

Meredith A. Shafto, Ph.D.

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Summary of Relevant Skills:

- I am an experienced Cognitive Psychologist and have expertise conducting research with participants across the adult lifespan, examining a range of complex cognitive processes, and using research methods including behavioral tasks, neuroimaging experiments, psychometric methods and interviews.
- My research program examines the effect of lifespan aging on language abilities, and more broadly investigates interactive cognitive, neural, health, and lifestyle factors underpinning successful cognitive aging.
- I have been involved in all aspects of my research program including gaining funding, research design, project implementation, data acquisition, analysis, reporting and dissemination, and public engagement.
- I have experience project managing a large-scale, multidisciplinary research project with stakeholders from different backgrounds.

Education

2002	PhD, Cognitive Psychology, University of California, Los Angeles, USA
1999	MA, Cognitive Psychology, University of California, Los Angeles, USA
1996	BA, <i>summa cum laude</i> , Pomona College
1994	AA, Bard College at Simon's Rock

Work Experience 2002-present (post-PhD)

Career Hiatus: Professional activities and appointments

Oct 2015 – present

During my pregnancy in 2015 I left full time work to accompany my husband, who is an officer in the British Army (I am American). I have continued to participate in research in Cognitive Psychology, including publishing and presenting my research, reviewing and editing scientific papers, and giving undergraduate lectures (finishing in April 2020). Most of these activities I consider voluntary with occasional ad hoc payment (lecturing) or honorarium (journal action editor), so I have not described this as either full or part time work (listed as 1 hour/week in Work Experience). As these activities represent the direct continuation of roles held during full time work, I have provided details of my main skills, responsibilities and achievements in the sections describing my full time appointments (see sections Project Manager, Research Associate / Senior Research Associate, and Junior Research Fellow).

Key professional achievements during hiatus:

- I reported my research in the form of 12 published papers, 2 invited talks, and 8 conference posters. An additional paper and poster are in preparation for submission and presentation in the coming month.
- As action editor for *Language, Cognition, and Neuroscience* (from 2016) I have broadened my experience reviewing reports of other scientists for quality, accuracy, professional standards, and compliance with regulations and style manuals.
- I developed new approaches for assessing the effects of lifelong cognitive changes on word retrieval, including collaborating on the development of a computational model of word retrieval in old age, and examining the relationship between word retrieval and emotional processing. In order to continue to conduct research during the COVID-19 pandemic I have gained experience using online research platforms, including methods for ensuring reliable data.
- I collected and refined a new set of emotionality ratings for highly emotional words, which will serve as a research tool for scientists studying emotional language.

Formal appointments during hiatus:

- 01/20 – present Visiting Scholar, Department of Linguistics and Cognitive Science, Pomona College
- 01/16 – present Action Editor, *Language, Cognition, and Neuroscience*
- 10/16 - 04/20 Affiliated Lecturer, Department of Psychology, University of Cambridge
- 10/15 - 12/17 Visiting Researcher, Department of Psychology, University of Cambridge
- 10/07 - 06/18 College Research Associate, Clare College, Cambridge

Project Manager, Cambridge Centre for Ageing and Neuroscience

University of Cambridge

October 2010-September 2015

Full Time

I was Project Manager for the Cambridge Centre for Ageing and Neuroscience (Cam-CAN; cam-can.org) project, a 5-year, £5 million (\$6.9 million) grant to study the effect of lifespan aging on cognitive, neural, health, and lifestyle measures in 3000 healthy individuals aged 18-88 years. We developed a battery of cognitive assessments which provides a powerful research tool for characterizing the interactive factors underpinning successful cognitive aging. While employing basic research methods, our goal was and is to impact critical applied issues by providing science-based assessments of healthy aging to guide policy development.

Because of my expertise with this research (see Research Associate section), my role included research management: liaising with Co-Investigators to facilitate design and analysis across disciplines including Psychology and Public Health; overseeing data collection in multiple cognitive domains using behavioral and neuroimaging methods; hiring, training, and managing research assistants and postdoctoral researchers. My role demonstrates my ability to communicate effectively with a range of stake holders, adapt to new scientific domains and methodologies, flexibly adopt a range of roles, manage a complex set of deadlines, and adhere to ethical requirements regarding sensitive information.

