

Benjamin W Domingue

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1 Research Interests

Psychometrics, Sociogenomics, Value-Added, Quantitative methods

2 Positions

- Assistant Professor 9/2015–Present
Graduate School of Education, Stanford University
- Research Associate 6/2012–Present
Institute of Behavioral Science, University of Colorado Boulder
- Visiting Researcher 9/2014–5/2015
Population Research Center, The University of Texas at Austin
- Visiting Scholar 9/2013–12/2013
Colombian Institute for the Evaluation of Education (ICFES)
- Graduate Research Assistant 8/2007–5/2012
School of Education & Institute of Behavioral Science, University of Colorado Boulder
- Teacher 8/2006–5/2007
Crested Butte Academy

3 Awards

- 2013 American Educational Research Association Division D (Measurement and Research Methodology) Quantitative Dissertation Award.

4 Education

- PHD – University of Colorado at Boulder, Education [Advisor: Derek Briggs] 2012
- MA – University of Texas at Austin, Mathematics [Advisor: P. Uri Treisman] 2006
- BS – University of Texas at Austin, Mathematics 2001

5 Grants

- Curating NHANES Genetic Data for Sociogenomic Modeling
Co-I (PI: David Rehkopf), Stanford Center for Clinical and Translational Research and Education (SPECTRUM) Pilot Grant [\$19,500]
- Using Structural Differences across Environments to Understand Gene-Environment Correlations and their Implications for Gene-by-Environment Research
PI, University of Colorado Population Center Developmental Grant [\$3,000]
- The Social and Genetic Epidemiology of Health Behaviors: An Integrated Approach
MPI w/ Jason Boardman, NIH Exploratory/Developmental Research Grant Award (R21) 1R21HD078031-01 [\$305,000]

6 Research Papers

†: Papers with graduate student co-authors.

‡: Paper on which I am a corresponding author (where not also first author).

6.1 Peer-Reviewed Publications

1. Conley D, Laidley T, Belsky D, Fletcher J, Boardman J, **Domingue B**. (In press). Assortative mating and differential fertility by phenotype and genotype across the 20th century. *Proceedings of the National Academy of Sciences*. ‡
doi: 10.1073/pnas.1523592113
2. Belsky DW, Moffitt TE, Corcoran DL, **Domingue B**, Harrington HL, Hogan S, Houts R, Ramrakha S, Sugden K, Williams B, Poulton R, Caspi A. (In press). The genetics of success: How SNPs associated with educational attainment relate to life course development. *Psychological Science*.
doi: 10.1177/0956797616643070
3. Conley D, **Domingue B**. (In press). The Bell Curve Revisited: Testing Controversial Hypotheses with Molecular Genetic Data. *Sociological Science*
4. Shavelson RJ, **Domingue B**, Marino J, Mantilla AM, Morales JA, Wiley, E. (2016). On the Practices and Challenges of Measuring Higher Education Value Added: The Case of Colombia. *Assessment and Evaluation in Higher Education*.
doi:10.1080/02602938.2016.1168772
5. Rehkopf D, **Domingue B**, Cullen M. (2016). Gene-environment correlation: the geographic distribution of genetic risk for chronic disease in the United States. *Biodemography and Social Biology*. 62(1), 126-142.
doi: 10.1080/19485565.2016.1141353
6. **Domingue B**, Wedow R, Conley D, McQueen M, Hoffman T, Boardman J. (2016). Genome-wide estimates of heritability for social demographic outcomes. *Biodemography and Social Biology*. 62(1), 1-16.
doi: 10.1080/19485565.2015.1068106
7. Bohr AD, Boardman JD, **Domingue B**, McQueen M. (2015). Breastfeeding is associated with waist-to-height ratio in young adults. *BMC Public Health*. 15:1281.
doi: 10.1186/s12889-015-2611-7
8. **Domingue B**, Belsky D, Conley D, Harris, KM, Boardman JD. (2015). Polygenic Influence on Educational Attainment: New evidence from The National Longitudinal Study of Adolescent to Adult Health. *AERA Open*.
doi: 10.1177/2332858415599972
Coverage: *Inside Higher Ed* (August 20, 2015) Genetically Inclined to Learn; *Education Week* (August 20, 2015) What Do Genes Say About Education? More Than You'd Think; *U.S. News & World Report* (October 26, 2015) Study: College Graduation May Be Partly Determined by Your Genes.
9. **Domingue B**, Conley D, Fletcher J, Boardman J. (2015). Cohort effects in the genetic influence on smoking. *Behavior Genetics*. 46, 31-42.
doi: 10.1007/s10519-015-9731-9
10. Wehby GL, **Domingue B**, Boardman J. (2015). Preventions, use of health services, and genes: Implications of genetics for policy formation. *Journal of Policy Analysis and Management*.
doi: 10.1002/pam.21835
11. Conley D, **Domingue B**, Cesarini D, Dawes C, Rietveld CA, Boardman JD. (2015). Is the effect of parental education on offspring biased or moderated by genotype? *Sociological Science*.
doi: 10.15195/v2.a6
12. McQueen MB, Boardman JD, **Domingue B**, Smolen A, Tabor J, Killeya-Jones L, Halpern CT, Whitsel EA, Harris KM. (2014). The National Longitudinal Study of Adolescent Health (Add Health) Sibling Pairs Genome-Wide Data. *Behavior Genetics*.
doi: 10.1007/s10519-014-9692-4
13. Cornelius AR, Conley D, Eriksson N, Esko T, Medland SE, Vinkhuyzen AAE, Yang J, Boardman JD, Chabris C, Dawes CT, **Domingue B**, Hinds DA, Johannesson M, Kiefer AK, Laibson D, Magnusson PKE, Mountain JL, Oskarsson S, Teumer A, Tung JY, Visscher PM, Benjamin DJ, Cesarini D, Koellinger PD, and the Social Science Genetics Association Consortium. (2014). Replicability and Robustness of GWAS for Behavioral Traits. *Psychological Science*.

