

DUNCAN J. MAYER, Ph.D.

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PROFESSIONAL SUMMARY

I am a social scientist and statistician with over 7 years of experience using rigorous data science, research, and evaluation methods to understand programs, policies, and behaviors. I have experience designing and leading projects with academic, government, and private sector stakeholders, in research, consulting, and technical assistance across such areas as child welfare and health, criminal justice, community development, education and workforce development, and capacity building. I excel at research dissemination and have communicated results and recommendations to audiences with a range of technical sophistication.

I am skilled in methodologies used throughout the social sciences and have developed expertise in a range of quantitative approaches, particularly the design and analysis of quasi-experimental designs and hierarchical models. I use a modern computational workflow including version control, and am literate in R, SQL, as well as domain specific languages. I can quickly orient myself to new projects, and have experience working with diverse data sources: structured and unstructured data, as well as relational databases, administrative data, and surveys.

SKILLS

Quantitative: Survey Design and Analysis, Instrument Development, (Generalized) Linear Models, Longitudinal Data Analysis, Hierarchical Models, Model Criticism, and Spatial Statistics

Qualitative: Focus Groups, Interviews, Content Analysis, and Case Studies

Programming: R (8 years) | SQL (4 years) | Stan (3 years)

PROFESSIONAL EXPERIENCE

[BeVera Solutions](#)

Statistician (full-time)

Atlanta, GA

Sept. 2022 – Present

In a client facing role as a statistician at a data science consulting firm I contributed to project proposals, provided ongoing statistical support, and led and managed the methodological development of studies addressing internal questions for the Centers for Disease Control and Prevention. I worked with a large database of demographic and vaccination information (all US federal, jurisdictional, and pharmacy records) to monitor public health programs. I built a probabilistic matching algorithm to improve data quality and reduce duplication. I constructed and validated datasets, wrote SQL queries and merged administrative and public data, and led data analysis for studies of health equity within federal agencies using modern computational methods. I proposed and developed jurisdictional data visibility studies to support jurisdictional partners: dis-aggregating and mapping vaccine receipt by submission revealing gaps in visibility for jurisdictional partners.

[Case Western Reserve University](#)

Research fellow (full-time)

Cleveland, OH

Aug. 2018 – June. 2022

As a research fellow with the [Center on Poverty and Community Development](#) I developed a research portfolio focused on novel quantitative methodologies, program evaluation, and empirical studies of the distribution of community resources using modern computational methods. I built a novel hierarchical model for small area estimation which reduces bias by incorporating uncertainty in sampling and validated the model through simulation. I quantified the relationship between location, agglomeration, and organizational performance using generalized additive models with point-reference data. I geocoded and merged 10 years of data from disparate sources (APIs, administrative records, web scraping), and estimated hierarchical models which account for spatial and non-spatial heterogeneity to study juvenile delinquency, child maltreatment, and infant mortality. I disseminated these results in academic journals and presentations. Finally, I taught bachelors and master's level courses in research and community practice, and developed a programming course for the [data science for social impact](#) certificate.

**The Institute for Public Policy and Economic
Development**

Wilkes-Barre, PA

Research Analyst (full-time)

July 2017 – June 2018

As a research analyst at a community based research organization I co-authored and led data analysis for funded empirical research projects including an analysis of the region's workforce trends using model-based projections of workforce needs, an impact evaluation of apprenticeship and early education programs using administrative data, and out-migration of college graduates using survey data. I ran focus groups as part of needs assessments for the United Way and the Area Agency on Aging. I regularly provided consultation and technical assistance to health and human service oriented nonprofits and foundations, including evaluation capacity building by developing implementation and monitoring plans.

Marywood University

Scranton, PA

Research Assistant (part-time)

January 2017 – July 2017

While completing a masters degree I provided quantitative methodological support for a case control study, with a probability sample, of behavioral interventions and expulsion rates in childcare centers across northeast Pennsylvania. I managed the study's data collection, including administrative and survey data, led data analysis and visualization.

