

# Nathan J. Doogan

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CONTACT INFORMATION College of Public Health  
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OBJECTIVE A faculty position at a research oriented university in a social science unit with an emphasis towards any or all of my areas of interest

RESEARCH INTERESTS

*Addiction:* Particularly peer-oriented recovery contexts

*Tobacco Control:* Health equity and social justice in relation to tobacco, with a current focus on rural tobacco use disparities

*Networks:* Many natural and engineered systems—including social systems—consist of multiple interrelated parts and are therefore well represented by and studied as networks

EDUCATION

**The Ohio State University**, Columbus, Ohio USA

- *Ph.D., Social Work, Spring 2014*
  - Specialization: system science
  - Dissertation topic: therapeutic community resident semantic networks and recidivism outcomes
  - Adviser: Professor Keith Warren
- *Master of Social Work, Spring 2008*
  - Thesis topic: exploring therapeutic community residential interactions using agent-based modeling
  - Internship: Franklin Co. Alcohol, Drug, and Mental Health Board
  - Adviser: Professor Keith Warren
- *B.S., Social Work, Spring 2006*
  - Internship: home-based counseling at Directions for Youth and Families in Columbus, OH

PROFESSIONAL EXPERIENCE

**The Ohio State University (OSU)**, Columbus, OH

- *Post Doctoral Fellow with Mary Ellen Wewers (Public Health) . . . . . 7/2014—7/2017*
  - National Institutes of Health post-doctoral trainee
  - experiences: project leadership, collaboration, personnel training, presentation, grant and manuscript writing, data analysis and modeling work
- *Grad. Research Associate with Alicia Bunger (Soc. Work) . . . . . 8/2013—6/2014*
  - questionnaire design
  - focus group facilitation
  - electronic survey data collection
- *Grad. Student Lecturer—Research & Stats. (Soc. Work) . . . . . 9/2011—6/2012*
  - three course series including basic research, statistics, and facilitation of hands-on group research experience (see Teaching section below)

- *Grad. Research Associate with Dana Haynie (Sociology)* ..... 7/2011—8/2012
  - longitudinal social network and behavior coevolution modeling
  - grant proposal and manuscript preparation
  - substantial work with Add Health data
- *Grad. Research Associate with Keith Warren (Soc. Work)* ..... 9/2008—6/2011
  - management of large longitudinal relational data set
  - longitudinal social network analysis
  - agent-based model programming and exploration
  - manuscript preparation
- *Work Study with Keith Warren (Soc. Work)* ..... 9/2007—6/2008
  - agent-based model design and programming (NetLogo)
  - pilot study for NIDA grant application
  - literature review

**Directions for Youth and Families, Columbus OH**

- *Licensed Social Worker* ..... 7/2006—8/2007
  - home-based counseling for adolescent youth

TEACHING

**Lead Lecturer in Three-Course Undergraduate Research Series**

- *Introduction to Research Methods (SWK 571)* ..... Fall 2011
  - primarily lectured a classroom of approximately 25 students
- *Introduction to Statistics for Social Scientists (SWK 570)* ..... Winter 2012
  - lecture (25 students) and lab section (12 students)
  - developed high quality specialized visuals to convey complicated material
  - developed hands-on lab section for practicing inferential statistical analyses
- *Applied Research (SWK 572)* ..... Spring 2012
  - interactive group work and lecture with 25 students
  - guided design and execution of small group-based research projects
  - facilitated student research symposium with faculty judges

**Teaching Assistant**

- *Introduction to Statistics for Social Scientists (SWK 570)* ..... Fall 2010
  - design of data and analysis examples
  - interactive computer lab sessions

REFEREED  
PUBLICATIONS

- Brasky, T. M., Hinton, A., **Doogan, N. J.**, Krygowski, S., Nagaraja, H. N., Xi, W., Shields, P. G. & Wewers, M. E. (2017). Characteristics of a newly created cohort of adult tobacco users in urban and rural Ohio: the Tobacco User Adult Cohort (TUAC). Accepted by *Tobacco Regulatory Science*.
- Kurti, A. N., Redner, R., Lopez, A. A., Keith D. R., Villanti, A., Stanton, C. A., Gaalema, D. E., Bunn, J., **Doogan, N. J.**, Cepeda-Benito, A., Roberts, M. E., Phillips, M. D. & Higgins, S. T. (2017). Tobacco and Nicotine Delivery Product Use in a National Sample of Pregnant Women. In press: *Preventive Medicine*.

