# Patrick G. Bissett, Ph. D

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## Employment

Stanford University, Stanford, CA (2019 –)
Research Scientist, Department of Psychology

## Education

Stanford University, Stanford, CA (2014 – 2019)
Postdoctoral Fellow, Department of Psychology

Vanderbilt University, Nashville, TN (2009 – 2014)
Ph. D in Cognition and Cognitive Neuroscience

University of Michigan, Ann Arbor, MI (2004 – 2008)
Bachelor's of Science with Distinction and Highest Honors in Brain, Behavior, and Cognitive Science

University of Oxford, Oxford, UK (2007)
Study abroad program at St. Edmund Hall

## Publications

**Bissett, P. G.**, Li, J. K., Jones, H. M., Davidson, W., Meidan, N., Saliy-Grigoryan, A., White, C. N., Schonberg, T., & Poldrack, R. A. (accepted in principle). Registered replication of Wessel and colleagues (2014) "Stimulus devaluation induced by stopping action". *Journal of Experimental Psychology: General.*

Mazza, G. L., Smyth, H. L., **Bissett, P. G.**, Canning, J. R., Eisenberg, I. W., Enkavi, A. Z.,…MacKinnon, D. P. (2020). Correlation database of 60 cross-disciplinary surveys and cognitive tasks assessing self-regulation. *Journal of Personality Assessment.*

Thompson, W. H., Wright, J., **Bissett, P. G.**, & Poldrack, R. A. (2020). Dataset decay: The problem of sequential analyses on open dataset. *eLife, 9*, e53498.

Thompson, W. H.*, Wright, J.*, **Bissett, P. G.**.* (2020). Open Exploration. *eLife, 9,* e52157. (co-first author)

Enkavi, A. Z., Eisenberg, I. W., **Bissett, P. G.**, Mazza, G. L., MacKinnon, D. P., Marsch, L. A., & Poldrack, R. A. (2019). Reply to Friedman and Banich: Right measures for the research question. *Proceedings of the National Academy of Sciences, 116,* 24398-24399.

Eisenberg, I. W., **Bissett, P. G.**, Enkavi, A. Z., Li, J., MacKinnon, D. P., Marsch, L. A., & Poldrack, R. A. (2019). Uncovering the structure of self-regulation through data-driven ontology discovery. *Nature Communications, 10,* 2319.

Verbruggen, F., Aron, A. R., Band, G. P. H., Beste, C., **Bissett, P. G.**, Brockett, A. T.,…Boehler, C. N. (2019). Capturing the ability to inhibit actions and impulsive behaviors: A consensus guide to the stop-signal task. *eLife, 8,* e46323.

Enkavi, A. Z., Eisenberg, I. W., **Bissett, P. G.**, Mazza, G. L., MacKinnon, D. P., Marsch, L. A., & Poldrack, R. A. (2019). A large-scale analysis of test-retest reliabilities of self-regulation measures. *Proceedings of the National Academy of Sciences, 116,* 5472-5477.

Eisenberg, I. W., **Bissett, P. G.**, Canning, J. R., Dallery, J., Enkavi, A. Z., Whitfield-Gabrieli, S.,…Poldrack, R. A. (2018). Applying novel technologies and methods to inform the ontology of self-regulation. *Behaviour Research and Therapy, 101,* 46-57.

Wylie, S. A., van Wouwe, N. C., Godfrey, S. G., **Bissett, P. G.**, Logan, G. D., Kanoff, K. E.,…van den Wildenberg, W. P. M. (2018). Dopaminergic medication shifts the balance between going and stopping in Parkinson's disease. *Neuropsychologia, 109,* 262-269.

**Bissett, P. G.,** Grant, L. D., & Weissman, D. H. (2017). Resisting distraction and response inhibition trigger similar enhancements in future performance. *Acta Psychologica, 180,* 40-51.

Weissman, D. H., Colter, K. M., Grant, L. D., & **Bissett, P. G.** (2017). Identifying stimuli that cue multiple responses triggers the congruency sequence effect independent of response conflict. *Journal of Experimental Psychology: Human Perception and Performance, 43,* 677-689.

Shine, J. M., **Bissett, P. G.**, Bell, P. T., Koyejo, O., Balsters, J. H., Gorgolewski, K. J., Moodie, C. A., & Poldrack, R. A. (2016). The dynamics of functional brain networks: Integrated network states during cognitive task performance. *Neuron, 92,* 544-554.

Georgiades, M. J., Gilat, M., Ehgoetz Martens, K. A.,Walton, C. C., **Bissett, P. G.**, Shine, J. M., & Lewis, S. J. (2016). Investigating motor initiation and inhibition deficits in patients with Parkinson's disease and freezing of gait using a virtual reality paradigm. *Neuroscience, 337,* 153-162.

Sochat, V. V., Eisenberg, I. W., Enkavi, A. Z., Li, J., **Bissett, P. G.**, & Poldrack. R. A. (2016). The experiment factory: Standardizing behavioral experiments. *Frontiers in Psychology, 7,* 1-9.

