

## Curriculum Vitae

**Joseph M. Kush**

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### EDUCATION

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| Ph.D. | 2021 | University of Virginia<br>Educational Psychology – Research, Statistics and Evaluation<br>Advisors: Timothy R. Konold and Catherine P. Bradshaw |
| B.S.  | 2016 | Syracuse University<br>Psychology – Minors in Applied Statistics, Philosophy  |

### PROFESSIONAL POSITIONS

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| 2021 -      | Postdoctoral Fellowship, Department of Mental Health, Johns Hopkins Bloomberg School of Public Health<br>Advisors: Elizabeth A. Stuart and Rashelle J. Musci |
| 2016 - 2021 | Research and Teaching Assistant, University of Virginia School of Education and Human Development  |
| 2014 - 2015 | Research Assistant, Syracuse University S.I. Newhouse School of Public Communications  |
| 2011 - 2016 | Research Assistant, Syracuse University Department of Psychology   |

### HONORS AND AWARDS

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| 2021-2023   | <i>Prevention Science</i> Early Career Reviewer Program              |
| 2020        | University of Virginia Outstanding Graduate Teaching Assistant Award |
| 2016 - 2021 | University of Virginia Graduate Fellowship                           |
| 2012 - 2016 | Syracuse University Dean's List                                      |

### Personal Statement

I am currently a postdoctoral fellow in the Department of Mental Health at Johns Hopkins Bloomberg School of Public Health, working alongside Dr. Elizabeth Stuart and Dr. Rashelle

Musci. My training is focused in the areas of statistical methods for causal inference and data harmonization, including application to topics in mental health and education. My research is primarily interested in improving statistical methods and research designs for the social sciences. Often utilizing Monte Carlo simulation studies, this has included work on multilevel measurement models, propensity score methods for causal-inference in intervention implementation, and research design considerations such as statistical power for clustered randomized trials. I have also worked closely alongside substantive researchers in the areas of educational and behavioral interventions and evaluation, racial disproportionality in disciplinary outcomes, and measurement related to social, emotional, and behavioral assessments.

## SCHOLARLY ACTIVITY

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### Publications

#### Peer Reviewed

**Kush, J. M.**, Masyn, K. E., Amin-Esmaeili, M., Susukida, R., Wilcox, H. C., & Musci, R. J. (In press, 2022). Utilizing moderated nonlinear factor analysis models for integrative data analysis: A tutorial. *Structural Equation Modeling: A Multidisciplinary Journal*. doi: 10.1080/10705511.2022.207075

Brown, J. T., Volk, F., & **Kush, J. M.** (In press, 2022). How the COVID pandemic differentially impacted retention for residential and online students: Implications for financial aid policy and practice. *Journal of Student Financial Aid*.

Bradshaw, C. P., Debnam, K. J., **Kush, J. M.**, & Lindstrom-Johnson, S. (2022). Planning for crisis, but preparing for everyday: What predicts schools' preparedness to respond to a school safety crisis? *Frontiers in Communication: Organizational Psychology*. <https://doi.org/10.3389/fcomm.2022.765336>

Bloomfield-Clagett, B., Greenstein, D. K., **Kush, J. M.**, Musci, R. J., Zarate, C. A., & Ballard, E. (2022). Predictors of suicidal ideation trajectories in the Sequenced Treatment Alternatives to Relieve Depression (STAR\*D) study. *Journal of Psychiatric Research*, 148(2022), 9-13. <https://doi.org/10.1016/j.jpsychires.2022.01.027>

Bradshaw, C. P., Pas, E. T., Musci, R. J., **Kush, J. M.**, & Ryoo, J. H. (2021). Leveraging policy to improve behavioral and academic outcomes through School-wide Positive Behavioral Interventions and Supports. *Prevention Science*, 22(7), 986-1000. <https://link.springer.com/article/10.1007%2Fs11121-021-01257-0>