- Nemeth, J., Thomson, T., Lu, B., Peng, J., Krebs, V., **Doogan, N. J.**, Ferketich, A., Browning, C., Paskett, E. & Wewers, M. E. (2017). A social-contextual investigation of smoking among rural women: multi-level factors associated with smoking status and considerations for cessation. In press: *Rural & Remote Health*.
- Roberts, M. E., **Doogan, N. J.**, Stanton, C. A., Quisenberry, A. J., Villanti, A., Gaalema, D. E., Keith, D. R., Kurti, A. N., Lopez, A. A., Redner, R., Cepeda-Benito, A. & Higgins, S. T. (2017). Rural vs. urban use of traditional and emerging tobacco products in the United States, 2013-2014. In press: *American Journal of Public Health*.
- Keith D. R., Stanton, C. A., Gaalema, D. E., Bunn, J. Y., **Doogan, N. J.**, Redner, R., Kurti, A. N., Cepeda-Benito, A., Lopez, A. A., Morehead, A. L., Roberts, M. E., Higgins, S. T. (2017). Disparities in US healthcare provider screening and advice for cessation across chronic medical conditions and tobacco products. *Journal of General Internal Medicine*, 32(9), 974–980.
- Doogan, N. J.**, Roberts, M. E., Wewers, M. E., Stanton, C. A., Keith, D. R., Gaalema, D. E., Kurti, A. N., Redner, R., Cepeda-Benito, A., Lopez, A.A. & Higgins, S.T. (2017). A growing geographic disparity: Rural and urban cigarette smoking trends in the United States. In press: *Preventive Medicine*.
- Doogan, N. J.**, Wewers, M. E. & Berman, M. (2017). The impact of a federal cigarette minimum pack price policy on cigarette use in the United States. In press: *Tobacco Control*.
- Doogan, N. J.** & Warren, K. (2017). Saving my life: Dynamics of peer and staff corrections among therapeutic community residents. *Substance Use & Misuse*, 52(11), 1429–1438.
- Doogan, N. J.** & Warren, K. (2016). A network of helping: Generalized reciprocity and cooperative behavior in response to peer and staff affirmations and corrections among therapeutic community residents. *Addiction Research & Theory*, 25(3), 243–250.
- Lam, J., Lu, B., **Doogan, N. J.**, Thomson, T., Ferketich, A., Paskett, E. & Wewers, M.E. (2016). Depressive Symptomatology and Social Network Characteristics in Ohio Appalachian Women. In press: *Journal of Rural Mental Health*.
- Doogan, N. J.** & Warren, K. (2016). Semantic networks, schema change, and reincarceration outcomes of therapeutic community graduates. *Journal of Substance Abuse Treatment*, 70, 7–13.
- Stanton, C. A., Keith, D. R., Gaalema, D. E., Bunn, J. Y., **Doogan, N. J.**, Redner, R., Kurti, A. N., Roberts, M. E., Higgins, S. T. (2016). Trends in tobacco use among US adults with chronic health conditions: National Survey on Drug Use and Health 2005-2013. *Preventive Medicine*, 92, 160–168.
- Roberts, M., **Doogan, N. J.**, Kurti, A. N., Redner, R., Gaalema, D. E., Stanton, C. A., White, T. J., Higgins, S. T. (2016). Rural tobacco use across the United States: How rural and urban areas differ, broken down by census regions and divisions. *Health & Place*, 39, 153–159.
- Thomson, T. L., Krebs, V., Nemeth, J. M., Lu, B., Peng, J., **Doogan, N. J.**, Ferketich, A. K., Post, D. M., Browning, C. R., Paskett, E. D., Wewers, M. E. (2016). Social networks and smoking in rural women: Intervention implications. *American Journal of Health Behavior*, 40(4), 405–415.