**Bissett, P. G.**, Logan, G. D., van Wouwe, N. C., Tolleson, C. M., Phibbs, F . T., Claassen, D. O., & Wylie, S. A. (2015). Generalized motor inhibitory deficit in Parkinson's disease patients who freeze. *Journal of Neural Transmission, 122,* 1693-1701.

**Bissett, P. G.**, & Logan, G. D. (2014). Selective Stopping? Maybe not. *Journal of Experimental Psychology: General, 143,* 455-472.

**Bissett, P. G.**, & Logan, G. D. (2013). Stop before you leap: Changing eye and hand movements requires stopping. *Journal of Experimental Psychology: Human Perception and Performance, 39,* 941-946.

**Bissett, P. G.** (2013). The countermanding task revisited: Mimicry of race models. [Commentary on "The countermanding task revisited: Fast stimulus detection is a key determinant of psychophysical performance"]. *The Journal of Neuroscience, 33,* 12150-12151.

**Bissett, P. G.**, & Logan, G. D. (2012). Post-stop-signal adjustments: Inhibition improves subsequent inhibition. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 38,* 955-966.

**Bissett, P. G.**, & Logan, G. D. (2012). Post-stop-signal slowing: Strategies dominate reflexes and implicit learning. *Journal of Experimental Psychology: Human Perception and Performance, 38,* 746-757.

Yamaguchi, M., Logan, G. D., & **Bissett, P. G.** (2012). Stopping while going! Response inhibition does not suffer dual-task interference. *Journal of Experimental Psychology: Human Perception and Performance, 38,* 123-134.

**Bissett, P. G.**, & Logan, G. D. (2011). Balancing cognitive demands: Control adjustments in the stop-signal paradigm. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 37,* 392-404.

**Bissett, P. G.**, Nee, D. E., & Jonides, J. (2009). Dissociating Interference-Control Processes between Memory and Response. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 35,* 1306-1316.

Cooper, S., Iyer, G., Tarquini, M., **Bissett, P.**, (2006). Nocodazole does not synchronize cells: implications for cell-cycle control and whole-culture synchronization. *Cell and Tissue Research, 324,* 237-242.

## Submitted Manuscripts

**Bissett, P. G.**, Hagen, M. P., Jones, H. M., Poldrack, R. A. (revise and resubmit). A cautionary note on stop-signal data from the Adolescent Brain Cognitive Development [ABCD] study. *eLife.* https://www.biorxiv.org/content/10.1101/2020.05.08.084707v4.

**Bissett, P. G.**, Jones, H. M., Poldrack, R. A., & Logan, G. D. (resubmission under review). Severe and pervasive violations of independence in response inhibition tasks. *Nature Communications.* https://psyarxiv.com/kpa65/.

Zmigrod, L., Eisenberg, I. W., **Bissett, P. G.**, Robbins, T. W., & Poldrack, R. A. (submitted). The psychological correlates of ideological attitudes: A data-driven approach. *Psychological Science.*

## Selected Conference Presentations

**Bissett, P. G.**, Poldrack, R. A., & Logan, G. D. Systematic violations of independence in models of response inhibition. Annual Meeting of the Organization of Human Brain Mapping. Rome, Italy, June 9-13, 2019.

**Bissett, P. G.**, Poldrack, R. A., & Logan, G. D. Systematic violations of independence in models of response inhibition. Association for Psychological Science Annual Convention. Washington DC, May 23-26, 2019.

**Bissett, P. G.**, Poldrack, R. A., & Logan, G. D. Severe violations of independence in response inhibition tasks are pervasive and consequential. Annual Meeting of Control Processes. Providence, Rhode Island, May 16-18, 2019.

**Bissett, P. G.**, Shine, J. M., Durnez, J., Li, J., & Poldrack. R. A. Combining stopping and working memory slows response inhibition and relates to network integration. Annual Meeting of the Organization of Human Brain Mapping. Singapore, June 17-21, 2018.

**Bissett, P. G.**, Eisenberg, I. W., & Poldrack, R. A. Reactive, proactive, and selective stopping: What can 500,000 trials tell us about inhibitory control? Annual Meeting of the Psychonomic Society. Vancouver, Canada, November 9-12, 2017.

**Bissett, P. G.**, Shine, J. M., Durnez, J., Li, J., Gorgolewski, K. J., Esteban, O., Blair, R., & Poldrack. R. A. Behavioral and neural interactions between working memory and stop-signal inhibition. Annual Meeting of the Organization of Human Brain Mapping. Vancouver, Canada, June 25-29, 2017.

**Bissett, P. G.**, Shine, J. M., Koyejo, O., Gorgolewski, K. J., & Poldrack, R. A. Fluctuation in network topology predict N-back correct and errors as a function of cognitive load. Annual Meeting of the Organization of Human Brain Mapping. Geneva, Switzerland, June 26-30, 2016.

**Bissett, P. G.**, & Poldrack, R. A. Fast inhibition or impulsive inhibition? Towards a common threshold for engaging and inhibiting responses. Association for Psychological Science Annual Convention. Chicago, Illinois, May 26-29, 2016.

