Konstantopoulos / Dr. Auðbjörg Björnsdóttir)
- Help in teaching R for the CEP 991B Social Network Analysis  
(Supervised by Dr. Kenneth Frank)

## Study of Elementary Mathematics Instruction (WTG &amp; NSF funded)

(May. 2017 – Aug. 2018)

East Lansing, Michigan

- Managed teacher survey and observational data archive and cleaning.
- Built and conduct advanced statistical models, such as Hierarchical Linear Modeling (HLM).
- Conduct measurement analysis, such as factor analysis.

## Immigration and education and curriculum development for global education

(Jun. 2016 – Jul. 2016)

Maastricht, Netherlands

- Participated in developing a speaking test for immigrant children in a local refugee institution of Maastricht.
- Led in analysis of the reliability and validity of the speaking test.

**PUBLICATIONS**

Liu\*, Y., Torphy\*, K., Hu, S., Tang, J., & **Chen, Z.** (Forthcoming) *Examining the Virtual Diffusion of Educational Resources Across Teachers Social Networks Over Time.* Frank, K., Daly, A., & Greenhow, K., Torphy, K. (Eds.). Teachers College Record Yearbook

Lane, J., Boggs, B., & **Chen, Z.** (Forthcoming) *Conceptualizing Virtual Instructional Resource Use in an Era of Greater Centralization, Specification of Quality Instructional Practices, and Proliferation of Instructional Resources.* Frank, K., Daly, A., & Greenhow, K., Torphy, K. (Eds.). Teachers College Record Yearbook

Torphy, K., Hu, S., Liu, Y., & **Chen, Z.** (Revision Submitted) *Teachers turning to teachers: Teacherpreneurial behaviors in social media.* American Journal of Education

Liu, Y., Torphy, K., & **Chen, Z.** (Revision Submitted) *Sources of Professional Support: Patterns of Teachers' Curation of Instructional Resources in Social Media.* American Journal of Education

Hu, S., Torphy, K., & **Chen, Z.** (Invited Submission and Under Review) *Teachers Understanding Teacher Identities within Physical and Virtual Spaces as Social Capital: A Social Network Approach*. Journal of Research for Mathematics Education

### CONFERENCE PRESENTATIONS

Hu, S., Torphy, K., **Chen, Z.**, & Eagen, B., (2018, July) *How Do US Teachers Align Instructional Resources to The Common Core State Standards: A Case of Pinterest*. Presented at the International Conference on Social Media & Society (SMSociety), Copenhagen, Denmark

Frank, K., Kim, J., Jansen, K., Liu Y., **Chen, Z.**, Youngs, P., Salloum, S., & Bieda K. (2018, April) *Direct and Mediated Effects of Professional Development on Ambitious Math Instruction*. Presented at the American Educational Research Association, New York City, USA

**Chen, Z.**, Torphy, K., Hu, S., Salloum, S., Liu, Y., & McConnell, K. (2018, March). *Indiana Elementary Teachers' Response to High-stake IREAD-3 Assessment Policy: Evidence from Teachers' Informal Professional Resource Acquisition within Pinterest*. Presented at the Association for Education Finance and Policy Conference, Portland, USA

**Chen, Z.**, Torphy, K., Hu, S., & Liu, Y (2017, May). *Informal instructional resource acquisition and diffusion within Pinterest: A study of early career teachers' physical and virtual social networks*. Presented at the International Network for Social Network Analysis Conference, Beijing, China

Liu, Y., Torphy, K., Hu, S., **Chen, Z.**, & Martin, K. (2016, April). *Examining the Virtual Diffusion of Educational Resources Across One- and Two-Mode Networks Over Time*. Presented at the American Educational Research Association Annual Meeting, San Antonio, Texas, USA

Torphy, K., Hu, S., **Chen, Z.**, Liu, Y., & Jurasek, A. (2016, April). *Early Career Teachers' Active Engagement in Social Media: A Comparison Study of Social Interactions across Physical and Virtual Spaces*. Presented at the International Network for Social Network Analysis Conference, Newport, CA, USA

Fu, T., & **Chen, Z.** (2015, April). *Facing the New Challenges to Educational Leadership in China: Rising Racism, Institutional Barriers and Adaptive Strategies*. Presented at the American Educational Research Association Annual Meeting, Chicago, IL, USA

**Chen, Z.** (2015, March). *College Aspirations of Rural Left-behind Children in China: Do Parental Involvement and Household Financial Contribution Matter*. Presented at the Comparative and International Education Society Annual Meeting, Washington, DC, USA

### **SCHOLAR WORK IN PREPARATION**

**Chen, Z.** & Torphy, K. (2019). *Embeddedness Crossing Over: The effects of physical and virtual collegial relations on teachers' virtual resource acquisition*. Journal of Computers and Education

**Chen, Z.**, Shi, X., Zhang, W., & Qu, L. (2019). *Understanding Teacher Emotions in and out of Schools: A Text-as-data approach using Big Data from Online Teacher Forums*. Journal of Educational Psychology (Special issue in: Teacher Emotions Matter: Nature, Antecedents, and Effects)

**Chen, Z.**, Torphy, K., Tait, J., Karimi, H. (2020). *Beyond teaching to the standards: A text-as-data approach to learn how teachers' curate online math instructional resources to align with CCSS math standards*. The American Educational Research Association Annual Meeting, 2020

**Chen, Z.** (2020). *Robust Inferences of Educational Data with Latent Clusters: A Sensitivity Analysis for Practitioners*. The American Educational Research Association Annual Meeting, 2020

### **FELLOWSHIPS**

May. 2019, Summer Research Fellowship (\$6,000), College of Education, Michigan State University.

- A Latent Dirichlet Allocation Approach of Teachers' Curation of Instructional Resources Behaviors Online

Aug. 2017, Fellowship to ICPSR Summer Program in Quantitative Methods of Social Research: Course of Exploratory Data Mining via SEARCH Strategies, University of Michigan.

Jun. 2016, Fellowship to Enhance Global Understanding (Immigration and education and curriculum development for global education: Fellowship to Netherlands), College of Education, Michigan State University.

## **REFERENCES**

Dr. Kenneth Frank  
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*College of Education, Michigan State University*

Dr. Jiliang Tang  
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*College of Engineering, Michigan State University*

Dr. Kaitlin Torphy  
*torphyka@msu.edu*  
*College of Education, Michigan State University*

Dr. Spyros Konstantopoulos  
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