- Cifuentes, P., **Doogan, N. J.**, Fernandez, S., Seiber, E. (2016). The factors shaping Americans' objective well-being: A systems science approach with network analysis. In press at *Journal of Policy Models*. Available online at <http://dx.doi.org/10.1016/j.jpolmod.2016.03.008>
- Higgins, S. T., Kurti, A. N., Redner, R., White, T. J., Keith, D. R., Gaalema, D. E., Stanton, C. A., Roberts, M. E., **Doogan, N. J.** & Priest, J. (2016). Co-occurring risk factors for current cigarette smoking in a U.S. nationally representative sample. *Preventive Medicine, 92*, 110–117.
- Higgins, S. T., Kurti, A. N., Redner, R., White, T. J., Gaalema, D. E., Roberts, M. E., **Doogan, N. J.**, Tidey, J. W., Miller, M. E., Stanton, C. A., Henningfield, J. E., Atwood, G. S. (2015). A review of the literature on prevalence of gender differences and intersections with other vulnerabilities to tobacco use in the United States, 2004–2014. *Preventive Medicine, 80*, 89–100.
- Bunger, A., Hanson, R., **Doogan, N. J.**, Powell, B., Cao, Y., & Dunn, J. (2014). Can learning collaboratives support implementation by rewiring professional networks? *Administration and Policy in Mental Health and Mental Health Services Research*, Dec., 43(1), 72-92.
- Warren, K., **Doogan, N. J.** (2014). Community as method, community as net: Social network analysis as a tool for studying mutual aid between therapeutic community residents. In: *The Routledge Handbook of Applied Systems Science*, edited by Zachary Neal.
- Bunger, A., **Doogan, N. J.** & Cao, Y. (2014). Building service delivery networks: Partnership evolution among children's behavioral health agencies. *Journal of The Society for Social Work Research, 5*(4), 513–538.
- Haynie, D., **Doogan, N. J.** & Soller, B. (2014). Gender, friendship networks, and delinquency: A dynamic network approach. *Criminology, 52*(4), 688–722.
- Warren, K., **Doogan, N. J.**, De Leon, G., Phillips, G., Moody, J. & Hodge, A. (2013). Short-run prosocial behavior in response to receiving corrections and affirmations in three therapeutic communities. *Journal of Offender Rehabilitation, 52*(4), 270-286.
- Warren, K., Hiance, D., **Doogan, N. J.**, Phillips, G. & De Leon, G. (2013). Verbal feedback in therapeutic communities: Pull-ups and reciprocated pull-ups as predictors of graduation. *Journal of Substance Abuse Treatment, 44*(4), 361–368.
- Hiance, D., **Doogan, N. J.**, Warren, K., Hamilton, I. & Lewis, M. (2012). Self help programs as complex adaptive systems: Modeling the role of lifetime attendance in program growth. *Journal of Social Work Practice in the Addictions, 12*(2), 121–142.
- Doogan, N. J.**, Warren, K., Hiance, D. & Linley, J. (2010). A social network model of direct versus indirect reciprocity in a corrections-based therapeutic community. In: *Simulating Interacting Agents and Social Phenomena*.
- Doogan, N. J.**, Cooper, S., Quisenberry, A. J., Brasky, T. M., Browning, C. R., Klein, E. G., Hinton, A., Nagaraja, H. N., Xi, W., Wewers, M. E. The role of travel distance and price promotions in tobacco product purchase quantity. Under review by *Nicotine & Tobacco Research*.
- Redner, R., Lopez, A. A., Kurti, A. N., Keith, D. R., Villanti, A. C., Stanton, C. A., Gaalema, D. E., Bunn, J. Y., **Doogan, N. J.**, Cepeda-Benito, A., Roberts, M. E., Higgins, S. T. Tobacco and Nicotine Delivery Product Use in a U.S. National Sample of Women of Reproductive Age. Under review by *Preventive Medicine*.