**Bissett, P. G.**, Logan, G. D., & Wylie, S. A. Selective inhibition in young adults, older adults, and Parkinson's Disease. Annual Meeting of the Society for Neuroscience. San Diego, California, November 9-13, 2013.

**Bissett, P. G.**, & Logan, G. D. Strategies for selective stopping: Challenging the race model. Annual Meeting of the Psychonomic Society. Minneapolis, Minnesota, November 15-18, 2012.

**Bissett, P. G.**, & Logan, G. D. Post-stop-signal slowing: Strategies dominate reflexes and implicit learning. Annual Meeting of the Psychonomic Society. Seattle, Washington, November 3-6, 2011.

**Bissett, P. G.**, Nee, D. E., & Jonides, J. Interference mechanisms for response production and memory representations. Annual Meeting of the Psychonomic Society. Houston, Texas, November 16-19, 2006.

# Invited Talks

What is the structure of "self-regulation"? Association for Psychological Science Annual Convention. Washington DC, May 23-26, 2019.

Applying novel technologies and methods to inform the ontology of self-regulation. The NIH Science of Behavior Change Research Network Annual Meeting. Bethesda, Maryland, January 10, 2019.

Proactive control improves reactive response inhibition. Annual Meeting of Control Processes. Amsterdam, The Netherlands, October 11-13, 2017.

Strategies for selective stopping. Translational Aspects of Stopping Workshop. San Diego, California, November 8, 2013.

Selective response inhibition: Basic, clinical, developmental, and neuroscientific implications. University of Texas at Austin. October 7, 2013.

Selective stopping strategies across effectors, age, and Parkinson's Disease. University of California at San Diego. July 24, 2013.

# Awards

Vanderbilt University Graduate Student Travel Award, 2011, 2012, 2013

National Science Foundation Graduate Research Fellowship Honorable Mention, 2009

Vanderbilt University Departmental Award in recognition of exemplary academic record, 2009

University of Michigan W. B. Pillsbury Prize for Most Outstanding Honors Thesis, 2008

University of Michigan degree conferred with "Highest Honors" given for the best senior honors thesis in the Psychology Department, 2008

University of Michigan Spike Tanner Memorial Award for Research, 2007

University of Michigan Eli Lilly Research and Travel Award, 2006

National Merit Scholarship Finalist, 2003

# Funded Grants

National Institute of Mental Health (R01), 7/1/2018-3/31/2023:
Characterizing cognitive control networks using a precision neuroscience approach.
PI: Russell A. Poldrack, Role: Co-Investigator/Co-Author
$2,097,193 (awarded on first submission)

Ruth L. Kirschstein National Research Service Award from the National Institute of Drug Abuse (F32), 4/1/2016-3/31/2019:
Elucidate the mechanisms underlying inhibition induced devaluation.
PI: Patrick G. Bissett
$179,218 (awarded on first submission)

Stanford Center for Cognitive and Neurobiological Imaging (CNI) Innovations Grant, 2/15/18-8/31/18:
Characterizing cognitive control networks using a precision neuroscience approach
PI: Patrick G. Bissett
$2,000

Stanford Center for Cognitive and Neurobiological Imaging (CNI) Innovations Grant, 2/1/17-8/15/17:
Behavioral and neural interactions between working memory and stop-signal inhibition
PI: Patrick G. Bissett
$2,835

# Grants Under Review

National Institute of Drug Abuse (R01), 1/1/2021-12/31/2015:
Leveraging the Adolescent Brain Cognitive Development [ABCD] stop-signal data to understand response inhibition and substance use
MPIs: Patrick G. Bissett, Russell A. Poldrack
$1,971,250

Stanford Human-Centered Artificial Intelligence Seed Grants 1/1/2021-12/31/2021
Shared control between human and machine: Evaluating the costs to cognitive control
Co-PIs: Patrick G. Bissett, Monroe Kennedy III, Russell A. Poldrack
$75,000

## Peer Review

*Ad hoc journal reviewer:* Acta Psychologica, Behavioural Brain Research, Cerebral Cortex, Child Development, Cognition, Cognitive Development, Cortex, eLife, eNeuro, European Journal of Neuroscience, Experimental Brain Research, Human Brain Mapping, JAMA Psychiatry, Japanese Psychological Research, Journal of Experimental Child Psychology, Journal of Experimental Psychology: General, Journal of Experimental Psychology: Human Perception and Performance, Journal of Neurophysiology, Memory & Cognition, Nature Human Behaviour, Neurobiology of Aging, NeuroImage, Neuropsychologia, Personality and Individual Differences, PLOS ONE, Psychological Research, Psychological Science, Psychonomic Bulletin & Review, Quarterly Journal of Experimental Psychology, Scientific Reports, The Journal of Neuroscience, Vision Research

*Ad hoc grant reviewer:* Medical Research Council

# Teaching and Supervision Experience

Teaching Assistant in Experimental Design (x2), Introduction to Psychology, and Perception.

Supervisor to 13 Research Coordinators and Research Assistants. Secondary supervisor to 2 Ph. D students.

# Professional Societies

Association for Psychological Science, Organization for Human Brain Mapping, Society for Neuroscience