
Joseph D. Pane

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EDUCATION

Carnegie Mellon University (CMU), Pittsburgh, PA

Department of Statistics

Master's in Statistical Practice (MSP)

May 2016

Bachelor of Science, Statistics, Minor in Business Administration

May 2015

PROFESSIONAL EXPERIENCE

RAND Corporation

August 2016 – Present

Statistical Analyst I & II

- Improves policy through research and analysis
- Drives all efforts of data analysis pipeline
- Utilizes state of the art statistical methods and data management resources
- Authors peer-reviewed reports, papers, journal articles and memos
- Creates R packages for public and private distribution
- Creates R Shiny applications for public and private consumption
- Presents work via client briefings and conferences
- Mentors analysts and research assistants with respect to R programming
- Methods experience and interests include causal inference, interpretable machine learning, propensity score methods, mixture models with and without mixed data type, generalized linear models, bayesian methods, hierarchical models

Carnegie Mellon University - Dept. of Statistics & Data Science

August 2014 – July 2016

Research Assistant

Hitting the Wall: Mixture Models of Long Distance Running Strategies

Advisor: Dr. Rebecca Nugent

- Improved performance of McParland & Gormley's mixture model approach for variables of mixed type
- Enhanced estimation capability of mixture model with respect to nominal vars in MC approximations
- Presented at CMU's Meeting of the Minds; 2nd place in 2015 Statistics oral presentation competition

Characterizing Attitudes & Behaviors of Electronic Cigarette Users

Advisors: Dr. Jared S. Murray & Dr. Rebecca Nugent

In collaboration with Department of Internal Medicine at Texas Tech University, Lubbock, TX

- Evaluate and assess quality of statistical survey methods and regression models in e-cigarette research.
- Advise changes to survey methodology in future studies of electronic cigarettes.
- Work presented at the Southern Society for Clinical Investigation Regional Meeting in February 2016.

TEACHING EXPERIENCE

Carnegie Mellon University, Statistics & Data Science

Teaching Assistant: Statistical Inference (36-226)

January 2016 – May 2016

- Held weekly office hours
- Wrote solutions for some homework and exams
- Graded exams
- Held “Additional Help” sessions for students

Associate Instructor: Statistical Reasoning and Practice (36-201)

August 2015 – December 2015

- Held weekly office hours and labs to help students prepare for homework and exams
- Conducted exam review sessions for 100+ students.
- Liaison between the students and head instructor in regard to course logistics.

Undergraduate Teaching Assistant

August 2012 – May 2015

- Courses: Statistical Methods (36-202) and Statistical Reasoning and Practice (36-201)
 - Section Leader; responsible for administrating two labs per week of 30–40 students.
 - Conducted exam review sessions for 100+ students.
 - Graded homework/exams and proctored exams for 200+ students.

PEER-REVIEWED PUBLICATIONS

Escarce, J. J., Wozniak, G. D., Tshipas, S., **Pane, J. D.**, Brotherton, S. E., Yu, H., *Effects of the ACA Medicaid Expansion on the Distribution of New General Internists Across States.*, MDC-D-20-00595R2. Forthcoming 2021.

Kingsley, M., Setodji, C. M., **Pane, J. D.**, Shadel, W. G., Song, G., Robertson, J., Kephart, L., Zepeda, S., Henley, P., Ursprung, S., *Longer-term impact of the flavored tobacco restriction in two Massachusetts communities: a mixed-methods study.*, NTR-2020-861.R1. Under review.

Shekelle, P., **Pane, J. D.**, Agniel, D., Shi, Y., Rumball-Smith, J., Haas, A., Fischer, S., Rudin, R., Totten, M., Lai, J., Scanlon, D., Damberg, C., *Association Between Increasing Electronic Health Record Capabilities and Clinical Quality Performance in Ambulatory Clinics, 2014-2017.*, JNo20-10837-T. Under review.

Steiner, E. D., Hamilton, L. S., Pane, J. F., Schweig, J., Stelitano, L., **Pane, J. D.**, Meyers, S., *Building and Sustaining Innovative High Schools: Findings from the Opportunity by Design Study.* Santa Monica, CA: RAND Corporation, 2020. https://www.rand.org/pubs/research_reports/RRA322-3.html.

Steiner, E. D., Hamilton, L. S., Pane, J. F., Schweig, J., Stelitano, L., **Pane, J. D.**, Meyers, S., *Designing and Sustaining Innovative High Schools: Successes, Challenges, and Student Outcomes.* Santa Monica, CA: RAND Corporation, 2020. https://www.rand.org/pubs/research_briefs/RBA322-1.html.