doi: 10.1177/0956797614545132

14. Boardman JD, **Domingue B**, Daw J. (2014). What can genes tell us about the causal relationship between education and health? *Social Science and Medicine*.
doi: 10.1016/j.socscimed.2014.08.001
15. **Domingue B**, Belsky DW, Harris KM, Smolen A, McQueen MB, and Boardman JD. (2014). Polygenic Risk Predicts Obesity in Both White and Black Young Adults. *PLOS ONE*.
doi: 10.1371/journal.pone.0101596
16. Mollborn S, **Domingue B**, and Boardman J. (2014). Racial, Socioeconomic, and Religious Influences on School-Level Teen Pregnancy Norms and Behaviors. *Social Forces*.
doi: 10.1093/sf/sou063
17. **Domingue B**, Fletcher J, Conley D, Boardman J. (2014). Genetic and educational assortative mating among US adults. *Proceedings of the National Academy of Sciences*.
doi: 10.1073/pnas.1321426111
Coverage: See <http://www.pnas.org/content/early/2014/05/14/1321426111.abstract?tab=metrics> for survey of media coverage.
18. Conley D, Siegal M, **Domingue B**, Harris K, McQueen M, Boardman J. (2014). Testing the Key Assumption of Heritability Estimates Based on Genome-wide Genetic Relatedness. *Journal of Human Genetics*.
doi: 10.1038/jhg.2014.14
19. Mollborn S, **Domingue B**, and Boardman J. (2014). Understanding Multiple Levels of Norms about Teen Pregnancy and Their Relationships to Teens Sexual Behaviors. *Advances in Life Course Research*.
doi: 10.1016/j.alcr.2013.12.004
20. Briggs D and **Domingue B**. (2013). The Gains from Vertical Scaling. *Journal of Educational and Behavioral Statistics*, 38(6), 551-576.
doi: 10.3102/1076998613508317
21. Boardman JD, **Domingue B**, Blalock CL, Haberstick BC, Harris KM, and McQueen MB. (2013). Is the gene-environment interaction paradigm relevant to genome-wide studies? The case of education and body mass index. *Demography*, 51 (1), p. 119-139.
doi: 10.1007/s13524-013-0259-4
22. **Domingue B**. (2013). Evaluating the Equal-Interval Hypothesis with Test Score Scales. *Psychometrika*.
doi: 10.1007/s11336-013-9342-4
23. Boardman J, **Domingue B**, and Fletcher J. (2012). How social and genetic factors predict friendship networks. *Proceedings of the National Academy of Sciences*.
doi: 10.1073/pnas.1208975109
Coverage: *Smithsonian Magazine* (October 9, 2012) Do We Really Pick Our Friends Based On Genetic Similarities?; *Psych Central* (November 1, 2012) Balancing Social, Genetic Factors In How Friendships Form.
24. Boardman J., Roettger ME, **Domingue B**, McQueen MB, Haberstick BC, and Harris KM. (2012). Gene-environment interactions related to body mass: School policies and social context as environmental moderators. *Journal of Theoretical Politics*, 24(3): 370-388.
doi: 10.1177/0951629812437751
25. Boardman J, Blalock CL, Corley RP, Stallings MC, **Domingue B**, McQueen MB, Crowley TJ, Hewitt JK, Lue Y, & Field SH (2010). Ethnicity, Body Mass, and Genome-Wide Data. *Biodemography and Social Biology*. 56 (2). p. 123-136.
doi: 10.1080/19485565.2010.524589
26. **Domingue B** & Briggs D. (2009). Using Linear Regression and Propensity Score Matching to Estimate the Effect of Coaching on the SAT. *Multiple Linear Regression Viewpoints*, 35 (1). p. 12-29.

