Daniel Bennett

Curriculum Vitae

School of Psychological Sciences, Monash University, Australia

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Research interests

In my research, I use the methods of computational cognitive science to understand the complex interactions between affect/emotion and cognition. I am also interested in applications of these questions to: (i) interactions between emotion, learning, and decision making in mood disorders like major depression and bipolar disorder, and (ii) the cognitive and affective processes that underlie gambling-related harm in interactive betting.

Employment

Lecturer   **2022-present**

School of Psychological Sciences, Monash University

Research Fellow   **2021-2022**

Department of Psychiatry, Monash University

Postdoctoral Research Fellow   **2017-2020**

Princeton Neuroscience Institute, Princeton University
Advisor: Yael Niv

Education

Doctor of Philosophy (PhD) in Psychology   **2013-2017**

The University of Melbourne
Thesis: Belief updating and information seeking in decision making under uncertainty
Supervisors: Stefan Bode, Carsten Murawski, Rob Hester

Bachelor of Science (Honours) in Psychology   **2011**

The University of Melbourne

Bachelor of Science and Bachelor of Arts   **2007-2010**

The University of Western Australia

Publications

Preprints and under review

1. Forbes, L. & **Bennett, D.** (under review). The effect of reward prediction errors on subjective affect depends on outcome valence and decision context. Preprint hosted at *PsyArXiv*: https://psyarxiv.com/v86bx

2. **Bennett, D.**, Nakamura, J., Vinnakota, C., Sokolenko, E., Nithianantharajah, J., van den Buuse, M., Jones, N. C., Sundram, S., & Hill, R. (under review). Mouse behaviour on the trial-unique non-matching-to-location (TUNL) touchscreen task reflects a mixture of distinct working memory codes and response biases. Preprint hosted at *bioRxiv*.

3. **Bennett, D.***, Radulescu, A.*, Zorowitz, S., Felso, V., & Niv, Y. (under review). Affect-congruent attention drives changes in reward expectations. Preprint hosted

at *PsyArXiv*: `https://psyarxiv.com/vu2cw`

4. Zorowitz, S., Niv, Y., & **Bennett, D.** (under review). Inattentive responding can induce spurious associations between task behavior and symptom measures. Preprint hosted at *PsyArXiv*: `https://psyarxiv.com/rynhk/`

Peer-reviewed journal articles and book chapters

5. Weber, I., Zorowitz, S., Niv, Y., & **Bennett, D.** (2022). The effects of induced positive and negative affect on Pavlovian-instrumental interactions. *Cognition and Emotion, 36*(7), 1343-1360.

6. **Bennett, D.**, Davidson, G., & Niv, Y. (2022). A model of mood as integrated advantage. *Psychological Review, 129*(3), 513-541.

7. **Bennett, D.**, Niv, Y., & Langdon, A. J. (2021). Value-free reinforcement learning: Policy optimization as a minimal model of operant behavior. *Current Opinion in Behavioral Sciences, 41*, 113-121.

8. Smillie, L. D., **Bennett, D.**, Tan, N. P., Sutcliffe, K., Fayn, K., Bode, S., & Wacker, J. (2021). Does openness/intellect predict sensitivity to the reward value of information? *Cognitive, Affective, and Behavioral Neuroscience, 21*(5), 993-1009.

9. Zorowitz, S., **Bennett, D.**, Choe, G. & Niv, Y. (2021). A recurring reproduction error in the administration of the Generalized Anxiety Disorder Scale. *The Lancet Psychiatry, 8*(3), 180-181.

10. **Bennett, D.**, Sutcliffe, K., Tan, N. P., Smillie, L. D., & Bode, S. (2021). Anxious and obsessive-compulsive traits are independently associated with valuation of non-instrumental information. *Journal of Experimental Psychology: General, 150*(4), 739-755.

11. Goh, A. X.-A., **Bennett, D.**, Bode, S., & Chong, T. T.-J. (2021). Neuro-computational mechanisms underlying the subjective value of information. *Communications Biology, 4*(1), 1-14.

12. **Bennett, D.**, & Niv, Y. (2020). Opening Burton's clock: Psychiatric insights from computational cognitive models. Chapter in *The Cognitive Neurosciences, 6th edition* (M. Gazzaniga, ed.).

13. **Bennett, D.**, Silverstein, S., & Niv, Y. (2019). The two cultures of computational psychiatry. *JAMA Psychiatry, 76*(6), 563-564.

14. **Bennett, D.***, Sasmita, K.*, Maloney, R. T., Murawski, C., & Bode, S. (2019). Monetary feedback modulates performance and electrophysiological indices of belief updating in reward learning. *Psychophysiology, 56*(10), e13431.

15. Bode, S., Feuerriegel, D., **Bennett, D.**, & Alday, P. M. (2019). The Decision Decoding ToolBOX (DDTBOX): A multivariate pattern analysis toolbox for event-related potentials. *Neuroinformatics, 17*(1), 27-42.