Conducting research using new approaches, and ensuring reliable data collection:

- I helped develop our lifespan cognitive assessment, using novel approaches which included (1) an in-person interview measuring cognition, demographics, health and lifestyle; (2) behavioral sessions with 14 targeted cognitive tasks; (3) MRI sessions with structural measures and 9 neurocognitive fMRI tasks; (4) MEG sessions with 6 neurocognitive MEG tasks. My achievements included creating or adapting task materials, developing or improving data entry methods, writing SOPs and quality control processes and managing pilot testing. A particular challenge I met was to ensure reliability across a wide range of contexts, with tasks contributed by 10 Co-Investigators and administered by dozens of interviewers, 8 research assistants, and 12 postdoctoral researchers. Much of the initial preparation was completed with a skeleton crew as most of our research staff were hired when data collection was underway.
- I helped develop policies and procedures to ensure that data collection, storage and access adhered to professional standards. Our ethical requirements were stringent because we collected sensitive personal information about topics such as mental and physical health as well as DNA samples.
- To ensure consistency and reliability in data collection, I conducted or oversaw training for our cognitive neuroscience research staff, including 8 research assistants and 12 postdoctoral researchers. I oversaw day-to-day management of data collection and initial data processing for behavioral and cognitive neuroscience tasks. I created policies and procedures for training, liaised with researchers for feedback, conducted interim data analysis for quality control and progress reports, and organized regular status updates from the research teams. This role required excellent communication across multiple teams and provided experience with analyzing and presenting data from a range of cognitive, demographic, health and lifestyle datasets.
- I conducted targeted interim analyses to ensure data quality. For example, (1) reporting findings from the in-person interview, involving over 700 questions assessing cognition, demographics, health and lifestyle; and (2) reporting results from our cognitive battery, which involved examining the relationships between 14 cross-domain cognitive tasks.

Research products and tools:

- I wrote the behavioral science protocol paper which publishes our lifespan cognitive assessment as a tool for researchers (See Shafto et al 2014; doi: 10.1186/s12883-014-0204-1).
- I contributed to the creation of our Cam-CAN behavioral and neuroimaging dataset, a key product of our research that is a publicly-available tool for conducting a range of analyses on lifespan data. My role included conducting initial data processing and analysis, helping develop an automated data analysis stream, and helping develop data management processes including internal and public policies on data access, documentation and dissemination.

External reporting and dissemination:

- I reviewed reports of research personnel for quality, accuracy, professional standards, and compliance with regulations and style manuals. This included designing our in-house policies for ensuring the quality of project outputs and providing feedback on specific presentations and papers.
- I prepared reports including materials for our funding agency, follow-on funding applications, and interested media and potential collaborators. I also produced materials for public engagement, including participant newsletters and website content.

Research Associate and Senior Research Associate

Department of Psychology, University of Cambridge

April 2004 – March 2012 (Research Associate); April 2012 -September 2015 (Senior Research Associate)

Full time

During this role, I gained experience with every aspect of a full research program, including design, funding acquisition, task construction, data collection, analysis and dissemination. My recent research has two main focuses: first, understanding how aging leads to changes in language abilities, such as an increase in word finding problems; second, understanding how interactions across cognitive domains (such as language, emotion, and memory) affect cognitive aging. My role demonstrates my ability to develop new cognitive assessments, conduct statistical analyses using well-validated methods, and produce outputs of value to the research community. Note: this position was concurrent with my position as Cam-CAN Project Manager during 2010-2015 (see Project Manager section). During this period, I was funded as a full time Project Manager, but maintained the research activities described below.

Conducting research using new approaches, and ensuring reliable data collection:

- I conducted research using new approaches to understand how aging affects language abilities by (1) relating word finding problems to brain structure and function, (2) comparing the effect of age on different aspects of word retrieval (e.g., retrieving meaning vs form), (3) comparing declines in word retrieval with language abilities that are preserved with age, such as speech comprehension, and (4) relating word finding problems to general cognitive processes like fluid intelligence, attention, and emotion.
- I conducted research using new approaches to understand the diversity of neurocognitive aging across the lifespan. For example, I used cognitive measures gathered as part of the Cam-CAN project (see Project Manager section) to (1) examine cognitive diversity across the lifespan in 17 cognitive measures; (2) relate life experience to cognition across the lifespan; (3) develop methods for relating brain activity to cognitive abilities that are either preserved or decline with age.