MANUSCRIPTS  
UNDER REVIEW

- Light, J. M. & **Doogan, N. J.** (2017). A Method for Defining and Modeling Social Networks Inferred from Physical Distance and Related Information. Presented at the 25th annual meeting of the Society for Prevention Research in Washington, D.C.
- Doogan, N. J.**, Roberts, M. E. & colleagues. (2016). A growing geographic disparity: Urban and rural cigarette use trends in the United States. Presented at the Tobacco Control Seminar at The Ohio State University Center for Excellence in Tobacco Regulatory Science in Columbus, OH.
- Doogan, N. J.**, Roberts, M. E. & colleagues. (2016). A growing disparity: Urban and rural cigarette use trends in the United States. Poster presented at the 4th annual Behavior Change, Health & Health Disparities conference in Burlington, VT.
- Doogan, N. J.**, Wewers, M. E., Berman, M. L. (2016). The Effects of a Federal Cigarette Minimum Price Law. Paper presented at the 40th annual meeting of the American Society of Preventive Oncology in Columbus, OH.
- Doogan, N. J.**, Wewers, M. E., Berman, M. L. (2016). Cigarette Tax Revenue and Consumption under Current and Minimum Price Regimes. Poster presented at the 22nd annual meeting of the Society of Research on Nicotine & Tobacco in Chicago, IL.
- Cao, YW, Bunger, A., Hoffman, J., Robertson, H., View, L., & **Doogan, N. J.** (2015). Frontline Child Welfare Workers' Perceptions of Communicative Strategies for Implementing a Planned Organizational Change: Implication for Managers and Leaders. Paper presented at the Society for Social Work and Research 19th Annual Conference in New Orleans, LA.
- Bunger, AC., Powell, B., Hanson, R., **Doogan, N. J.**, Cao, Y., & Dunn, J. (2014). Building professional networks to support implementation of evidence-based mental health services. Paper presented at the 2014 NIMH Mental Health Services Research Conference in Bethesda, MD.
- Warren, K., **Doogan, N. J.** & De Leon, G. (2013). Direct reciprocity, generalized reciprocity and response to corrections as mechanisms of cooperation in therapeutic communities. 14th Conference of the European Federation of Therapeutic Communities. Prague, Czech Republic.
- Warren, K. **Doogan, N. J.** & Hodge, A. (2013). Prosocial responses of therapeutic community residents to peer affirmations and corrections. 17th annual conference of the Society for Social Work Research. San Diego, CA.
- Doogan, N. J.** & Begun, A. (2013). Linking prisoner centralization with social connectedness: Five years of prisoner visitation. 17th annual conference of the Society for Social Work Research. San Diego, CA.
- Haynie, D., Soller, B., **Doogan, N. J.** & Keenan, C. (2012). The importance of peers for adolescent sexual behavior: A dynamic network approach. Annual meeting of The American Society of Criminology. Chicago, IL.
- Haynie, D., **Doogan, N. J.**, Soller, B. & Keenan, C. (2012). Gender, friendship networks, and delinquency: A dynamic network approach. Illicit Networks Conference. Vancouver, BC, Canada.
- Warren, K. & **Doogan, N. J.** (2011). A network time series of affirmative interactions in a therapeutic community. 2nd annual RSiena Users Meeting. Konstanz, Germany.

Warren, K., **Doogan, N. J.**, Hiance, D. & Moody, J. (2011). Affirmative interaction dynamics in therapeutic communities for substance abusers. 31st annual conference of the International Network for Social Network Analysis (INSNA / Sunbelt). St. Petersburg, FL.

Warren, K., **Doogan, N. J.** & Hiance, D. (2010). Agent-based models as a tool for social work research. 14th annual conference of the Society for Social Work Research. San Francisco, CA.

**Doogan, N. J.**, Warren, K. & Hiance, D. (2008). A social network model of direct versus indirect reciprocity in a corrections-based therapeutic community. Second World Congress on Social Simulation (WCSS-08). Washington, DC.

OTHER  
PRESENTATIONS

Haynie, D., Soller, B., **Doogan, N. J.** & Keenan, C. (2014). Adolescent Social Networks and Sexual Behavior. Given to The College of Public Health Quantitative Research Group. The Ohio State University, Columbus, OH.

**Doogan, N. J.** (2010). Tools for systems science exploration: Agent-based modeling and RSiena. Given to students of an introductory doctoral course by request of Dr. Keith Warren, The Ohio State University in Columbus, OH.

