

# Mark James Adams

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## Employment

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|-----------|-------------------------------------------------------------------------------------------------------------|
| 2021–     | Senior Research Fellow, Division of Psychiatry, Centre for Clinical Brain Sciences, University of Edinburgh |
| 2017–2021 | Data Scientist, Division of Psychiatry, Centre for Clinical Brain Sciences, University of Edinburgh         |
| 2006–2007 | Laboratory Technician, Drosophila Genetic Resource Center, Kyoto Institute of Technology                    |

## Education & Training

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| 2015–2017 | Post-doctoral Research Fellow, Division of Psychiatry, Centre for Clinical Brain Sciences, University of Edinburgh |
| 2012–2015 | Post-doctoral Research Associate, Department of Animal and Plant Sciences, University of Sheffield                 |
| 2008–2012 | PhD Psychology, University of Edinburgh                                                                            |
| 2007–2008 | MSc Quantitative Genetics & Genome Analysis, University of Edinburgh                                               |
| 1999–2003 | AB Theoretical Evolutionary Biology, Cornell University                                                            |

## External Roles

### Psychiatric Genomics Consortium

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| 2019–     | Open Science Maintainer<br><a href="https://github.com/psychiatric-genomics-consortium">https://github.com/psychiatric-genomics-consortium</a> |
| 2017–2019 | Data Access Committee Representative, Major Depressive Disorder Working Group                                                                  |

## Publications

### As Lead Author

*Studies designed and lead.*

Adams, M. J., Streit, F., Meng, X., Awasthi, S., Adey, B. N., Choi, K. W., Chundru, V. K., Coleman, J. R. I., Ferwerda, B., Foo, J. C., Gerring, Z. F., Giannakopoulou, O., Gupta, P., Hall, A. S. M., Harder, A., Howard, D. M., Hübel, C., Kwong, A. S. F., Levey, D. F., ... McIntosh, A. M. (2025). Trans-ancestry genome-wide study of depression identifies 697 associations implicating cell types and pharmacotherapies. *Cell*. <https://doi.org/10.1016/j.cell.2024.12.002>

Adams, M. J., Thorp, J. G., Jermy, B. S., Kwong, A. S. F., Kõiv, K., Grotzinger, A. D., Nivard, M. G., Marshall, S., Milaneschi, Y., Baune, B. T., & et al. (2024). Genome-wide meta-analysis of ascertainment and symptom structures of major depression in case-enriched and community cohorts. *Psychological Medicine*, 54(12), 3459–3468. <https://doi.org/10.1017/S0033291724001880>

Adams, M., Hill, W., Howard, D., Dashti, H., Davis, K., Campbell, A., Clarke, T.-K., Deary, I., Hayward, C., Porteous, D., Hotopf, M., & McIntosh, A. (2019). Factors associated with sharing e-mail information and mental health survey participation in large population cohorts. *International Journal of Epidemiology*. <https://doi.org/10.1093/ije/dyz134>

Adams, M., Howard, D., Luciano, M., Clarke, T.-K., Davies, G., Hill, W., Smith, D., Deary, I., Porteous, D., McIntosh, A., 23andMe Research Team, & Major Depressive Disorder Working Group of the Psychiatric Genomics Consortium. (2019). Genetic stratification of depression by neuroticism: Revisiting a diagnostic tradition. *Psychological Medicine*, 1–10. <https://doi.org/10.1017/S0033291719002629>

Arden, R., & Adams, M. (2016). A general intelligence factor in dogs. *Intelligence*, 55, 79–85. <https://doi.org/10.1016/j.intell.2016.01.008>

Adams, M., Bonaventura, M., Ostner, J., Schulke, O., De Marco, A., Thierry, B., Engelhardt, A., Widdig, A., Gerald, M., & Weiss, A. (2015). Personality structure and social style in macaques. *Journal of Personality and Social Psychology*, 109(2), 338–353. <https://doi.org/10.1037/pspp000041>

Adams, M., Robinson, M., Mannarelli, M., & Hatchwell, B. (2015a). Social genetic and social environment effects on parental and helper care in a cooperatively breeding bird. *Proceedings of the Royal Society B-Biological Sciences*, 282(1810). <https://doi.org/10.1098/rspb.2015.0689>

