

Richard Border  
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## Education

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- Present      Ph.D. Candidate  
*Behavioral, Psychiatric, and Statistical Genetics*  
*Department of Psychology and Neuroscience, University of Colorado Boulder*
- M.S. Student  
*Computational Science and Engineering*  
*Department of Applied Mathematics, University of Colorado Boulder*
- 2017          Master of Arts  
*Behavioral, Psychiatric, and Statistical Genetics*  
*Department of Psychology and Neuroscience, University of Colorado Boulder*
- 2011          Bachelor of Arts  
*Japanese Language and Literature*  
*Department of East Asian Studies, Wesleyan University*

## Research Interests

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- **Biostatistics and statistical genetics.** Effect size estimation, power analysis, nonlinear genetic effects, method development, heritability and genetic distance metrics, numerical linear algebra, computation and simulation.
- **Psychology and psychometrics.** Measurement error, mood disorders, psychotic disorders, developmental psychopathology, mortality risk, externalizing behaviors.
- **Metascience.** Publication and citation biases, falsifiability, identification of spurious findings, reproducible research.

## Research Projects: Current and Planned

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- “A quantitative analysis of discrepancies between candidate gene and genome-wide studies of complex traits and related endophenotypes.” With Matthew Keller, Patrick Sullivan, and Emma Johnson
- “Evaluating historic candidate genes for major depressive disorder.” With Matthew Keller, Emma Johnson, Luke Evans, and Patrick Sullivan.
- “Best practices for controlling for confounds in gene-by-environment interaction studies.” With Matthew Keller and Luke Evans.
- “Adult outcomes of youth with antisocial behaviors.” With Soo Rhee and others.
- “Computational problems in heritability estimation.” With Stephen Becker, Farhad Pourkamali-Anaraki, and Matthew Keller.
- “Mortality in youth with conduct problems, their siblings, and matched controls.” With Soo Rhee and others.

- “EAGLE/ACTION Genome-wide meta-analysis of aggression and attention problems.” With Meike Bartels, Dorret Boomsma, Michel Nivard, and others.

## Publications and Presentations

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- 2018 **Border, R.**, Corley, R.C., Brown, S.A., Hewitt, J.K., Hopfer, C.J., Stallings, M.C., Wall, T.L., Young, S.E., Rhee, S.H.. “Predictors of adult outcomes in clinically- and legally-referred youth with antisocial behavior.” *Under review*.
- 2017 Johnson, E.C., **Border, R.**, Melroy-Greif, W.E., de Leeuw, C., Ehringer, M.A., Keller, M.C.. “No evidence that schizophrenia candidate genes are more associated with schizophrenia than non-candidate genes.” *Biological Psychiatry*. <http://dx.doi.org/10.1016/j.biopsych.2017.06.033>
- Border, R.**, Johnson, E.C., Berley, N., Sullivan, P.F., Keller, M.C. (Poster). “Discrepancies between candidate gene and genome-wide studies of complex traits and endophenotypes.” Presented at the 25<sup>th</sup> annual meeting of the World Congress of Psychiatric Genetics, Orlando, Florida, October 13-17, 2017
- Border, R.** and Keller, M.C.. “Commentary: Fundamental Problems with Candidate Gene-by-Environment Interaction Studies.” *Journal of Child Psychology and Psychiatry*. <http://dx.doi.org/10.1111/jcpp.12669>
- Park, A. L., Tsai, K. H., Guan, K., **Border, R.**, and Chorpita, B. F. (Talk). Unintended consequences of evidence-based treatment policy reform. In *Use of Evidence in Mental Health Treatment and Clinical Decision-Making*. Symposium accepted at the 4th Biennial Society for Implementation Research Collaboration Conference, Seattle, WA.
- 2016 **Border, R.**, Corley R., Rhea S., Hewitt, J., Hopfer, C. , Stallings, M. , Wall, T., Young, S. and Rhee, S.H. “Mortality in Youth with Conduct Problems, Their Siblings, and Matched Controls. (Talk).” National Institute of Mental Health trainee mini-conference. Boulder, CO.
- 2015 **Border, R.**, Sawaya, S., Huggett, S., Brown, S., Wall, T., and Stallings, M. “Sensitivity of Random Forests Algorithm to Population Stratification in GWAS Data. (Poster).” Presented at the annual meeting of the Behavior Genetics Association in San Diego, CA.

## Honors and Awards

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- 2016–2018 National Institute of Mental Health Trainee T32 MH016880  
*Selected by faculty training committee twice consecutively.*
- 2017 United Government of Graduate Students Individual Travel Award  
*University of Colorado Boulder Graduate School*
- 2016–2019 Predoctoral Fellowship  
*Institute for Behavioral Genetics, University of Colorado Boulder*

## Peer Review

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I have reviewed articles for the following journals:

- American Journal of Medical Genetics Part B: Neuropsychiatric Genetics
- Genes, Brain and Behavior

- Psychoneuroendocrinology

## Teaching

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- 2018      Statistical Methods (Combined Undergraduate and Graduate Sections)  
*Grader and Course Assistant, Department of Applied Mathematics.*
- 2016      Statistical Programming with R (Graduate)  
*Teaching Assistant, Department of Psychology and Neuroscience.*
- Statistics II (Graduate)  
*Teaching Assistant, Department of Psychology and Neuroscience.*
- 2015      Introduction to Statistics (Undergraduate)  
*Teaching Assistant, Department of Psychology and Neuroscience.*
- Statistical Programming with R (Graduate)  
*Teaching Assistant, Department of Psychology and Neuroscience.*