

Bo Zhang

bozhan@wharton.upenn.edu

Phone: 267-408-3995

Website: www.bozhangupenn.com

Education

University of Pennsylvania

PhD. Student, Department of Statistics and Data Science, The Wharton School
Advisor: Dylan S. Small

Aug. 2017 – Present
Philadelphia, PA

Harvey Mudd College

B.S. in Mathematics

Aug. 2013 – May 2017
Claremont, CA

Publications: Statistical Methodology (corresponding author with ‘*’)

- **Zhang, B.**, Small, D. S.* , Lasater, K. B., McHugh, M., Silber J. H., & Rosenbaum, P. R. (2021) Matching one sample according to two criteria in observational studies. *Journal of the American Statistical Association* (just accepted).
- **Zhang, B.***, Heng, S., MacKay, E. J., & Ye, T. (2021). Bridging preference-based instrumental variable studies and cluster-randomized encouragement experiments: study design, noncompliance, and average cluster effect ratio. *Biometrics* (in press).
- Pu, H., & **Zhang, B.*** (2021), Estimating optimal treatment rules with an instrumental variable: A partial identification learning approach. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 83: 318-345.
- **Zhang, B.***, & Pu, H. (2021). Discussion of Cui and Tchetgen Tchetgen (2020) and Qiu et al.(2020). *Journal of the American Statistical Association*, 116(533), 196-199.
- Zhang, J., **Zhang, B.**, Small, D. S.* (2021). A method to aid statistical judgment on outliers: Comment on Hill’s The Statistician in Medicine. *Statistics in Medicine*. 40: 58– 63.
- **Zhang, B.***, & Small, D. S. (2020). A calibrated sensitivity analysis for matched observational studies with application to the effect of second-hand smoke exposure on blood lead levels in children. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 69(5), 1285-1305.
- **Zhang, B.**, Weiss, J., Small, D. S., & Zhao, Q.* (2020). Selecting and ranking individualized treatment rules with unmeasured confounding. *Journal of the American Statistical Association*, 116(533), 295-308.

Publications: Applications

- MacKay, E. J.* , **Zhang, B.**, Augoustides, J. G., Groeneveld, P. W., & Desai, N. D. (2021) Association of intraoperative transesophageal echocardiography and clinical outcomes after open cardiac valve or aortic surgery. *JAMA Network Open* (just accepted).
- MacKay, E. J.* , **Zhang, B.**, Heng, S., Ye, T., Neuman, M. D., Augoustides, J. G., ... & Groeneveld, P. W. (2021). Association between transesophageal echocardiography and clinical outcomes after coronary artery bypass graft surgery. *Journal of the American Society of Echocardiography*, 34(6), 571-581.
- **Zhang, B.**, & Small, D. S.* (2020). Number of healthcare workers who have died of COVID-19. *Epidemiology*, 31(6), e46.
 - Accompanying *Editorial Comment* by Wasfy J. H. and Bargagli-Stoffi F. J., 582-584.
- Kampondeni, S., Seydel, K. B., **Zhang, B.**, Small, D. S., Birbeck, G. L., Hammond, C. A., ... & Potchen, M. J.* (2020). Amount of brain edema correlates with neurologic recovery in pediatric cerebral malaria. *The Pediatric Infectious Disease Journal*, 39(4), 277-282.

Selected Papers Under Revision

- **Zhang, B.***, Mackay, E. J., & Baiocchi, M. (2020). Statistical matching and subclassification with a continuous dose: characterization, algorithms, and inference. *Major Revision Requested at AoAS*. arXiv preprint arXiv:2012.07182.
- **Zhang, B.**, Heng, S., Ye, T., & Small, D. S.* (2020). Social Distancing and COVID-19: Randomization inference for a structured dose-response relationship. *Major Revision Requested at AoAS*. arXiv preprint arXiv:2011.06917.
- Borgstein, A., **Zhang, B.**, Lam, C., Gushu, M. B., Liomba, A., Pensulo, P., ..., & Seydel, K. B.* (2021) Delayed presentation to hospital care increases sequelae but not mortality in children with cerebral malaria in Malawi. *Under revision at Malaria Journal*.

Selected Papers Under Review

- **Zhang, B.***, Lin, Y., Small, D. S., Terrie, T. E., & O'Brien, N. F. (2021) Towards automation of Transcranial Doppler Ultrasound data in pediatric cerebral malaria.
- Chen, K., Heng, S., Long, Q., & **Zhang, B.*** (2021). Testing randomization and relaxed randomization assumptions: A clustering with side-information approach. arXiv preprint arXiv:2107.00815.
- Chen, S., & **Zhang, B.*** (2021). Estimating and improving dynamic treatment regimes with a time-varying instrumental variable. arXiv preprint arXiv:2104.07822.
- **Zhang, B.***, & Tchetgen Tchetgen, E. J. (2019). A semiparametric approach to model-based sensitivity analysis in observational studies. arXiv preprint arXiv:1910.14130.
- Heng, S., **Zhang, B.**, Han, X., Lorch, S., & Small, D. S.* (2019) Re-evaluating strengthened-IV designs: asymptotic efficiency, bias formula, and the validity and power of sensitivity analyses. arXiv preprint arXiv:1911.09171

Awards

- J. Parker Bursk Prize 2021
 - Awarded by the Statistics Department at the Wharton School for excellence in research
- Student Paper Award, ASA's Health Policy Statistics Section (HPSS) 2021
- Young Investigators Award, ASA Section on Statistics in Epidemiology (SIE) 2019

Invited Talks

- Lawrence D. Brown Student Workshop, September, 2021
- Health Policy Statistics Section Student Paper Award - Topic-Contributed Session, Joint Statistical Meetings, August, 2021
- Real World Analytics (RWA) Forum, Eli Lilly And Company, August, 2021
- Estimating Heterogeneity in Treatment Effects in Complex Real World Settings - Topic-Contributed Session, Joint Statistical Meetings, August, 2020

Teaching

- STAT101: Introduction to Business Statistics, Instructor, 2021
 - Overall quality of the instructor: 3.6/4.0
 - Overall quality of the course: 3.4/4.0

Services

Referee: Journal of the Royal Statistical Society: Series C (Applied Statistics), Journal of the American Statistical Association, Observational Studies