Griffin, B. A., Ayer, L., **Pane, J. D.**, Vegetabile, B., Burgette, L., McCaffrey, D., Coffman, D. L., Cefalu, M., Funk, R., Godley, M. D., *Expanding outcomes when considering the relative effectiveness of two evidence-based outpatient treatment programs for adolescents.*, 2020, doi: <https://doi.org/10.1016/j.jsat.2020.108075>.

Griffin, B. A., Sanchez, R., Cefalu, M., Stelzner, C., Ayer, L., Coffman, D. L., Vegetabile, B. G., **Pane, J. D.**, Burgette, L. F., McCaffrey, D. F., *Toolkit for Weighting and Analysis of Nonequivalent Groups: A Tutorial on the TWANG Shiny App for Two Treatments.*, Santa Monica, CA: RAND Corporation, 2020. <https://www.rand.org/pubs/tools/TLA570-2.html>.

Griffin, B. A., McCaffrey, D. F., Burgette, L. F., Cefalu, M., Vegetabile, B. G., **Pane, J. D.**, Coffman, D. L., *State-of-the-Art Strategies for Addressing Selection Bias When Comparing Two or More Treatment Groups.*, Santa Monica, CA: RAND Corporation, 2020. https://www.rand.org/pubs/conf_proceedings/CF421.html.

Griffin, B. A., Sanchez, R., Cefalu, M., Ayer, L., Coffman, D. L., Vegetabile, B. G., **Pane, J. D.**, Burgette, L. F., McCaffrey, D. F., *Toolkit for Weighting and Analysis of Nonequivalent Groups: A Tutorial on the TWANG Shiny App for Two Treatments.*, Santa Monica, CA: RAND Corporation, 2019. <https://www.rand.org/pubs/tools/TL349.html>.

Huckfeldt, P., Escarce, J. J., **Pane, J. D.**, Popescu, I., *Decomposition Method to Assess the Contributions of Geographic and Nongeographic Factors to White-Black Disparities in Health Care.*, 2019, doi: <https://doi.org/10.1097/MLR.0000000000001252>.

Popescu, I., Huckfeldt, P., **Pane, J. D.**, Escarce, J. J., *The contribution of non-geographic factors to the white-black gap in hospital quality for coronary heart disease: a decomposition analysis.* Journal of the American Heart Association, 2019, doi: <https://doi.org/10.1161/JAHA.119.011964>.

Kephart, L., Setodji, C. M., **Pane, J. D.**, Shadel, W. G., Song, G., Robertson, J., Harding, N., Henley, P., Ursprung, S., W., *Evaluating tobacco retailer experience and compliance with a flavored tobacco product restriction in Boston, MA: impact on product availability, advertisement, and consumer demand.* Tobacco Control, 2019, id: <https://doi.org/10.1136/tobaccocontrol-2019-055124>.

Kingsley, M., Setodji, C. M., **Pane, J. D.**, Shadel, W. G., Song, G., Robertson, J., Kephart, L., Henley, P., Ursprung, S. W., *Short-Term Impact of a Flavored Tobacco Restriction: Changes in Youth Tobacco Use in a Massachusetts Community.* American Journal of Preventive Medicine, 2019, Volume 57, Issue 6, 741-748. doi: <https://doi.org/10.1016/j.amepre.2019.07.024>.

Kaufman, J. H., Opfer, D. V., Bongard, M., and **Pane, J. D.**, and Thompson, L. E., *What Teachers Know and Do in the Common Core Era: Findings from the 2015?2017 American Teacher Panel.* Santa Monica, CA: RAND Corporation, 2018. https://www.rand.org/pubs/research_briefs/RB10035.html.

Kaufman, J. H., Opfer, D. V., Bongard, M., and **Pane, J. D.**, *Changes in What Teachers Know and Do in the Common Core Era: American Teacher Panel Findings from 2015 to 2017.* Santa Monica, CA: RAND Corporation, 2018. https://www.rand.org/pubs/research_reports/RR2658.html.

Opfer, D. V., Kaufman, J. H., **Pane, J. D.**, and Thompson, L. E., *Aligned Curricula and Implementation of Common Core State Mathematics Standards: Findings from the American Teacher Panel.* Santa Monica, CA: RAND Corporation, 2018. https://www.rand.org/pubs/research_reports/RR2487.html.

Burgette, L. F., Liu, J. L., Miller, B. M., Wynn, B. O., Dellva, S., Malsberger, R., Merrell, K., Nguyen P., Nie, X., **Pane, J. D.**, Qureshi, N. S., Ruder, T., Zhao, L., and Hussey, P. S., *Practice Expense Methodology and Data Collection Research and Analysis.* Santa Monica, CA: RAND Corporation, 2018. https://www.rand.org/pubs/research_reports/RR2166.html.