Research products and tools:

- I developed novel assessments of language across the lifespan, measuring word retrieval failures, object naming errors, and word meaning and form retrieval. I combined standardized and targeted tasks into a battery which assesses multidimensional aspects of word production.
- I produced derived cognitive scores using principle component analysis which characterizes the cognitive diversity of 708 healthy adults across the adult lifespan (See Shafto et al., 2020; <https://doi.org/10.1177/0898264319878095>).

Reporting and dissemination:

- I published 23 papers (13 first author), gave 19 conference or invited talks, and produced 18 conference posters. I created in-house reports and reports for funding agencies. I adapted scientific materials for public consumption by adults and children in the community, at industry meetings, and to the press.
- I reviewed reports of other scientists for quality, accuracy, professional standards, and compliance with regulations and style manuals. This includes informal review of outputs from students, research assistants and postdoctoral researchers, as well as formal reviews conducted as a guest editor or reviewer for journals and other institutions (see Additional Information).

Statistical analysis

- Because my research involves multiple methods and cognitive domains I am accustomed to learning and applying new analysis methods to address research questions.
- I have employed a range of statistical approaches common to Cognitive Psychology and Cognitive Neuroscience, including ANOVA/MANOVA, correlation and regression analysis (including hierarchical regression, mediation models and moderation), cluster analysis, factor analysis, independent components

analysis, and principle components analysis. I have collaborated on projects using structural equation modelling, neuro-computational models, and computational linguistics. I have evaluated qualitative data including coding interview responses and providing error categorization for experimental responses.

Other roles and responsibilities:

- I was named supervisor or co-supervisor to a postdoctoral researcher, a PhD candidate, an MSc candidate, two full time research assistants, four part time student research assistants, and over 15 undergraduate students conducting final year research projects. This supervising was science- and academic-oriented rather than the management of research activities required as Cam-CAN Project Manager (see Project Manager section).
- I presented undergraduate lectures and seminars on topics including Language and the Brain, Cognitive Aging, Neuropsychology, and Psycholinguistics. From October 2010 – October 2014 I was appointed as an Affiliated lecturer at the Department of Psychology, University of Cambridge (I also held this position from 2016-2020, see Career Hiatus section).

Junior Research Fellow

Christ Church College, Oxford University

October 2002 – Sept 2006

Full time

Following my PhD, I was awarded a 4-year Junior Research Fellowship (JRF), a type of postdoctoral fellowship funded by several of the colleges at the University of Oxford and the University of Cambridge. My fellowship was at Christ Church College, University of Oxford, where I conducted independently-funded and designed research on how aging affects spelling and proofreading abilities. Language expertise and experience increases across the lifespan, but despite better knowledge of spelling, older adults are less able to produce correct spelling; likewise, despite increased knowledge of the meaning of words and experience with reading, compared to their younger counterparts older adults are worse at detecting meaningful errors in text. My roles as a JRF included research design, acquiring funding, developing assessment materials and tasks, data collection, analysis and dissemination. Note: this position partially overlapped with my appointment as a Research Associate in the University of Cambridge (see Research Associate/Senior Research Associate section). When I was invited to join a research project at the University of Cambridge, because the research was so closely relevant to my fellowship I was given dispensation to move and Christ Church College continued to fund the fellowship for its duration.

Key research activities and achievements:

- I led and conducted research developing new approaches for assessing lifespan spelling error production and detection and proofreading of spelling, grammar and meaning errors in text. I designed a pilot program to assure reliable data collection and implemented data processing procedures to assure reliable results.
- I conducted statistical analysis using standard behavioral methods for Cognitive Psychology including ANOVA and MANOVA, correlation and regression. I developed novel derived measures for assessing relative performance on different dimensions of spelling production and comprehension.
- I reported my results to other research groups at invited talks, at conferences in presentations and posters, and disseminated the results as published papers. I also produced progress reports for my funding agencies and presented results in public forums. I published 1 paper (first author), gave 3 conference or invited talks, and produced 3 conference posters.