**United Way of Lackawanna, Wayne, and Pike
Counties**

Scranton, PA

Community Impact Intern (Part-time)

Sept. 2016 – June 2017

While completing a masters degree I worked with the region's United Way to provide technical assistance to grantees, enhancing their data capture and evaluation efforts. I analyzed educational assessments for change over time, educated partners on census products to understand the region, and developed briefs and primers for task forces focused on a range of social and health issues.

**The Institute for Public Policy and Economic
Development**

Wilkes-Barre, PA

Research Intern (Part-time)

Dec. 2016 – June 2017

In the time between finishing my bachelors and beginning my masters degree, I worked with a community based research organization and contributed to funded research projects by collecting and analyzing survey data related to child welfare workforce development and job satisfaction, and developing literature reviews related to kindergarten truancy and the effect of the coal economy on northeast Pennsylvania.

**United Neighborhood Centers of Northeast
Pennsylvania**

Scranton, PA

Social Work Intern (Part-time)

Dec. 2015 – June 2016

During course work for a bachelors degree I worked with a local human service agency providing case management for clients in emergency situations such as utility shut-offs, eviction, and foreclosure.

Prevention Point Philadelphia

Philadelphia, PA

Social Work Intern (Full-time)

May. 2015 – August 2015

While completing a bachelors degree I worked with a community health organization focused on harm reduction and substance use. I provided case management to a rotating caseload of 5-10 clients in a medication assisted treatment program, distributed resources for wound care and safe injection, and helped manage inventory in the syringe exchange program.

EDUCATION

Case Western Reserve University

PhD in Social Welfare

Dissertation: Essays on Community-Organization Dynamics

Cleveland, OH

August 2023

Marywood University

Masters of Social Work

Thesis: Evaluation Capacity; Structures, Stakeholders, Attitudes, and Environment

Scranton, PA

May 2017

Bachelors of Social Work

May 2015

SELECT HONORS

Case Western Reserve University Social Justice Institute Research Fellow

2022-2023

Association for Research on Nonprofit Organizations and Voluntary Action Doctoral Fellow

2022

Jack, Joseph and Morton Mandel School of Applied Social Sciences Research Fellow

2018-2022

PUBLICATIONS

Peer-Reviewed Publications

Mayer, D. J., Groza, V. (2023). Promoting Children's Rights in Program Evaluation. *American Journal of Evaluation*. DOI: [10.1177/10982140221134621](https://doi.org/10.1177/10982140221134621)

Mayer, D. J., Fischer, R. L. (2023). Teaching Spatial Data Analysis; A Case Study with Recommendations. *Nonprofit Policy Forum*. DOI: [10.1515/npf-2022-0044](https://doi.org/10.1515/npf-2022-0044)

Mayer, D. J. (2023). Understanding Location and Density; A Spatial Analysis of Cuyahoga County Ohio's Nonprofit Sector. *Nonprofit and Voluntary Sector Quarterly*. DOI: [10.1177/08997640231171074](https://doi.org/10.1177/08997640231171074)

Mayer, D. J., Fischer, R. L. (2023). Exploring Niche Alteration in Nonprofit Organizations. *Administration and Society*. DOI: [10.1177/00953997231165255](https://doi.org/10.1177/00953997231165255)

Mayer, D. J. (2023). Social Capital and the Nonprofit Infrastructure; An Ecological Study of Child Maltreatment. *Journal of Community Psychology*. DOI: [10.1002/jcop.22984](https://doi.org/10.1002/jcop.22984)

Mayer, D. J. (2023). Understanding Social Disorganization and the Nonprofit Infrastructure; An Ecological Study of Child Maltreatment Rates. *Social Currents*. DOI: [10.1177/23294965231159317](https://doi.org/10.1177/23294965231159317)

