Matthew Andreotta

POSTDOCTORAL FELLOW · PSYCHOLOGY · DATA SCIENCE

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Personal

Date of Birth	January 1992
Citizenship	Australian

Research Interests

My research investigates the drivers of belief and belief revision. In particular, I have explored how reasoning—and the motivations that guide reasoning—can vary within and between individuals. My research includes surveys, experiments, and social media studies.

Education

PhD Psychology

UNIVERSITY OF WESTERN AUSTRALIA   *2016 - 2021*

  Thesis title: Mental models under ideological constraints: The psychological signatures underscoring audience segments of climate change.
  Supervisors: Dr. Mark Hurlstone, Dr. Fabio Boschetti, Prof. Simon Farrell, Dr. Cecile Paris, & Prof. Iain Walker

BSc Honours (Psychology)

UNIVERSITY OF WESTERN AUSTRALIA   *2015*

  Thesis title: Mental models of climate change: Using analogies to improve our predictions of the future.
  Supervisors: Dr. Mark Hurlstone, Prof. Iain Walker, & Dr. Fabio Boschetti

BSc Psychology

UNIVERSITY OF WESTERN AUSTRALIA   *2013 - 2014*

Professional Experience

2022	**Postdoctoral Fellow**, Oceans & Atmosphere, Commonwealth Scientific and Industrial Research Organisation.
2022	**Research Scientist**, The Dementia Centre, HammondCare.
2021	**Research Consultant**, Self-owned business.
2021	**Research Assistant**, for Dr. Lucy Robinson, at Oceans & Atmosphere, Commonwealth Scientific and Industrial Research Organisation.
2021	**Administrator**, School of Psychological Science, University of Western Australia.
2020	**Research Scientist**, Data61, Commonwealth Scientific and Industrial Research Organisation.
2018	**Research Assistant**, for Dr. Alice Mason, School of Psychological Science, University of Western Australia.

Publications

PEER REVIEWED MANUSCRIPTS - PUBLISHED OR IN PRESS

Andreotta, M., Atee, M., Morris, T., & Alford, M. (2022). Comments on Westera et al. (2022), "Support for people with dementia experiencing severe responsive behaviours: Unpacking the disconnect between policy and practice". *Australasian Journal on Ageing*, 1-2.

Calder, S., **Andreotta, M.**, Morris, T., & Atee, M. (2022). Improving quality in pastoral care using the Pastoral Care Activity Tracker (PCAT): A feasibility study of a digital tool within an Australian healthcare organization. *Journal of Health Care Chaplaincy*, 1-16.

Ecker, U. K. H., Sze, B. K. N., & **Andreotta, M.** (2021). Corrections of political misinformation: No evidence for an effect of partisan worldview in a U.S. convenience sample. *Philosophical Transactions of the Royal Society B*, *376*(1822), 1-8.

Andreotta, M., Nugroho, R., Hurlstone, M. J., Boschetti, F., Farrell, S., Walker, I., & Paris, C. (2019). [Contribution to special issue on "Using Big Data to Discover Principles of Cognition"] Analyzing social media data: A mixed-methods framework combining computational and qualitative text analysis. *Behavior Research Methods*, *51*(4), 1766–1781.

Boschetti, F., & **Andreotta, M**. (2017). Mental models, communication, and engagement in marine projects. *ICES Journal of Marine Science*, *74*(7), 2034–2039.

Peer Reviewed Manuscripts - In Preparation

Andreotta, M., Boschetti, F., Farrell, S., Paris, C., Walker, I., & Hurlstone, M. J. (2022, submitted). Evidence for three distinct climate change audience segments with varying belief updating tendencies: Implications for climate change communication.

Jellison, S., **Andreotta, M.**, Cooper, C., Paris, P., Nugroho, R., & Vassar, M. (2022, in preparation). The use of Twitter in the Post Publication Peer Review process.

Mortimer, M., Rossen, I., **Andreotta, M.**, Dunlop, P., & Hurlstone, M. J. (2022, in preparation). Accepters, fence sitters, or rejecters revisited: Converging evidence for different moral profiles of vaccination attitudes.

Awards, Fellowships, & Grants

Awards

2020	**Graduate Research School's Publication Award**, University of Western Australia. A yearly award issued for the best Quantitative Social Science publication by a higher degree student. Awarded for: *Analyzing social media data: A mixed-methods framework combining computational and qualitative text analysis*.	*$ 500*
2019	**Research on Research Integrity Grant**, Office of Research Integrity, U.S. Department of Health and Human Services. Awarded for the project: *Evaluation of Twitter as a post-publication peer review mechanism to identify responsible conduct of research concerns*.	*$ 139,183*
2016	**Postgraduate Top-Up Scholarship for "Gaining insights from social networks"**, Data61, Commonwealth Scientific and Industrial Research Organisation.	*$ 51,000*
	Research Training Program Stipend, Department of Education, Skills and Employment.	*$ 105,000*

Presentations

* presenting author

Invited Talks

Andreotta, M.* 2019. *Analysing social media: A mixed-methods framework for combining computational and text analysis*. Presented for Data61, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Sydney, Australia.