Adams, M. (2014). Feasibility and uncertainty in behavior genetics for the nonhuman primate. *International Journal of Primatology*, 35(1), 156–168. <https://doi.org/10.1007/s10764-013-9722-8>

Hatchwell, B., Gullett, P., & Adams, M. (2014). Helping in cooperatively breeding long-tailed tits: A test of Hamilton's rule. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 369(1642). <https://doi.org/10.1098/rstb.2013.0565>

Adams, M., King, J., & Weiss, A. (2012). The majority of genetic variation in orangutan personality and subjective well-being is nonadditive. *Behavior Genetics*, 42, 675–686. <https://doi.org/10.1007/s10519-012-9537-y>

### Reviews & Commentary

Adams, M. J. (2023). Leveraging family relatedness to detect participation bias in genetic studies. *Nature Genetics*. <https://doi.org/10.1038/s41588-023-01440-9>

Arden, R., Bensky, M., & Adams, M. (2016). A review of cognitive abilities in dogs, 1911 through 2016: More individual differences, please! *Current Directions in Psychological Science*, 25(5), 307–312. <https://doi.org/10.1177/0963721416667718>

## As Main Author

*Provided primary data, analysis, and design.*

Davyson, E., Shen, X., Huider, F., Adams, M. J., Borges, K., McCartney, D. L., Barker, L. F., van Dongen, J., Boomsma, D. I., Weihs, A., Grabe, H. J., Kühn, L., Teumer, A., Völzke, H., Zhu, T., Kaprio, J., Ollikainen, M., David, F. S., Meinert, S., ... McIntosh, A. M. (2025). Insights from a methylome-wide association study of antidepressant exposure. *Nature Communications*, 16(1), 1908. <https://doi.org/10.1038/s41467-024-55356-x>

Edmondson-Stait, A. J., Davyson, E., Shen, X., Adams, M. J., Khandaker, G. M., Miron, V. E., McIntosh, A. M., Lawrie, S. M., Kwong, A. S., & Whalley, H. C. (2025). Associations between il-6 and trajectories of depressive symptoms across the life course: Evidence from alspac and uk biobank cohorts. *European Psychiatry*, 68(1), e27. <https://doi.org/10.1192/j.eurpsy.2025.7>

Kanjira, S. C., Adams, M. J., Jiang, Y., Tian, C., 23andMe Research Team, Lewis, C. M., Kuchenbaecker, K., & McIntosh, A. M. (2025). Polygenic prediction of major depressive disorder and related traits in african ancestries uk biobank participants. *Molecular Psychiatry*, 30(1), 151–157. <https://doi.org/10.1038/s41380-024-02662-x>

Grimes, P. Z., Adams, M. J., Thng, G., Edmondson-Stait, A. J., Lu, Y., McIntosh, A., Cullen, B., Larsson, H., Whalley, H. C., & Kwong, A. S. F. (2024). Genetic Architectures of Adolescent Depression Trajectories in 2 Longitudinal Population Cohorts. *JAMA Psychiatry*. <https://doi.org/10.1001/jamapsychiatry.2024.0983>

Thng, G., Shen, X., Stolicyn, A., Adams, M. J., Yeung, H. W., Batziou, V., Conole, E. L. S., Buchanan, C. R., Lawrie, S. M., Bastin, M. E., & et al. (2024). A comprehensive hierarchical comparison of structural connectomes in major depressive disorder cases v. controls in two large population samples. *Psychological Medicine*, 54(10), 2515–2526. <https://doi.org/10.1017/S0033291724000643>

Yeung, H. W., Stolicyn, A., Shen, X., Adams, M. J., Romaniuk, L., Thng, G., Buchanan, C. R., Tucker-Drob, E. M., Bastin, M. E., McIntosh, A. M., Cox, S. R., Smith, K. M., & Whalley, H. C. (2024). Classification accuracy of structural and functional connectomes across different depressive phenotypes. *Imaging Neuroscience*, 2, 1–24. [https://doi.org/10.1162/imag\\_a.00064](https://doi.org/10.1162/imag_a.00064)