Mayer, D. J., Fischer, R. L. (2023). Exploring Data Use in Nonprofit Organizations. *Evaluation and Program Planning*. DOI: [10.1016/j.evalproplan.2022.102197](https://doi.org/10.1016/j.evalproplan.2022.102197)

Mayer, D. J. (2022). Simmer Down Now! A Study of Revenue Volatility and Dissolution in Nonprofit Organizations. *Nonprofit and Voluntary Sector Quarterly*. DOI: [10.1177/08997640221126147](https://doi.org/10.1177/08997640221126147)

Mayer, D. J., Fischer, R. L. (2022). Can a Measurement Error Perspective Improve Estimation in Neighborhood Effects Research? A Hierarchical Bayesian Methodology. *Social Science Quarterly*. DOI: [10.1111/ssqu.13190](https://doi.org/10.1111/ssqu.13190)

Manuscripts Under Review

Mayer, D. J. (revise and resubmit, 2nd round). Connecting Founding and Dissolution; A Demographic Study of The US Nonprofit Sector. *Public Administration Review*.

Mayer, D. J. (revise and resubmit, 2nd round). Lead and Delinquency Rates; A Spatio-Temporal Perspective. *Social Science and Medicine*.

Mayer, D. J. (revise and resubmit). Spatial Patterns of Nonprofit Founding; Toward a Local Ecology. *Nonprofit and Voluntary Sector Quarterly*.

Mayer, D. J. (revise and resubmit). Revisiting Portfolio Composition and Volatility: Short- and Long-Term Perspectives. *Journal of Public and Nonprofit Affairs*.

Mayer, D. J. (under review). Spatial Disparities in Infant Mortality: The Role of Neighborhood Characteristics. *Journal of Maternal and Child Health*.

Mayer, D. J. (under review). Revealed Preference for Nonprofit Organizations; A Hedonic Price Analysis. *Social Science Research*.

Mayer, D. J. (under review). Exploring Variation in the Relationship Between Deprivation and the Density of Human Service Nonprofits. *Administration and Society*.

Book Chapters and Reviews

Fischer, R. L., **Mayer, D. J.** (2022) Nonprofit Management: Beyond Managerialism. In W. Brown, M. Hale (eds). *Preparing Nonprofit Leaders: Contemporary Perspectives*. Routledge. ISBN: [9781032277806](#)

Fischer, R. L., **Mayer, D. J.** (2020). Macro Social Work Practice: Working for Change in a Multicultural Society. *Journal of Teaching in Social Work*. DOI: [10.1080/08841233.2020.1809257](#)

Select Professional or Technical Reports

Fischer, R., Mansoor, D., **Mayer, D. J.** (2020). A Study of the Educational Needs of Fundraising and Grant Making Professionals in Northeast Ohio.

Atwell, M., Fischer, R., L., Chan, T, **Mayer, D. J.**, Henderson, M. (2019). Year Two Gap Analysis: Accountable Health Communities. The Center on Poverty and Community Development.

Ooms, T., Chew, A., **Mayer, D. J.** (2018). Senior Needs Assessment: 2018. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., **Mayer, D. J.**, Ritter, C. (2018). Berwick Community Needs Assessment. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., McCormick, E., **Mayer, D. J.** (2018). The Intersection of Transit and Land Use. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., **Mayer, D. J.**, McCormick, E. (2018). Social Determinants of Health. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., **Mayer, D. J.**, McCormick, E. (2018). Health Literacy: A Public Health Challenge. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., **Mayer, D. J.**, McCormick, E. (2018). What's Next? A Technical Report on 2018 Post-Graduation Polls. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., **Mayer, D. J.**, McCormick, E. (2018). The Nonprofit Social Service Sector in Luzerne and Lackawanna Counties. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., McCormick, E., **Mayer, D. J.** (2018). Workforce Trends and Challenges in Northeastern Pennsylvania. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., McCormick, E., **Mayer, D. J.** (2018). The Behavioral Health Initiative: A Report on the Behavioral Health Workforce. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Ooms, T., Chew, A., McCormick, E., **Mayer, D. J.** (2017). Public Policy and Civic Engagement: A Technical Report on 2017 Polls. Wilkes-Barre, PA: The Institute for Public Policy and Economic Development.

