

Benjamin W Domingue

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Research Interests

Psychometrics, Sociogenomics, Quantitative methods

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

Other Affiliations

- Steering Committee, Stanford Center for Education Policy Analysis, 2017–
- Faculty Fellow, Stanford Population Health Sciences, 2017–

Awards

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

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

Grants

- Sociogenomics at Stanford
Co-PI (PI: Jeremy Freese), IRiSS Faculty Seed Grant [\$25,000]
- Sociogenomics in the WLS: Probing Questions of Validity Regarding the Genetics of Educational Attainment and Subsequent Occupational and Economic Attainments
PI, Russell Sage Foundation [\$93,264]
- NIA Network on Life Course Health Dynamics and Disparities in 21st Century America Pilot Research Grant, Building a Data Resource to Test for Increasing Selectivity of Persons at the Low End of the Educational Continuum: Harmonizing Measures in the National Longitudinal Study of Adolescent to Adult Health and the Health and Retirement Study
Co-I (PI: Dan Belsky), NIA (Parent Grant: R24AG045061) [\$12,500]
- Quantifying Individual Genetic Risk in Diverse Populations
Co-PI (PI: Laramie Duncan), 2017 Spectrum Pilot Grant for Population Health Sciences [\$26,000]

- On the Use of Genetic Data in Social Science Inquiry: Applications and Methodological Considerations with a Focus on UK and European Datasets
Co-Investigator (PI: Melinda Mills), NCRM International Visitor Exchange Scheme [\$5,374]
- Psychometric considerations of item quality in a digitally mediated learning environment
PI, Spencer Foundation [\$50,000]
- 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]

Papers

Notational Conventions

- ‡: Students/Postdocs with whom I engaged extensively during course of conducting research.
- ‡: Paper on which I acted as a senior author.
- : Joint authorship.

Peer-Reviewed Articles

1. Hussain SF, **Domingue BW**, LaFramboise T, Ruedas-Gracia N. (In Press). Conceptualizing School Belongingness in Native Youth: Factor Analysis of the Psychological Sense of School Membership Scale. *American Indian and Alaska Native Mental Health Research*.
2. Sheehan C‡, **Domingue BW**, Crimmins E. (In Press). Cohort Trends in the Gender Distribution of Household Tasks in the United States and the Implications for Understanding Disability. *Journal of Aging and Health*.
3. Trejo S‡, Belsky DW, Boardman JD, Freese J, Harris KM, Herd P, Sicinski K, **Domingue BW**‡. (2018). Schools as moderators of genetic associations with lifecourse attainments: Evidence from the WLS and Add Health. *Sociological Science*.
doi: 10.15195/v5.a22
4. Lawrence E, Hummer R, **Domingue BW**, Harris KM. (2018). Wide Educational Disparities in Young Adult Cardiovascular Health. *SSM - Population Health*.
doi: 10.1016/j.ssmph.2018.07.006
5. Wedow R‡, Zacher M‡, Huibregtse B, Harris KM, **Domingue B**‡, Boardman JD. (2018). Education, smoking, and cohort change: Forwarding a multidimensional theory of the environmental moderation of genetic effects. *American Sociological Review*. 83, 4.
doi: 10.1177/0003122418785368
6. Belsky DW•, **Domingue B**•, Wedow R‡, Arseneault L, Boardman JD, Caspi A, Conley D, Fletcher JM, Freese J, Herd P, Moffitt TE, Poulton R, Sicinski K, Wertz J, Harris KM. (2018). Genetic analysis of social-class mobility in five longitudinal studies. *Proceedings of the National Academy of Sciences*
doi: 10.1073/pnas.1801238115
7. Gaydosh L, Belsky D, **Domingue B**, Boardman JD, Harris KM. (2018). Father absence and accelerated reproductive development in non-Hispanic white women in the United States. *Demography*.
bioRxiv. doi: 10.1101/123711
doi: 10.1007/s1352
8. Conley D, Johnson R, **Domingue B**, Dawes C, Boardman J, Siegal M. (2018). Family-based association analysis identifies variance-controlling loci without confounding by genotype-environment correlations. *PLOS One*.