6.2 Peer-Reviewed Book Chapters

1. Briggs D and **Domingue B**. (2014) Value-added to what? The paradox of multidimensionality. Lissitz R & Jiao H (eds.), *Value-added Modeling and Growth Modeling with Particular Application to Teacher and*

School Effectiveness. Charlotte, NC: Information Age Publishing.
doi: 10.13140/2.1.1130.6565

6.3 Technical Reports, Preprints, etc

1. **Domingue B**, Belsky DW, Harrati A, Conley D, Weir D, Boardman J. (2016). Mortality Selection in a Genetic Sample and Implications for Association Studies. *bioRxiv*.
doi: 10.1101/049635
2. **Domingue B**, Boardman J. (2016). Using Genome Wide Estimates of Heritability to Examine the Relevance of Gene-Environment Interplay. *bioRxiv*.
doi: 10.1101/037861
3. **Domingue B**, Dimitrov D. (2015). A Comparison of IRT Theta Estimates and Delta Scores From the Perspective of Additive Conjoint Measurement. National Center for Assessment in Higher Education. Riyadh, Saudi Arabia.
4. **Domingue B**, Boardman J. (2015). Using structural differences between environments to better understand rGE. Population Association of America, 2015 Annual Meeting.
<http://paa2015.princeton.edu/uploads/150519>
5. **Domingue B**, Fletcher J, Conley D, Boardman J. (2014). Reply to Zeitsch et al: Interpreting GAM. *Proceedings of the National Academy of Sciences*.
doi: 10.1073/pnas.1413105111
6. Alzen J and **Domingue B**. (2013). A characterization of sorting and implications for value-added estimates. ERIC Number: ED545383.†
7. Briggs D & **Domingue B**. (2011). Due Diligence and the Evaluation of Teachers: A review of the value-added analysis underlying the effectiveness rankings of Los Angeles Unified School District teachers by the Los Angeles Times. Boulder, CO: National Education Policy Center. ERIC Number: ED516008.
<http://nepc.colorado.edu/publication/due-diligence>
Coverage: *Washington Post* (February 8, 2011), Researchers fault L.A. Times methods in analysis of California teachers.
8. **Domingue B**, Thomas S, Circi R, & Camilli G. (2011). Comment on "Schools and Inequality: A Multilevel Analysis of Coleman's Equality of Educational Opportunity Data". *Teachers College Record*, Number 16544.

7 Teaching & Mentorship

7.1 Classes

- Education 353A: Problems in Measurement: Item Response Theory (Stanford, Spring 2016).
- Education 252: Introduction to Test Theory (Stanford, Fall 2015).
- Education 4716: Basic statistical methods (University of Colorado Boulder, Fall 2009)
- University Supervisor: Supervised a group of 5 supervisors in the Boulder Valley School District (University of Colorado Boulder, Fall 2007).
- High School Teacher: Precalculus, Calculus, Physics (Crested Butte Academy, 2006-2007).

7.2 Dissertation Committee Membership

- Examiner: Christopher Candelaria
- Chair: Sid Krishna-Kumar

8 Talks

8.1 Select non-conference talks

- 2016: Stanford SCOPE; USC Population Center; Stanford Gardner Center; Berkeley Center on the Economics and Demography of Aging, Genes and Complex Human Phenotypes Workshop
- 2015: Berkeley BEAR Center; University of Iowa College of Public Health; Stanford Graduate School of Education; University of Colorado Boulder School of Education

- 2014: Harvard Graduate School of Education
- 2013: The Fourth Annual Seminario Internacional de Investigación sobre Calidad de la Educación (Bogotá, Colombia)

8.2 Conference Talks & Posters

National Council on Measurement in Education, American Educational Research Association, Population Association of America, American Sociological Association, Integrating Genetics and the Social Science, International Meeting of the Psychometric Society

9 Service

9.1 Ad Hoc Review

- Agencies: NSF, NIH
- Journals: AERA Open; Journal of the European Economic Association; PLOS Genetics; Behavior Genetics; Journal of Educational Measurement; Biodemography and Social Biology; Educational Researcher; Journal of Educational and Behavioral Statistics; Educational Measurement: Issues and Practice; African Educational Research Journal; Assessment in Education: Principles, Policy & Practice; BMC Public Health; Education Policy Analysis Archives; Educational Policy
- Conferences: SREE Conference, NCME Conference

9.2 Training

- Instructor, Genome wide genetic risk score construction, Integrating Genetics and the Social Sciences 2015
- Instructor, A workshop in genome-wide data: Concepts and tools for the population sciences, University of Texas Population Research Center, 2015
- Instructor, A workshop in genome-wide data, University of Iowa College of Public Health, 2015
- Assistant Instructor, IRT-Based Test Linking in R, Training Session at 2013 NCME meeting
- Webcast Moderator, IRT-Based Test Linking in R, Training Session at 2012 NCME meeting

9.3 Other

- Visuals Editor, Educational Measurement: Issues and Practice, 2013

10 Consulting

- Psychometrics consulting for TrueSkills. 2015
- Evaluation of test score scale in Saudi Arabia. 2015
- Effect of test preparation in Colombia. 2014
- Replication of Teacher MGPs in Hawaii. 2014
- Teacher Effectiveness in Denver Public Schools. 2012–2013, 2015
- University Effectiveness in Colombia. 2012–2014
- School Effectiveness in Wyoming. 2012–2013
- Time Series Modeling for Northfield Trading. 2012
- Analysis and Software Development for the Center for Assessment. 2011–2012
- School Effectiveness in Hawaii. 2010–2012
- Survey Analysis for Alta Colleges. 2008–2009