Mayer, D. J. (2017). Preschool and Dibels Assessments. Scranton, PA: United Way of Lackawanna and Wayne Counties.

MEDIA

[“Mandel School’s Duncan Mayer, Victor Groza write paper on children’s rights in program evaluation”](#), featured in Case Western Reserve University’s “the Daily.” September 1st, 2023.

[“Mandel School’s Duncan Mayer explores nonprofit location and density”](#), featured in Case Western Reserve University’s “the Daily.” June 23rd, 2023.

[“Mandel School’s Duncan Mayer writes about child maltreatment”](#), featured in Case Western Reserve University’s “the Daily.” May 12th, 2023.

[“Duncan Mayer writes about revenue volatility”](#), featured in Case Western Reserve University’s “the Daily.” December 2nd, 2022.

PRESENTATIONS

Presentations at National Conferences

Mayer, D. J. (2022, accepted but not presented). Understanding Social Disorganization and the Nonprofit Infrastructure; An Ecological Study of Child Maltreatment Rates. The Society for Social Work Research. Juried poster presentation.

Mayer, D. J. (2022). Revealed Preference for Nonprofit Organizations; A Hedonic Price Analysis. Annual Conference of the Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA). Juried paper presentation.

Mayer, D. J. (2022). Nonprofit Response to Neighborhood Conditions: Incorporating Space-Time Heterogeneity. Annual Conference of the Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA). Juried paper presentation.

Mayer, D. J., Fischer, R. L. (2021). Examining Revenue Volatility in Nonprofit Organizations with a Discussion of Measurement and Portfolio Representation. Annual Conference of the Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA). Juried paper presentation.

Presentations at Local Conferences

Mayer, D. J. (2022). Understanding the Geography of Cuyahoga County's Nonprofit Sector Through Form-990 Data. Data Days Cleveland. Juried oral presentation.

Mayer, D. J. (2017). Evaluation Capacity: Structures, Stakeholders, Attitudes, and Environment. Annual Conference of the National Association of Social Workers, Pennsylvania. Juried poster presentation.

TEACHING (AND RELATED) EXPERIENCE

Instructor of Record

Case Western Reserve University

Evidence-informed practice (SASS 528)

Masters of Social Work: 2021 (in-person), 2022 (online)

Theoretical contexts shaping community practice (SASS 534)

Masters of Social Work: 2021 (online), 2022 (in-person)

Poverty, wealth building, and social entrepreneurship (SASS 367)

Social Work Minor: 2020 (online)

Course Development

Case Western Reserve University

Working with data for organizational empowerment (SASS 500)

Masters of Social Work, Certificate in Data Sciences for Social Impact, Approved 2021

Community practice policy: Analyzing and changing social policy (SASS 561)

Masters of Social Work, Approved 2020 (online)

Teaching Assistant

Case Western Reserve University

Data-based decision making (SASS 410)

Masters of Nonprofit Organizations, 2020 (online)

Theoretical contexts shaping community practice (SASS 534)

Masters of Social Work, 2019-2021 (online/in-person)

Community practice policy: Analyzing and changing social policy (SASS 561)

Masters of Social Work, 2019-2021 (online/in-person)

Marywood University

Social work research: Implementation and analysis (SW 702)

Masters of Social Work, 2017 (in-person)

SERVICE AND LEADERSHIP

Member, Case Western Reserve University Social Welfare
PhD Executive Committee

2017-2019

Member, Case Western Reserve University Masters of Social
Work Community Practice Curriculum Committee

2019

Ad hoc Reviewer: Nonprofit Management and Leadership, City and Community, Nonprofit and Voluntary Sector Quarterly