doi: 10.1371/journal.pone.0194541

bioRxiv. doi: 10.1101/175596

9. **Domingue B**, Rehkopf DH, Conley D, Boardman JD. (2018). Geographic clustering of polygenic scores at different stages of the life course. *RSF: The Russell Sage Foundation Journal of the Social Sciences*. doi: 10.7758/RSF.2018.4.4.08
10. **Domingue B**, Belsky D, Fletcher J, Conley D, Boardman J, Harris KM. (2018). The social genome of friends and schoolmates in the National Longitudinal Study of Adolescent to Adult Health *Proceedings of the National Academy of Sciences* doi: 10.1073/pnas.1711803115
bioRxiv. doi: 10.1101/107045
11. Wehby G, **Domingue B**, Wolinsky F. (2017). Genetic Risks for Chronic Conditions: Implications for Long-Term Wellbeing. *Journal of Gerontology: Series A*. doi: 10.1093/gerona/glx154
12. Wehby G, **Domingue B**, Ullrich F, Wolinsky F. (2017). Genetic Predisposition to Obesity and Medicare Expenditures. *The Journals of Gerontology, Series A*. doi: 10.1093/gerona/glx062
13. Alzen J†, Fahle E†, **Domingue B** ‡. (2017). The implications of reduced testing for teacher accountability. *AERA Open*. doi: 10.1177/2332858417704411
14. **Domingue B**, Belsky DW, Harrati A, Conley D, Weir D, Boardman J. (2017). Mortality Selection in a Genetic Sample and Implications for Association Studies. *The International Journal of Epidemiology*. doi: 10.1093/ije/dyx041
bioRxiv, doi: 10.1101/049635
15. **Domingue B**, Liu H, Okbay A, Belsky D. (2017). Genetic heterogeneity in depressive symptoms following the death of a spouse: Polygenic score analysis of the US Health and Retirement Study. *The American Journal of Psychiatry*. doi: 10.1176/appi.ajp.2017.16111209
bioRxiv, doi: 10.1101/065847
16. **Domingue B**, Lang D†, Cuevas ML, Castellanos M, Lopera C, Marino JP, Molina A, Shavelson R. (2017). Measuring student learning in technical programs: A case study from Colombia. *AERA Open*. doi: 10.1177/2332858417692997
17. Conley D, Laidley T, Boardman J, **Domingue B** ‡. (2016). Changing Polygenic Penetrance on Phenotypes in the 20 th Century Among Adults in the US Population. *Scientific Reports*. doi: 10.1038/srep30348
18. Conley D, **Domingue B**. (2016). The Bell Curve Revisited: Testing Controversial Hypotheses with Molecular Genetic Data. *Sociological Science*. doi: 10.15195/v3.a23
19. Conley D, Laidley T, Belsky D, Fletcher J, Boardman J, **Domingue B** ‡. (2016). 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
20. Belsky DW, Moffitt TE, Corcoran DL, **Domingue B**, Harrington HL, Hogan S, Houts R, Ramrakha S, Sugden K, Williams B, Poulton R, Caspi A. (2016). The genetics of success: How SNPs associated with educational attainment relate to life course development. *Psychological Science*. doi: 10.1177/0956797616643070
21. 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
22. 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

23. **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
24. 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
25. **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
26. **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
27. 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
28. 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
29. 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
30. 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
31. 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
32. **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
33. 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
34. **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
35. 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
36. 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

37. 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
38. 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
39. **Domingue B**. (2013). Evaluating the Equal-Interval Hypothesis with Test Score Scales. *Psychometrika*.
doi: 10.1007/s11336-013-9342-4
40. 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
41. 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
42. 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
43. **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.

Other Peer-Reviewed Publications (Editorials, book chapters, conference proceedings)

44. Lang D†, Kindel A, **Domingue B**, Paepcke A. (2017). Making the Grade: How Passing a Course Affects Learner Engagement. *Proceedings of the 10th International Conference on Educational Data Mining*.
[link](#)
45. **Domingue B** and Belsky D. (2017). The Social Genome: Current Findings and Implications for the Study of Human Genetics. *PLOS Genetics*.
doi: 10.1371/journal.pgen.1006615
46. 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

Technical Reports, Preprints, etc.