**Kush, J. M.**, Konold, T. R., & Bradshaw, C. P. (2021). The sampling ratio in multilevel structural equation models: Considerations to inform study design. *Educational and Psychological Measurement*, 82(3), 409-443. <https://doi.org/10.1177/00131644211020112>

**Kush, J. M.**, Konold, T. K., & Bradshaw, C. P. (2021). Statistical power for randomized controlled trials with clusters of varying size. *The Journal of Experimental Education*, 90(3), 673-692. <https://doi.org/10.1080/00220973.2021.1873089>

- Larson, K. E., Pas, E. T., Bottiani, J. H., **Kush, J. M.**, & Bradshaw, C. P. (2020). A multidimensional and multilevel examination of student engagement and teachers' use of classroom management practices. *Journal of Positive Behavior Interventions*, 23(3), 149-162. <https://doi.org/10.1177/1098300720929352>
- Bradshaw, C. P., & **Kush, J. M.** (2019). Teacher observation of classroom adaptation-checklist: Measuring children's social, emotional, and behavioral functioning. *Children & Schools*, 42(1), 29-40. <https://doi.org/10.1093/cs/cdz022>
- Larson, K. E., Bottiani, J. H., Pas, E. T., **Kush, J. M.**, & Bradshaw, C. P. (2019). A multilevel analysis of racial discipline disproportionality: A focus on student perceptions of academic engagement and disciplinary environment. *Journal of School Psychology*, 77, 152-167. <https://doi.org/10.1016/j.jsp.2019.09.003>
- Morin, H. K., Bradshaw, C. P., & **Kush, J. M.** (2018). Adjustment outcomes of victims of cyberbullying: The role of personal and contextual factors. *Journal of School Psychology*, 70, 74–88. <https://doi.org/10.1016/j.jsp.2018.07.002>

#### *Manuscripts under review*

- Henderson, L. J., Bottiani, J. H., **Kush, J. M.**, & Bradshaw, C. P. (Under review, 2022). The discipline gap in context: The role of school racial and ethnic diversity in out-of-school suspensions.
- Kush, J. M.**, Badillo-Goicoechea, E., Musci, R. J., & Stuart, E. A. (Under review, 2022). Teacher mental health during the COVID-19 pandemic. <https://arxiv.org/abs/2109.01547>
- Bradshaw, C. P., **Kush, J. M.**, Braun, S. S., & Barton, E. A. (Under review, 2022). The impact of the COVID-19 pivot to remote instruction on educators: Differences among teachers and administrators, elementary and secondary educators, and public and private school educators.
- Volk, F., **Kush, J. M.**, & Brown, J. T. (Under review, 2022). The anatomy of room change: Architecture, academic performance, and differences in race and socioeconomic status.
- Bottiani, J. H., **Kush, J. M.**, McDaniel, H. L., Pas, E. T., & Bradshaw, C. P. (Under review, 2022). Are we moving the needle on racial discipline disproportionality? Equity measurement challenges in a statewide scale-up of school discipline reform.
- Kush, J. M.**, Pas, E. T., Musci, R. J., & Bradshaw, C. P. (Under review, 2022). Covariate balance for observational effectiveness studies: A comparison of matching and weighting.

#### *Manuscripts in progress*

- Brown, J. T., Volk, F., & **Kush, J. M.** (In progress, 2022). Inequalities in higher education: The interaction of race, socioeconomic status, and residence hall design on academic outcomes.

- Musci, R. J., **Kush, J. M.**, Masyn, K. E., Amin-Esmaeili, M., Susukida, R., Wilcox, H. C., Goulter, N., McMahon, R., Eddy, M. J., Tolan, P., & Ialongo, N. (In progress, 2022). Psychosis symptom trajectories across childhood and adolescence and the role of universal childhood programming.
- Wilcox, H. C., **Kush, J. M.**, Susukida, R., Amin-Esmaeili, M., Masyn, K. E., Godwin, J. E., Goulter, N., McMahon, R. J., Eddy, J. M., Tolan, P. H., Ialongo, N., & Musci, R. J. (In progress, 2022). The effects of early prevention on suicidal behaviors: Integrative data analysis from randomized school-based prevention trials with longitudinal outcome data.
- Musci, R. J., **Kush, J. M.**, Pas, E. T., & Bradshaw, C. P. (In progress, 2022). Sounding the alarm in mixture modeling: Class enumeration with nested data.