Other roles and responsibilities:

- I gave undergraduate lectures, seminars and tutorials (small group teaching that is an integral part of the Oxford academic approach). I gave lectures or seminars on Psycholinguistics, Language and the Brain, Language Development, and Language, Attention, and Memory. I gave tutorials on Language and Cognition, Social Psychology, Individual Differences, and Psycholinguistics.

Professional appointments, full list:

01/20 – present Visiting Scholar, Department of Linguistics and Cognitive Science, Pomona College

10/16 - 04/20 Affiliated Lecturer, Department of Psychology, University of Cambridge

10/07 - 06/18 College Research Associate, Clare College, Cambridge
10/15 - 12/17 Visiting Researcher, University of Cambridge
10/10 - 10/15 Project Manager, Cambridge Centre for Ageing and Neuroscience (Cam-CAN; cam-can.com)
04/12 - 10/15 Senior Research Associate, Department of Psychology, University of Cambridge
10/10 - 10/14 Affiliated Lecturer, Department of Psychology, University of Cambridge
04/04 - 03/12 Research Associate, Department of Psychology, University of Cambridge
10/02 - 09/06 Junior Research Fellow, Christ Church College, Oxford
08/97 - 06/02 Research Assistant, UCLA Cognition and Aging Lab. Supervisor: Prof Donald MacKay
11/96 - 08/97 Independent research funded by Fulbright Fellowship, Apia, Western Samoa
08/95 - 12/95 Research Assistant, Pomona College. Supervisor: Prof Suzanne Thompson
06/95 - 08/95 Student intern, NASA-Ames Research Center, Moffit Field, CA. Supervisor: Dr Mary Kaiser
01/95 - 08/96 Research Assistant, Pomona College. Supervisor: Prof Deborah Burke
06/94 - 08/94 Student intern, NASA-Ames Research Center, Moffit Field, CA. Supervisor: Dr Heiko Hecht

References

Prof. Lise Abrams, Ph.D.

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Professional Memberships

British Society for Research on Ageing (Member from 2008)
Cognitive Neuroscience Society (Member from 2004)
Experimental Psychology Society (Member from 2013)
Gerontological Society of America (Member from 2011)
Psychonomics Society (Fellow from 2013)
Cognitive Science Society (Renewed member from 2019)
American Psychological Society (Renewed member from 2020)

Professional Publications

Published Manuscripts

Shafto, M. A., Abrams, L., & James, L. E. (*under review, Behavior Research Methods*). *Relating Tabooness and Humor Ratings In American English: What the F*** is so Funny?*

Borgeest, G. S., Henson, R. N., **Shafto, M.**, Samu, D., Cam-CAN, & Kievit, R. A. (2020). Greater lifestyle engagement is associated with better age-adjusted cognitive abilities. *Plos one*, 15(5), e0230077.

Shafto, M. A., Henson, R. N., Matthews, F. E., Taylor, J. R., Emery, T., Erzincliglu, S., ... & Marslen-Wilson, W. D. (2020). Cognitive diversity in a healthy aging cohort: cross-domain cognition in the Cam-CAN Project. *Journal of aging and health*, 32(9), 1029-1041.

Bruffaerts, R., Tyler, L. K., **Shafto, M.**, Tsvetanov, K. A., & Clarke, A. (2019). Perceptual and conceptual processing of visual objects across the adult lifespan. *Scientific reports*, 9(1), 1-13.