Davyson, E., Shen, X., Gadd, D. A., Bernabeu, E., Hillary, R. F., McCartney, D. L., Adams, M., Marioni, R., & McIntosh, A. M. (2023). Metabolomic investigation of major depressive disorder identifies a potentially causal association with polyunsaturated fatty acids. *Biological Psychiatry*. <https://doi.org/10.1016/j.biopsych.2023.01.027>

de Nooij, L., Adams, M. J., Hawkins, E. L., Romaniuk, L., Munafò, M. R., Penton-Voak, I. S., Elliott, R., Bland, A. R., Waiter, G. D., Sandu, A.-L., & et al. (2023). Associations of negative affective biases and depressive symptoms in a community-based sample. *Psychological Medicine*, 53(12), 5518–5527. <https://doi.org/10.1017/S0033291722002720>

Gao, C., Amador, C., Walker, R. M., Campbell, A., Madden, R. A., Adams, M. J., Bai, X., Liu, Y., Li, M., Hayward, C., Porteous, D. J., Shen, X., Evans, K. L., Haley, C. S., McIntosh, A. M., Navarro, P., & Zeng, Y. (2023). Phenome-wide analyses identify an association between the parent-of-origin effects dependent methylome and the rate of aging in humans. *Genome Biology*, 24(1), 117. <https://doi.org/10.1186/s13059-023-02953-6>

Stolicyn, A., Lyall, L. M., Lyall, D. M., Høier, N. K., Adams, M. J., Shen, X., Cole, J. H., McIntosh, A. M., Whalley, H. C., & Smith, D. J. (2023). Comprehensive assessment of sleep duration, insomnia, and brain structure within the UK Biobank cohort. *Sleep*, 47(2), zsad274. <https://doi.org/10.1093/sleep/zsad274>

Wang, X., Walker, A., Revez, J. A., Ni, G., Adams, M. J., McIntosh, A. M., Wray, N. R., Ripke, S., Mattheisen, M., Trzaskowski, M., Byrne, E. M., Abdellaoui, A., Adams, M. J., Agerbo, E., Air, T. M., Andlauer, T. F. M., Bacanu, S.-A., Bækvad-Hansen, M., Beekman, A. T. F., ... Wray, N. R. (2023). Polygenic risk prediction: Why and when out-of-sample prediction  $R^2$  can exceed snp-based heritability. *The American Journal of Human Genetics*, 110(7), 1207–1215. <https://doi.org/10.1016/j.ajhg.2023.06.006>  
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Barbu, M. C., Harris, M., Shen, X., Aleks, S., Green, C., Amador, C., Walker, R., Morris, S., Adams, M., Sandu, A., McNeil, C., Waiter, G., Evans, K., Campbell, A., Wardlaw, J., Steele, D., Murray, A., Porteous, D., McIntosh, A., & Whalley, H. (2022). Epigenome-wide association study of global cortical volumes in Generation Scotland: Scottish Family Health Study [PMID: 34738878]. *Epigenetics*, 17(10), 1143–1158. <https://doi.org/10.1080/15592294.2021.1997404>

Chuong, M., Adams, M. J., Kwong, A. S. F., Haley, C. S., Amador, C., & McIntosh, A. M. (2022). Genome-by-Trauma Exposure Interactions in Adults With Depression in the UK Biobank. *JAMA Psychiatry*, 79(11), 1110–1117. <https://doi.org/10.1001/jamapsychiatry.2022.2983>

Grotzinger, A. D., Mallard, T. T., Akingbuwa, W. A., Ip, H. F., Adams, M. J., Lewis, C. M., McIntosh, A. M., Grove, J., Dalsgaard, S., Lesch, K.-P., Strom, N., Meier, S. M., Mattheisen, M., Børghlum, A. D., Mors, O., Breen, G., Meier, S. M., Lee, P. H., Kendler, K. S., ... Schizophrenia Working Group of the Psychiatric Genetics Consortium. (2022). Genetic architecture of 11 major psychiatric disorders at biobehavioral, functional genomic and molecular genetic levels of analysis. *Nature Genetics*. <https://doi.org/10.1038/s41588-022-01057-4>

Shen, X., Caramaschi, D., Adams, M. J., Walker, R. M., Min, J. L., Kwong, A., Hemani, G., Barbu, M. C., Whalley, H. C., Harris, S. E., Deary, I. J., Morris, S. W., Cox, S. R., Relton, C. L., Marioni, R. E., Evans, K. L., McIntosh, A. M., & Genetics of DNA Methylation Consortium. (2022). DNA methylome-wide association study of genetic risk for depression implicates antigen processing and immune responses. *Genome Medicine*, 14(1), 36. <https://doi.org/10.1186/s13073-022-01039-5>