47. Belsky DW, Caspi A, Arseneault L, Corcoran D, **Domingue B**, Harris KM, Houts R, Mill J, Moffitt TE, Prinz J, Sugden K, Wertz J, Williams B, Odgers C. Genetics & the Geography of Health, Behavior, and Attainment. *bioRxiv*
doi: 10.1101/376897
48. Townsend, J. & **Domingue, B**. (2018). Predictive and Concurrent Validity of Literably Oral Reading Fluency (Technical Report No. 1). San Francisco, CA: Literably, Inc. [link](#)
49. Walters RK, . . . , **Domingue B**, . . . , Agrawal A. (2018). Trans-ancestral GWAS of alcohol dependence reveals common genetic underpinnings with psychiatric disorders. *bioRxiv*. [link](#)
50. Martschenko D†, Trejo S†, & **Domingue B**‡. (2018). Genetics and Education: Recent developments in the context of an ugly history and an uncertain future. *socArXiv*.
doi: 10.31235/osf.io/74b8m
51. Cantu P†, Sheehan CM†, **Domingue B**. (2016). A broad sense measure of health and its properties in the HRS. *bioRxiv*.
doi: 10.1101/081232
52. **Domingue B**, Boardman J. (2016). Using Genome Wide Estimates of Heritability to Examine the Relevance of Gene-Environment Interplay. *bioRxiv*.

doi: 10.1101/037861

53. **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.
54. **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
55. **Domingue B**. (2013). Editorial (on cover art). *Educational Measurement: Issues and Practice*.
doi: 10.1111/emip.12006
56. Alzen J† and **Domingue B**. (2013). A characterization of sorting and implications for value-added estimates. ERIC Number: ED545383.
57. 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. [link](#)
58. **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.

Teaching & Mentorship

Classes

- Stanford University
 - Education 252: Introduction to Test Theory (Fall 2015, Fall 2016, Winter 2018).
 - Education 252L: Introduction to Test Theory Lab (Fall 2016, Winter 2018).
 - Education 353A: Problems in Measurement: Item Response Theory (Spring 2016).
 - Education 373: Genetics and Society (Spring 2017; also Soc232/Humbio158S).
- University of Colorado Boulder
 - Education 4716: Basic statistical methods (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).

Dissertation Committee Membership

- Jing Liu, Erin Fahle, Jenna Finch, Joseph Townsend, Christopher Candelaria, Ben Shear, Elisa Garcia, Sid Krishna-Kumar

External Committee Membership

- Xuejie Ding, Oxford Sociology; Maximilian Stiefel, UCSB Geography

Talks

Recorded versions of talks can be found [here](#)

Invited talks

- 2018: Geriatric Psychiatry and Neuroscience Grand Rounds, Stanford Medicine, Department of Psychiatry and Behavioral Sciences; University of California Berkeley, Graduate School of Education Colloquium; Stanford BIO-X
- 2017: Duke Population Research Center; Stanford Center for Education Policy Analysis; Broad Online Journal Club; Feldman Lab; Stanford Center for Computational, Evolutionary, and Human Genomic Symposium; Oxford Sociology; University of North Carolina Population Center
- 2016: Pritchard Lab; Stanford SCOPE; USC Population Center; Stanford Gardner Center; Berkeley Center on the Economics and Demography of Aging, Genes and Complex Human Phenotypes Workshop; Russell

Sage Foundation; Add Health User's Conference; Integrating biology and the social sciences: Challenges and opportunities, El Colegio de Mexico; Demography Seminar, University of Wisconsin; Conference on Genetics and Social Science, Human capital and economic opportunity global working group; Biomarker Network Meeting

- 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)

Talks & Posters at Annual Meetings

Eastern Sociological Society; Interdisciplinary Association for Population Health Science, Behavior Genetics Association, Society of Research on Child Development, 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

Service

Editorial Duties

- AERA Open Editorial Board, 1/2017-present
- PLOS Genetics (Guest Associate Editor)

Ad Hoc Review

- Grant Proposals: NSF; NIH; MQ: Transforming mental health; Stanford Population Health Sciences, Spectrum Pilot Grants, TELOS: Technology for Equity in Learning Opportunities
- Journals: Journal of Health and Social Behavior; Psychological Science; American Journal of Public Health; Proceedings of the National Academy of Sciences; Social Science and Medicine; JAMA Psychiatry; Journal of Learning Analytics; Journal of Educational Data Mining; Sociology Compass; Nature Human Behaviour; American Sociological Review; Review of Education; Social Forces; Psychometrika; Journal of Marriage and Family; 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; L@S (Learning at Scale); Population Association of America; International Objective Measurement Workshop (IOMW); Interdisciplinary Association for Population Health Science (IAPHS)

Training

- Instructor, University of Michigan Genomics for Social Scientists Workshop, 2018
- Instructor, Oxford NCRM Summer School: An introduction to combining social science and molecular genetic research, 2017
- Instructor, Genome-wide data, Summer Workshop, El Colegio de México 2016
- Instructor, Genome-wide genetic risk score construction, IGSS 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

Other

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

Consulting

- Psychometrics consulting for Literably. 2017–
- 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