16. Sewell, D., Warren, H. A., Rosenblatt, D., **Bennett, D.**, Lyons, M., & Bode, S. (2018). Feedback discounting in probabilistic categorization: converging evidence from EEG and cognitive modelling. *Computational Brain and Behavior, 1*(2), 165-183.

17. Bode, S., **Bennett, D.**, Sewell, D, K., Paton, B., Egan, G. F., Smith, P. L., & Murawski, C. (2018). Dissociating neural variability related to stimulus quality and response times in perceptual decision-making. *Neuropsychologia, 111*, 190-200.

18. Brydevall, M.*, **Bennett, D.***, Murawski, C., & Bode, S. (2018). The neural encoding of information prediction errors during non-instrumental information seeking. *Scientific Reports, 8*, 6134.

19. **Bennett, D.**, Yücel, M., & Murawski, C. (2018). Errors of statistical inference in the Information Sampling Task. *Biological Psychiatry, 83*(12), e61-e62.

20. **Bennett, D.**, Oldham, S., Dawson, A., Parkes, L., Murawski, C., & Yücel, M. (2017). Systematic overestimation of reflection impulsivity in the Information Sampling Task. *Biological Psychiatry, 82*(4), e29-e30.

21. Carter, O., **Bennett, D.**, Nash, T., Arnold, S., Brown, L., Cai, R.Y., Allan, Z., Dluzniak, A., McAnally, K., Burr, D., & Sundram, S. (2017). Sensory integration deficits support a dimensional view of psychosis and are not limited to schizophrenia. *Translational Psychiatry, 7*, e1118.

22. **Bennett, D.**, Bode, S., Brydevall, M., Warren, H., & Murawski, C. (2016). Intrinsic valuation of information in decision making under uncertainty. *PLoS Computational Biology, 12*(7), e1005020.

23. **Bennett, D.**, Dluzniak, A., Cropper, S., Partos, T., Sundram, S., & Carter, O. (2016). Selective impairment of global motion integration, but not global form integration, in schizophrenia and bipolar affective disorder. *Schizophrenia Research: Cognition, 3*, 11-14.

24. **Bennett, D.** (2015). The neural mechanisms of Bayesian belief updating. *The Journal of Neuroscience, 35*(50), 16300-16302.

25. **Bennett, D.**, Murawski, C., & Bode, S. (2015). Single-trial event-related potential correlates of belief updating. *eNeuro, 2*(5), 1-14.

26. Bode, S., **Bennett, D.**, Stahl, J., & Murawski, C. (2014). Distributed patterns of event-related potentials predict subsequent ratings of abstract stimulus attributes. *PLoS One, 9*(10), e109070.

Extended abstracts in peer-reviewed conference proceedings

27. **Bennett, D.** (2022). No evidence for short-timescale temporal declines in expectations within a controlled cognitive task. *Proceedings of the 44th Annual Meeting of the Cognitive Science Society.*

28. **Bennett, D.**, Davidson, G., & Niv, Y. (2019). Momentum and mood in policy-gradient reinforcement learning. *The 4th Multidisciplinary Conference on Reinforcement Learning and Decision Making.*

29. **Bennett, D.**, Feuerriegel, D., Alday, P. M., & Bode, S. (2017). The Decision Decoding ToolBOX (DDTBOX): A multivariate pattern analysis toolbox for event-related potentials. *Conference on Cognitive Computational Neuroscience 2017.*

* Denotes equal contribution

Grants and funding	*Activation Fund* (AUD $20,000 + GBP £10,000) Monash-Warwick Alliance Role: Chief investigator Project title: Building an online data-collection platform for in-play sports betting	**2022**
	Turner Institute Strategic Project Grants Scheme (AUD $20,000) The Turner Institute for Brain and Mental Health, Monash University Role: Chief investigator Project title: Using computational cognitive science to tackle cash-out gambling	**2022**
	Sir Keith Murdoch Graduate Fellowship (USD $40,000) American-Australian Association	**2019**
	CJ Martin Early Career Fellowship (AUD $417,192) National Health and Medical Research Council Role: Chief investigator Project title: Towards a neurocomputational model of mood instability in psychiatric illness.	**2019-2022**
Awards	*Best ECR Presentation* Australasian Society for Bipolar Disorder and Depression - ECR Webinar Series	**2020**
	Travel Fellowship Award (USD $2,000) Society of Biological Psychiatry	**2020**
	Career Development Award (AUD $1,500) School of Psychological Sciences, The University of Melbourne	**2016**
	Postgraduate student presentation award School of Psychological Sciences, The University of Melbourne	**2015**
	Melbourne Abroad Travelling Scholarship (AUD $1,500) The University of Melbourne	**2014**
	Australian Postgraduate Award (AUD $92,008) Postgraduate research scholarship, Australian Federal Department of Education	**2013-2016**
	Dwight Prize for Honours in Psychology For coursework in Psychology at The University of Melbourne	**2011**
	Dean's Honours List in Science For coursework in the Bachelor of Science at The University of Melbourne	**2011**
	Convocation, The UWA Graduates Association Prize Award for undergraduate coursework	**2008**
	Commonwealth Accommodation Scholarship Undergraduate scholarship, Australian Federal Department of Education	**2007-2010**
Teaching	*NB: Where available, student evaluations reflect the most recent year*	