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Barbu, M., Huider, F., Campbell, A., Amador, C., Adams, M., Lynall, M.-E., Howard, D., Walker, R., Morris, S., van Dongen, J., Porteous, D., Evans, K., Bullmore, E., Willemsen, G., Boomsma, D., Whalley, H., & McIntosh, A. (2021). Methylome-wide association study of antidepressant use in Generation Scotland and the Netherlands Twin Register implicates the innate immune system. *Molecular Psychiatry*.

- Howard, D., Pain, O., Arathimos, R., Barbu, M., Amador, C., Walker, R., Jermy, B., Adams, M., Deary, I., Porteous, D., Campbell, A., Sullivan, P., Evans, K., Arseneault, L., Wray, N., Meaney, M., McIntosh, A., & Lewis, C. (2021). Methylome-wide association study of early life stressors and adult mental health. *Human Molecular Genetics*. <https://doi.org/10.1093/hmg/ddab274>
- Johnston, K., Ward, J., Ray, P., Adams, M., McIntosh, A., Smith, B., Strawbridge, R., Price, T., Smith, D., Nicholl, B., Bailey, M., & Epstein, M. (2021). Sex-stratified genome-wide association study of multisite chronic pain in UK Biobank. *PLoS Genetics*, 17(4), e1009428. <https://doi.org/10.1371/journal.pgen.1009428>
- Schoorl, J., Barbu, M., Shen, X., Harris, M., Adams, M., Whalley, H., & Lawrie, S. (2021). Grey and white matter associations of psychotic-like experiences in a general population sample UK Biobank. *Translational Psychiatry*, 11(1). <https://doi.org/10.1038/s41398-020-01131-7>
- Shen, X., MacSweeney, N., Chan, S., Barbu, M., Adams, M., Lawrie, S., Romaniuk, L., McIntosh, A., & Whalley, H. (2021). Brain structural associations with depression in a large early adolescent sample (the ABCD study®). *EClinicalMedicine*, 42. <https://doi.org/10.1016/j.eclinm.2021.101204>
- Van Dongen, J., Hagenbeek, F., Suderman, M., Roetman, P., Sugden, K., Chiochetti, A., Ismail, K., Mulder, R., Hafferty, J., Adams, M., Walker, R., Morris, S., Lahti, J., Küpers, L., Escaramis, G., Alemany, S., Jan Bonder, M., Meijer, M., Ip, H., ... Biobank-based Integrative Omics Study Consortium. (2021). DNA methylation signatures of aggression and closely related constructs: A meta-analysis of epigenome-wide studies across the lifespan. *Molecular Psychiatry*. <https://doi.org/10.1038/s41380-020-00987-x>
- Barbu, M., Spiliopoulou, A., Colombo, M., McKeigue, P., Clarke, T.-K., Howard, D., Adams, M., Shen, X., Lawrie, S., McIntosh, A., & Whalley, H. (2020). Expression quantitative trait loci-derived scores and white matter microstructure in UK Biobank: A novel approach to integrating genetics and neuroimaging. *Translational Psychiatry*, 10. <https://doi.org/10.1038/s41398-020-0724-y>
- Davis, K., Coleman, J., Adams, M., Allen, N., Breen, G., Cullen, B., Dickens, C., Fox, E., Graham, N., Holliday, J., Howard, L., John, A., Lee, W., McCabe, R., McIntosh, A., Pearsall, R., Smith, D., Sudlow, C., Ward, J., ... Hotopf, M. (2020). Mental health in UK Biobank – development, implementation and results from an online questionnaire completed by 157 366 participants: A reanalysis. *BJPsych Open*, 6(2). <https://doi.org/10.1192/bjo.2019.100>
- de Nooij, L., Harris, M., Adams, M., Clarke, T.-K., Shen, X., Cox, S., McIntosh, A., & Whalley, H. (2020). Cognitive functioning and lifetime major depressive disorder in UK Biobank. *European Psychiatry*, 63(1). <https://doi.org/10.1192/j.eurpsy.2020.24>
- Green, C., Shen, X., Stevenson, A., Conole, E., Harris, M., Barbu, M., Hawkins, E., Adams, M., Hillary, R., Lawrie, S., Evans, K., Walker, R., Morris, S., Porteous, D., Wardlaw, J., Douglas Steele, J., Waiter, G., Sandu, A.-L., Campbell, A., ... Whalley, H. (2020). Structural brain correlates of serum and epigenetic markers of inflammation in major depressive disorder. *Brain, Behavior, and Immunity*. <https://doi.org/10.1016/j.bbi.2020.11.024>
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before and during COVID-19 in two longitudinal UK population cohorts. *The British Journal of Psychiatry*, 1–27. <https://doi.org/10.1192/bjp.2020.242>