## Conference Presentations and Posters

### *Presentations*

- Kush, J. M.**, Masyn, K. E., Amin-Esmaeili, M., Susukida, R., Wilcox, H. C., & Musci, R. J. (June, 2022). Extending moderated nonlinear factor analysis to mixture models. Society for Prevention Research, Seattle, WA.
- Bradshaw, C. P., **Kush, J. M.**, Braun, S. S., & Barton, E. A. (February, 2022). Educator stress, coping, and well-being during the COVID-19 pandemic. National Association of School Psychologists, Boston, MA.
- Kush, J. M.**, Badillo-Goicoechea, E., Musci, R. J., & Stuart, E. A. (September, 2021). Teacher mental health during the COVID-19 pandemic: Informing policies to support teacher well-being and effective teaching practices. Society for Research on Educational Effectiveness, Arlington, VA.
- Bradshaw, C. P., **Kush, J. M.**, Braun, S. S., & Barton, E. A. (June, 2021). Understanding the perceived impact of COVID-19 on teacher and administrator stress and the social-emotional functioning of their students. Society for Prevention Research, Virtual Meeting.
- Kush, J. M.**, Konold, T. R., & Bradshaw, C. P. (April 2021). The role of sampling ratio in multilevel structural equation models. American Educational Research Association, Virtual Meeting.
- Musci, R. J., & **Kush, J. M.** (May 2020). Class enumeration in latent class analysis with nested data. Society for Prevention Research, Washington, D.C.
- Kush, J. M.** (May 2019). Unbalanced cluster sizes and variation in sampling in cluster randomized controlled trials: What's the impact on power? Society for Prevention Research, San Francisco, CA.
- Ryoo, J. H., Pas, E. T., **Kush, J. M.**, Musci, R., & Bradshaw, C. P. (May 2018). Efficiency of propensity score methods in longitudinal and multilevel data via monte carlo simulation. Society for Prevention Research, Washington, D.C.

Ryoo, J. H., Kush, **J. M.**, Pas, E. T., Musci, R., & Bradshaw, C. P. (May 2018). Investigation of propensity score matching paradox in longitudinal data. Society for Prevention Research, Washington, D.C.

Bradshaw, C. P., Ryoo, J. H., Pas, E. T., **Kush, J. M.**, & Musci, R. (May 2018). Impacts of state-mandated pbis implementation on behavior and achievement outcomes. Society for Prevention Research, Washington, D.C.

Ryoo, J. H., Bradshaw, C. P., & **Kush, J. M.** (July 2017). Propensity score analysis using superlearner for longitudinal data. Psychometric Society, Zürich, Switzerland.

### *Posters*

**Kush, J. M.**, Masyn, K. E., & Musci, R. J. (April, 2022). Utilizing moderated nonlinear factor analysis models for integrative data analysis. American Educational Research Association, San Diego, CA.

**Kush, J. M.** (June 2020). Statistical power for randomized trials with clusters of varying size. Modern Modeling Methods, Storrs, CT.

**Kush, J. M.**, & Catherine, C. P. (March 2019). The TOCA-C: An efficient approach to measuring children's social, emotional, and behavioral functioning by teachers. Society for Research in Child Development, Baltimore, MD.

Ryoo, J. H., **Kush, J. M.**, Pas, E. T., Musci, R., & Bradshaw, C. P. (May 2018). Power analysis in multilevel data with variability in the level 1 units. Society for Prevention Research, Washington, DC.