Monash University   **2022-present**

– *2022-present*: Lecturer and Chief Examiner, PSY3051 (Perception and Cognitive Psychology). Third-year undergraduate unit, ∼300 students, delivered ∼22 1-hr lectures onwards.
Student evaluation: 90/100 ('Very High', highest possible satisfaction band)

– *2022-present*: Lecturer and Chief Examiner, PSY3032 (Psychological Disorders). Third-year under-graduate unit, ∼400 students, delivered 12 1-hr lectures
Student evaluation: 90/100 ('Very High', highest possible satisfaction band)

– *2022-present*: Lecturer, PSY1011 (Psychology 1A). First-year undergraduate unit, ∼1200 students, delivered 4 1-hr lectures on learning and memory.
Student evaluation: 91/100 ('Very High', highest possible satisfaction band).

– *2022*: Lecturer, PSY1022 (Psychology 1B). First-year undergraduate unit, ∼1200 students, delivered 4 1hr lectures on sensation and perception.
Student evaluation: 90/100 ('Very High', highest possible satisfaction band).

Princeton University   **2018**

– *Fall 2018*: Postdoctoral Tutorial Leader, Junior Neuroscience Tutorial. Responsibilities: design, deliver, and assess a 6-week intensive undergraduate neuroscience tutorial series.

University of Melbourne   **2011-2016**

– *2016*: Lecturer, PSYC40004 (Current Topics in Cognitive Neuroscience). Honours-level unit, ∼ 80 students, deliver 1 2-hr lecture on decision making.

– *2015*: Tutor, PSYC30018 (Neuroscience and the Mind). Third-year undergraduate unit, tutorial delivery and marking for two classes.

– *2011-2012*: Non-residential tutor in Psychology. Responsibilities: design and deliver first-year psychology coursework tutorials at residential colleges (Janet Clarke Hall, Newman College, St. Mary's College, University College).

Supervision   *PhD*
– 2022-present: PhD co-supervisor for Chuyin Zhang (Monash University)
– 2022-present: PhD co-supervisor for Jeryl Lim (Monash University)
– 2017-2020: PhD co-supervisor for Ariel Goh (Monash University)

Honours
– 2022: Cassandra Dods, Robert Shirley, and Jianming Zhu
– 2021: Laura Forbes and Ashleigh Fulton
– 2014-2017: Assistant supervision for 6 Honours students at The University of Melbourne (primary supervision by Olivia Carter or Stefan Bode)

Undergraduates and interns
– 2022: Samuel Arsovski, Antonia Cholewick, and Chantel Wormington

– 2019-2020: Senior thesis co-supervisor for Claire Lee (Princeton University)

– 2019-2020: Junior project co-supervisor for Isla Weber (Princeton University)

Professional service

Reviewing (journal articles)

– Behavioural Processes; Biological Psychiatry; Cerebral Cortex; Cognition & Emotion; Cognitive, Affective, and Behavioral Neuroscience; Cognitive Psychology; Computational Brain & Behavior; Computational Psychiatry; Current Opinion in Behavioral Sciences; Decision; eLife; Frontiers in Human Neuroscience; Journal of Affective Disorders; Journal of Behavioral Decision Making; Journal of Cognitive Neuroscience; Journal of Experimental Psychology: General; Journal of Individual Differences; Journal of Neuroscience; NeuroImage; Nature Human Behaviour; PLOS Computational Biology; PLOS One; Psychiatry & Clinical Neurosciences; Psychonomic Bulletin & Review; Psychological Medicine; Psychological Review; Psychophysiology; Schizophrenia Research; Translational Psychiatry.

Reviewing (funding)

– American-Australian Association (USA to Australia program and Australia to USA program)

– German Research Foundation (Deutsche Forschungsgemeinschaft)

– Swiss National Science Foundation (Sinergia scheme and Projects scheme)

External examining

– 2022: External PhD examiner for Henrik Siljebråt, Goldsmiths' College

– 2021: External PhD examiner for Tim Loossens, KU Leuven

Other service

– 2022-present: Head of *Cognition and Emotion Laboratory* at Monash University.

– 2022-present: Sole administrator of the Melbourne Cognitive Science List (jobs and events mailing list distributed to ∼350 people).

– 2018-2019: Member of seminar series organising committee, Princeton Neuroscience Institute.

– 2016: Graduate student representative for external relations committe, Melbourne School of Psychological Sciences

– 2016: Workshop co-organiser, "Multivariate Analysis of Event-Related Potentials", University of South Australia, Adelaide