AWARDS

**Grants**

- 1R21CA205589-01 (Co-PIs: Stillman & Wewers) 6/2016—6/2018  
NIH/National Cancer Institute \$239,250

*Defining the urban-rural continuum and distinguishing rural differences to prevent tobacco use*

The purposes of this application are to assess utility of several common definitions vs. a new definition of urban-rural continuum to explain variation in tobacco-related outcomes and determine similarities/differences across two rural populations (Appalachia, Southern/Delta) with regard to factors that contribute to high prevalence of tobacco use.

Role: Co-Investigator

**Other**

- *American Society of Preventive Oncology Travel Award (top ranked abstract)* .. 2016
- *Merriss Cornell Distinguished Researcher (outstanding dissertation)* ..... 2014
- *Merriss Cornell Scholarship (outstanding dissertation proposal)* ..... 2013
- *Criminal Justice Research Center Student Travel Grant* ..... 2012
- *College of Social Work "Ask Fred" Student Research Travel Fund* ..... 2008

SERVICE

**Research Review**

- *Ad Hoc Journal Review*
  - Social Networks
  - Network Science
  - Preventive Medicine
  - Social Science Research
  - Journal of Early Adolescence
  - Criminal Justice and Behavior
  - Evaluation and Program Planning

- Journal of Quantitative Criminology
- Journal of Artificial Societies and Social Simulation
- Computational and Mathematical Organization Theory

**Academic Volunteerism**

- *Student research poster judge* ..... 2012
- *College of Social Work (OSU) Research Sympos. volunteer/coordinator* .. 2009–2011
- *Social Work Doctoral Student Org.: Officer/Member* ..... 2008—2014
- *Social Work Student Association: Officer*.....2005—2006

AFFILIATIONS      Center of Excellence in Regulatory Tobacco Science at The Ohio State University  
 Tobacco Centers of Regulatory Science Vulnerable Populations Working Group (Nat'l)  
 Society for Social Work Research  
 Society for Research on Nicotine & Tobacco

PROFESSIONAL      Write Winning Grant Proposals with David Morrison ..... 9/2015  
 DEVELOPMENT      Geographic Information Systems Workshop at The Ohio State University .....7/2015  
 Infectious Disease Dynamics (applied diff. equations) with Joe Tien (OSU) ..... 2014  
 Multivariate Data Analysis Course (using SIMCA) with Umetrics ..... 8/2014  
 STELLA System Dynamics Workshop.....6/2012  
 Agent-Based Modeling Workshop with Spiro Maroulis (Northwestern U.) ..... 5/2012  
 Longitudinal Social Network Analysis Using RSiena with Christian  
 Steglich (University of Groningen).....6/2011  
 Introduction to Networks with James Moody (Duke U.) ..... 5/2011  
 Networks Short Course in R with Bruce Desmarais (UMass-Amherst) ..... 5/2011

TECHNICAL      **Data Analysis**  
 SKILLS

- *Regression Modeling*
  - generalized linear mixed models (GLMM) / hierarchical linear models (HLM)
  - event history / survival models
- *Social Network Methods*
  - statistical description and visualization
  - inferential models of cross sectional, longitudinal, and multiplex network data
- *Miscellaneous Techniques & Tools*
  - agent-based modeling
  - systems dynamics modeling
  - analysis of data from complex survey designs
  - geographic information systems (GIS)
  - Bayesian inference
  - Monte Carlo methods
  - high quality statistical graphics (R)

## **Data Management, Computing, and Programming**

- *R*: statistical computing, data linkage, manipulation, and visualization
- Stan: probabilistic programming language and sampler for Bayesian inference
- *MySQL*, *MS Access*: database software
- *Super Computing Services*: e.g., Ohio Supercomputer Center

## **Productivity**

- *Zotero*: reference management
- *MS Word*, *Excel*, *Access*, *PowerPoint*, *Publisher*: many popular productivity applications
- $\text{\LaTeX}$ ,  $\text{\BIBTeX}$ ,  $\text{\PSTricks}$ : typesetting, bibliography, and vector based graphics for creating professional technical documents such as this CV