## **TEACHING AND RESEARCH GRANT EXPERIENCE**

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### **Teaching Experience**

1. Primary Instructor for EDLF 2080, Fundamentals of Health and Social Science Statistics, Fall 2019, University of Virginia
  - Created all course material, including homework, exams, and in-class assignments for students. Responsible for teaching and grading undergraduate students. Undergraduate-level course.
2. Teaching Assistant for EDLF 8360 – Multilevel Modeling in Education Research, Fall 2018, University of Virginia
  - Created in-class assignments for students. Held office hours for material review, provided support for homework or other in-class assignments, as well as provided assistance for final projects reports. Graduate-level course.
3. Teaching assistant for EDLF 7420 – Quantitative Methods II: General Linear Models, Spring 2018, University of Virginia

- Held office hours for material review, provided support for homework or other in-class assignments, as well as provided assistance for final projects reports. Graduate-level course.

## Research Grant Experience

### 1. Evaluating Maryland State Policies to Improve School Climate

Funding	Institute of Education Sciences (IES)
ID	R305H150027
Role	Research Associate (PIs: Bradshaw, C. P., Alexander, A., & Pas, E. T.)
Period	07/2015 – 06/2020
Total	\$2,756,311
Topic	Assessing the implementation fidelity and effectiveness of Positive Behavioral Interventions and Supports (PBIS), a school-wide intervention mandated throughout the state of Maryland.

### 2. Implementing State-Level Policy Reform to Eliminate School Discipline Disparities: A Mixed Methods Examination

Funding	William T. Grant Foundation
Role	Research Associate (PIs: Bottiani, J. H., & Bradshaw, C. P.)
Period	04/2018 – 03/2021
Total	\$150,403
Topic	To evaluate the effectiveness of a state-level policy to reduce discipline disparities for Black youth.

### 3. Examining the Association between Residence Hall Design, Student Socialization Processes, and Academic Outcomes

Funding	Association of College and University Housing Officers - International (ACUHO-I)
Role	Co-Investigator (PI: Brown, J.)
Period	07/2020 – 12/2021
Total	\$5,000
Topic	Investigating interactions among residence hall type, race, and hall-specific socialization processes related to first-year student outcomes in the form of student interactions and student learning.

### 4. Netting Prevention Intervention Butterfly Effects: An Integrative Data Analysis Investigating the Long-term and Cross-over Effects of Randomized, School-based Prevention Programs on Adult Mental Health

Funding	National Institute of Mental Health (NIMH)
ID	R01MH122214
Role	Research Associate (PIs: Musci, R. J., & Wilcox, H. C.)
Period	12/2019 – 11/2022
Total	\$514,525

Topic	To link and harmonize data from six randomized controlled trials with preventive interventions to understand long-term impacts on mental health outcomes through early adulthood, including suicidal behaviors, depression and anxiety symptoms and diagnoses, and psychosis symptoms.
5. Addressing Suicide Research Gaps: Understanding Mortality Outcomes in the Mid-Atlantic Region	
Funding	National Institute of Mental Health (NIMH)
ID	R56MH117560
Role	Statistical Analyst (PIs: Kharrazi, H. H. K., & Wilcox, H. C.)
Period	09/2019 – 09/2020
Total	\$492,000
Topic	Conducting data linkage and informatics approaches to utilize existing resources to improve suicide risk identification and prevention.

### **Statistical Software Training**

Advanced: Mplus, R, Stata, HLM8, jMetrik, WinBUGS, and SPSS.

Learning: flexMIRT, MLwiN and Stan.

## **SERVICE**

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### **Ad-Hoc Reviewing Activities**

*Prevention Science*, 2021-

*Global Mental Health*, 2021-

### **Conference Reviewing Activities**

American Educational Research Association, 2021-

American Educational Research Association Division D Graduate Student Council In-Progress Research Gala, 2021

Hunter Student Research Conference, 2021

Curry Research Conference, 2018-2020

### **Profession Affiliations**

American Educational Research Association (AERA, Division D)

American Psychological Association (APA, Division 5)

Society for Prevention Research (SPR)

Society for Research on Child Development (SRCD)

Society for Research on Educational Effectiveness (SREE)