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Meng, W., Chan, B., Harris, C., Freidin, M., Hebert, H., Adams, M., Campbell, A., Hayward, C., Zheng, H., Zhang, X., Colvin, L., Hales, T., Palmer, C., Williams, F., McIntosh, A., & Smith, B. (2020). A genome-wide association study finds genetic variants associated with neck or shoulder pain in UK Biobank. *Human Molecular Genetics*. <https://doi.org/10.1093/hmg/ddaa058>

Shen, X., Howard, D., Adams, M., Hill, W., Clarke, T.-K., Major Depressive Disorder Working Group of the Psychiatric Genomics Consortium, Deary, I., Whalley, H., & McIntosh, A. (2020). A phenome-wide association and Mendelian Randomisation study of polygenic risk for depression in UK Biobank. *Nature Communications*, 11. <https://doi.org/10.1038/s41467-020-16022-0>

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Frangou, S., Shirali, M., Adams, M., Howard, D., Gibson, J., Hall, L., Smith, B., Padmanabhan, S., Murray, A., Porteous, D., Haley, C., Deary, I., Clarke, T.-K., & McIntosh, A. (2019). Insulin resistance: Genetic associations with depression and cognition in population based cohorts. *Experimental Neurology*, 316, 20–26. <https://doi.org/10.1016/j.expneurol.2019.04.001>

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*Contributed data to secondary analysis or as a consortium member.*

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## Book Chapters

Weiss, A., & Adams, M. (2013). Differential behavioral ecology. In C. Carere & D. Maestripieri (Eds.), *Animal personalities: Behavior, physiology, and evolution* (pp. 94–123). The University of Chicago Press.

Adams, M. (2011). Evolutionary genetics of personality in nonhuman primates. In M. Inoue-Murayama, A. Weiss, & S. Kawamura (Eds.), *From genes to animal behavior: Social structures, personality, communication by color* (pp. 137–164). Springer. [https://doi.org/10.1007/978-4-431-53892-9\\_6](https://doi.org/10.1007/978-4-431-53892-9_6)

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## **Invited talks**

2019	College of Medicine, University of Malawi
2014	Institute of Psychiatry, King's College London Department of Psychology, University of Sheffield Department of Psychology, University of York
2013	German Primate Center. Göttingen

## **Teaching**

### **Undergraduate**

Genetic and Environmental Influences on Behaviour and Mental Health  
Data Science for Health and Biomedical Sciences  
Medical Science 4 seminar on "Psychiatric Genetics"  
Psychology 2 Practical Course (tutor)  
Psychology 3 Methods (tutor)

### **Postgraduate**

Univariate and Multivariate Statistics with R

### **Workshops**

GenomicSEM Module, International Statistical Genetics Workshop

## **Supervision**

### **Doctoral students**

2021	Keira Johnston, Precision Medicine
2023	Melissa Lewins, Precision Medicine
2025	Ella Davyson, Biomedical Artificial Intelligence

### **MSc & Honours Students**

U of Edinburgh	Quantitative Genetics & Genome Analysis Biomedical Artificial Intelligence Integrative Neuroscience Biomedical Sciences and Medical Sciences
U of Sheffield	Sheffield Undergraduate Research Experience

## Grants

2025–2029	Wellcome Trust. <i>What is the molecular genetic basis of anxiety in a very-low-income African setting? The Genetics of Anxiety In Malawi (G-AIM) Study.</i> (309744/Z/24/Z) £3,976,039. (Co-I)
2025	BHF REA4 Pump Priming Award. <i>Multi-ancestry finemapping of gene clusters implicated in cardiovascular disease and mental health.</i> (RE/24/130012). £3500
2021–2024	Medical Research Council. <i>DATAMIND: Data Hub for Mental health Informatics research Development.</i> £225,575. (Co-I)
2014	Wellcome Trust. <i>Inferring genetic architecture from high-density genomic data.</i> £2000 (Co-I)
2010	Moray Endowment Fund Award. <i>Selection on human personality.</i> £2280.
2009	Sasakawa Foundation. <i>Personality in Japanese macaques.</i> £1000.