Andreotta, M.* 2019. *Tweeting about climate change: Blending data science and psychology to analyse social media*. Guest Speaker for ENVT2221 (Global Climate Change and Biodiversity), University of Western Australia.

Andreotta, M.* 2019. *Tweeting about climate change: Blending data science and psychology to analyse social media*. Presented for Oceans & Atmosphere, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Perth, Australia.

Andreotta, M.* & Cavve, B.* 2018 & 2019. *Science is a liar (sometimes): Questionable practices in research and communication*. Guest Speaker for PSYC3303 (Psychological Science in the Modern World), University of Western Australia.

Andreotta, M.* & Wang., S.* 2016. *It's (not) about climate change*. Guest Speaker for PSYC3303 (Psychological Science in the Modern World), University of Western Australia.

Andreotta, M.* 2019. *Analysing social media: A mixed-methods framework for combining computational and text analysis*. Speaker for Australasian Mathematical Psychology Conference, Melbourne, Australia.

Teaching Experience

PSYC3303: Psychological Science in the Modern World, Tutor.

2016-2019

This unit provides students with psychological theories, methods, and evidence for understanding and solving contemporary social problems. Additionally, students are taught the skills necessary to communicate science to key stakeholders. The topics of the unit vary year to year as key social issues and psychological evidence change. I was responsible for developing and delivering tutorials to equip students with knowledge of psychological theory and evidence, as well as the skills to think critically and communicate to laypeople and stakeholders. I have delivered several guest lectures for the unit. In 2016, I delivered a lecture providing cognitive psychological insights into the apparent inconsistencies of public perceptions on climate change. In later years, I delivered a lecture equipping students with critical thinking skills to examine science and science communication.

University of Western Australia

PSYC 3310: Specialist Research Methods (Behavioural Economics), Tutor.

2018

This unit provides students with the opportunity to learn about and perform research in a specialist topic area of psychology. Students are provided with seminars on psychological theories, methods, and evidence of a topic area, as well as skill-orientated tutorials. I tutored a class on behavioural economics research. As a tutor, I was responsible for teaching students to prepare ethics applications, prepare research proposals, design and run studies, analyse data, and prepare research reports.

University of Western Australia

Research Supervision

2019

Julia Nunn, Honours, University of Western Australia (co-supervised with Mark Hurlstone).
Emma Sharpe, Honours, University of Western Australia (co-supervised with Mark Hurlstone).
Matthew Mortimer, Honours, University of Western Australia (co-supervised with Mark Hurlstone).

Service and Outreach

Outreach

2019

School of Indigenous Study's Science Camp for High-School Students, University of Western Australia, Presenter.
School of Psychological Science's *Psyched@UWA* Event for High-School Students, University of Western Australia, Presented an interactive behavioural economics activity.
ASPIRE Camp for High-School Students, University of Western Australia, Presented an interactive behavioural economics activity.

Service

2019

Post-graduate Representative, Working Group on Addressing and Resolving Conflicts with Supervisors, School of Psychological Science, University of Western Australia.
Committee Member, Working Group on Gendered Discrimination and Misconduct, School of Psychological Science, University of Western Australia.
Co-director, OpenLab, School of Psychological Science, University of Western Australia. A student-led group to disseminate research and learn about open-science principles.
Assisted in Operations, Pint of Science, Perth, Western Australia.

2018	**Assisted in Conference Operations**, Australasian Mathematical Psychology Conference, Perth, Western Australia, Australia.
2017	**Post-graduate Representative**, Gender Diversity Panel, School of Psychological Science, University of Western Australia.

Peer Review

I am an ad hoc reviewer for *Behavior Research Methods*.

Technical Skills

I am a proficient user of *R* and *LᴬTEX*. I am competent with *Python*, *SPSS*, and *JASP*. I have experience with *JavaScript* and *MATLAB*. I am proficient with tools for data storage and sharing, such as *Git*, *Apache Arrow* and *MySQL*, as well as data repositories, such as *Github*, *Bitbucket*, and the *Open Science Framework*.

I am proficient with experimental and survey designs. My understanding of *Qualtrics*, *JavaScript*, and *R* has allowed me to code complex experiments and custom Internet interfaces for online studies. I am experienced with hosting custom web applications on servers, with the use of virtualisation software (that is, *Docker*). Additionally, I am experienced with the collection of Twitter data.

I am proficient with quantitative, qualitative, and mixed-methods approaches. Regarding quantitative techniques, I am competent with methods to handle large and complex data, such as mixed-effects modelling, regression analyses (e.g., ridge and lasso), and bootstrapping methods. I have experience with some data science analyses, such as topic modelling. Concerning qualitative techniques, I am experienced in analysis of text data, such as thematic analysis and content analysis. Lastly, I have expertise in blending quantitative and qualitative analyses under mixed-methods frameworks, such as my four-phased framework [1] and integrating insights from quantitative survey data with insights from text responses to open-ended questions.

References

[1] Andreotta, M., Nugroho, R., Hurlstone, M. J., Boschetti, F., Farrell, S., Walker, I., & Paris, C. (2019). Analyzing social media data: A mixed-methods framework combining computational and qualitative text analysis. *Behavior Research Methods*, *51*(4), 1766–1781.