Kaufman, J. H., Opfer, D. V., **Pane, J. D.**, & Thompson, E. T., *Connecting What Teachers Know About State English Language Arts Standards for Reading and What They Do in Their Classrooms: Findings from the American Teacher Panel.* Santa Monica, CA: RAND Corporation, 2018. https://www.rand.org/pubs/research_reports/RR2258.html.

Pane, J. F., Steiner, E. D., Baird, M. D., Hamilton, L. S., & **Pane, J. D.**, *How Does Personalized Learning Affect Student Achievement?.* Santa Monica, CA: RAND Corporation, 2017. https://www.rand.org/pubs/research_briefs/RB9994.html.

Pane, J. F., Steiner, E. D., Baird, M. D., Hamilton, L. S., & **Pane, J. D.**, *Informing Progress: Insights on Personalized Learning Implementation and Effects.* Santa Monica, CA: RAND Corporation, 2017. https://www.rand.org/pubs/research_reports/RR2042.html.

Pane, J. F., Steiner, E. D., Baird, M. D., Hamilton, L. S., & **Pane, J. D.**, *Observations and Guidance on Implementing Personalized Learning*. Santa Monica, CA: RAND Corporation, 2017. https://www.rand.org/pubs/research_briefs/RB9967.html.

Kaufman, J. H., Davis, J. S., Wang, E. L., Thompson, L. E., **Pane, J. D.**, Pfrommer, K. & Harris, M., *Use of Open Educational Resources in an Era of Common Standards: A Case Study on the Use of EngageNY*. Santa Monica, CA: RAND Corporation, 2017. https://www.rand.org/pubs/research_reports/RR1773.html.

HONORS SENIOR THESIS

Pane, Joseph D. (2018): Hitting the Wall: Mixture Models of Long Distance Running Strategies. figshare. Thesis. <https://doi.org/10.1184/R1/6686063.v1>

PRESENTATIONS

Institute of Educational Sciences (IES) Annual PI Meeting January 2019
Washington, DC

Poster: “Study Finds ALEKS Had No Effect on Student Outcomes in Algebra. What Else Can We Learn?”

Classification Society 2016 Annual Meeting June 2016
Columbia, MO

Presentation: “Hitting the Wall: Mixture Models of Long Distance Running Strategies”

UP-STAT 2016 April 2016
Buffalo, NY

Presentation: “Hitting the Wall: Mixture Models of Long Distance Running Strategies”

American Statistical Association (ASA) March 2016
Pittsburgh, PA

Poster: “Hitting the Wall: Mixture Models of Long Distance Running Strategies”

Southern Society for Clinical Investigation Regional Meeting February 2016
New Orleans, LA

- *Presentation:* “The Use of Electronic Cigarettes as Cessation Aids and in Conjunction with Conventional Cigarettes in Adults: A Review of the Survey Evidence”
- *Poster:* “Electronic Cigarette Use and Perceptions by U.S. Adolescents”

45th Symposium on the Interface of Computer Science & Statistics June 2015
Morgantown, WV

Poster: “Hitting the Wall: Mixture Models of Long Distance Running Strategies”

CMU Meeting of the Minds: Honors Senior Thesis Defense May 2015
Pittsburgh, PA

Presentation: “Hitting the Wall: Mixture Models of Long Distance Running Strategies”

ACTIVITIES/MEMBERSHIPS

American Statistical Association (**Member**) June 2013 – Present
Pittsburgh Chapter of the American Statistical Association (**Member**) June 2013 – Present
Intel International Science and Engineering Fair (**Judge**) May 2018

Carnegie Mellon University Statistics Student Advisory Council (Member)	August 2015 – June 2016
Plaidvocates: CMU Peer Health & Wellness Advocates (Co-Founder)	October 2014 – May 2015
Mortar Board Honors Society Eta Chapter at CMU (Member)	May 2014 – May 2015
Carnegie Mellon University Student Athletic Advisory Council (Member)	January 2013 – May 2015
Carnegie Mellon University Cross Country & Track (Varsity, Co-Captain)	August 2011 – May 2015

AWARDS

RAND Spotlight Award
2016 ASA Pittsburgh Chapter: Co-winner of the Poster Competition
Graduated with College and University Honors
Deans List seven out of eight undergraduate semesters
University Athletic Association All-Academic: Cross Country, Indoor/Outdoor Track & Field

SOFTWARE

R, Python, Stata, SQL, SAS, C++
R Markdown, R Shiny, Tableau
Hadoop, AWS
L^AT_EX, Microsoft Office

R Package(s)

- `OVtool`: An R package (in development; <https://github.com/jpane24/OVtool>) that analyzes the sensitivity of research findings to omitted variables when estimating causal effects using propensity score based methods