## Awards

2012	Fulker Award, Behavior Genetics Association ( <i>Given to a paper of unusual merit that appeared in the most recent volume of Behavior Genetics</i> )
2008	Sir Kenneth Mather Memorial Prize, Genetics Society. ( <i>Outstanding performance in the area of quantitative genetics.</i> )

## Knowledge Exchange

2021	Evidence Submitted to Cross Party Group – Mental Health, Scottish Parliament <i>Depression Detectives</i> , online participant-led research forum.
2020	Consultation on Digital Strategy for Scotland, Scottish Government NHS Research Scotland Mental Health Annual Scientific Meeting

## Consulting & Industry Collaborations

23andMe  
Baillie Gifford



# Open Science

## Code repositories

Personal	<a href="https://github.com/mja">https://github.com/mja</a>
Group	<a href="https://github.com/ccbs-stradl">https://github.com/ccbs-stradl</a>
Consortium	<a href="https://github.com/psychiatric-genomics-consortium">https://github.com/psychiatric-genomics-consortium</a>

## Datasets

Wigmore, E., Hafferty, J., Hall, L., Howard, D., Clarke, T.-K., Fabbri, C., Lewis, C., Uher, R., Navrady, L., Adams, M., Zeng, Y., Campbell, A., Gibson, J., Thomson, P., Hayward, C., Smith, B., Hocking, L., Padmanabhan, S., Deary, I., ... McIntosh, A. (2020). Genome-wide association summary statistics of antidepressant treatment resistance meta-analysis, [dataset]. <https://doi.org/10.7488/ds/2791>

Adams, M., McIntosh, A., Campbell, A., Dashti, H., Hill, W. D., Howard, D., Davis, K., Clarke, T.-K., Deary, I., Hayward, C., Porteous, D., & Hotopf, M. (2019). Factors associated with sharing email information and mental health survey participation in large population cohorts, 2006-2017 [dataset]. <https://doi.org/10.7488/ds/2554>

Howard, D., Adams, M., Clarke, T.-K., Hafferty, J., Gibson, J., Shirali, M., Coleman, J., Ward, J., Wigmore, E., Alloza, C., Shen, X., Barbu, M., Xu, E., Whalley, H., Marioni, R., Porteous, D., Davies, G., Deary, I., Hemani, G., ... McIntosh, A. (2019). Genome-wide meta-analysis of depression identifies 102 independent variants and highlights the importance of the prefrontal brain regions, [dataset]. <https://doi.org/10.7488/ds/2458>

Howard, D., Adams, M., Shirali, M., Clarke, T.-K., Marioni, R., Davies, G., Coleman, J., Alloza, C., Shen, X., Barbu, M., Wigmore, E., Gibson, J., 23andMe Research Team, Hagenaars, S., Lewis, C., Ward, J., Smith, D., Sullivan, P., Haley, C., ... McIntosh, A. (2018a). Summary statistics for three depression phenotypes in UK Biobank, [dataset]. <https://doi.org/10.7488/ds/2350>

Adams, M. J., Robinson, M. R., Mannarelli, M.-E., & Hatchwell, B. (2015b). Data from: Social genetic and social environment effects on parental and helper care in a cooperatively breeding bird. <https://doi.org/10.5061/dryad.9nj6s>

## Journals

### Editorial Boards

2014–2016	Frontiers in Evolutionary and Population Genetics
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### Reviewer

American Journal of Primatology, Animal Behaviour, BJPsychOpen, Behavioral Ecology and Sociobiology, Biological Psychiatry, Evolution, Intelligence, International Journal of Primatology, JAMA Psychiatry, Journal of Comparative Psychology, Journal of Research in Personality, Journal of the American Academy of Child and Adolescent Psychiatry, Lancet Psychiatry, Molecular Psychiatry, Proceedings of the Royal Society B, Psychological Science,