- Fuhrmann, D., Nesbitt, D., **Shafto, M.**, Rowe, J. B., Price, D., Gadie, A., ... & Cusack, R. (2019). Strong and specific associations between cardiovascular risk factors and white matter micro-and macrostructure in healthy aging. *Neurobiology of Aging*, *74*, 46-55.
- Shafto, M. A.**, James, L. E., Abrams, L., & CAN, C. (2019). Age-related changes in word retrieval vary by self-reported anxiety but not depression symptoms. *Aging, Neuropsychology, and Cognition*, 1-14.
- Chan, D., **Shafto, M.**, Kievit, R.A., Matthews, F.E., Spink, M., Valenzuela, M., Cam-CAN, Henson, R. (2018). Lifestyle activities in mid-life contribute to cognitive reserve in late-life, independent of education, occupation and late-life activities. *Neurobiology of Aging*, *70*, 180-183.
- Gadie, A., **Shafto, M.**, Leng, Y., Cam-CAN, Kievit, R. A. (2017). Age-related differences in self-reported sleep quality predict healthy ageing across multiple domains: a multi-modal cohort of 2406 adults. *BMJ Open*. doi: <https://doi.org/10.1101/060145>
- Samu, D., Campbell, K.L., Tsvetanov, K.A., **Shafto, M.A.**, Cam-CAN, and Tyler, L.K (2017). Preserved cognitive functions with age are determined by domain-dependent shifts in network responsivity. *Nature Communications*, *8*. doi: [10.1038/ncomms14743](https://doi.org/10.1038/ncomms14743)
- Shafto, M. A.**, James, L. E., Abrams, L., Tyler, L. K., & Cam-CAN. (2017). Age-Related Increases in Verbal Knowledge Are Not Associated With Word Finding Problems in the Cam-CAN Cohort: What You Know Won't Hurt You. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *72.1*, 100-106. <http://doi.org/10.1093/geronb/gbw074>
- Taylor, J.R., Williams, N., Cusack, R., Auer, T., **Shafto, M.A.**, Dixon, M., Tyler, L.K., Cam-CAN, & Henson, R.N. (2017). The Cambridge Centre for Ageing and Neuroscience (Cam-CAN) data repository: Structural and functional MRI, MEG, and cognitive data from a cross-sectional adult lifespan sample. *NeuroImage*, *144*, 262-269. doi: [10.1016/j.neuroimage.2015.09.018](https://doi.org/10.1016/j.neuroimage.2015.09.018)
- Campbell, K.L., **Shafto, M.A.**, Wright, P., Tsvetanov, K.A., Geerligs, L., Cusack, R., Cam-CAN, & Tyler, L.K. (2015). Idiosyncratic responding during movie-watching predicted by age differences in attentional control. *Neurobiology of Aging*, *36* (11), 3045–3055. doi: [10.1016/j.neurobiolaging.2015.07.028](https://doi.org/10.1016/j.neurobiolaging.2015.07.028)
- Green, E., **Shafto, M.A.**, Matthews, F.E., Cam-CAN, White, S.R. (2015). Lifespan cognitive variability in the cross-sectional Cam-CAN cohort. *International Journal of Environmental Research and Public Health*, *12* (12) 15516-15530. doi:[10.3390/ijerph121215003](https://doi.org/10.3390/ijerph121215003)
- Shafto, M.A.** (2015) Proofreading in young and older adults: The effect of error category and comprehension difficulty. *International Journal of Environmental Research and Public Health*, *12*(11), 14445-14460. doi:[10.3390/ijerph121114445](https://doi.org/10.3390/ijerph121114445)
- Tsvetanov, K. A., Henson, R. N., Tyler, L. K., Davis, S. W., **Shafto, M. A.**, Taylor, J. R., Williams, N., Cam-CAN, & Rowe, J. B. (2015). The effect of ageing on fMRI: Correction for the confounding effects of vascular reactivity evaluated by joint fMRI and MEG in 335 adults. *Human brain mapping*, *36*(6), 2248-2269. doi: [10.1002/hbm.22768](https://doi.org/10.1002/hbm.22768)
- Shafto, M.A.**, & Tyler, L.K. (2014). Language in the aging brain: The network dynamics of cognitive decline and preservation. *Science*, *346*(6209), 583-587. doi: [10.1126/science](https://doi.org/10.1126/science)
- Shafto, M.A.**, Tyler, L.K., Dixon, M., Taylor, J.R., Rowe, J.B., Cusack, R., Calder, A.J., Marslen-Wilson, W.D., Duncan, J., Dalgleish, T., Henson, R.N., Brayne, C., Cam-CAN, & Matthews, F.E. (2014). The Cambridge Centre for Ageing and Neuroscience (Cam-CAN) study protocol: a cross-sectional, lifespan, multidisciplinary examination of healthy cognitive ageing. *BMC Neurology*, *14*(1), 204. doi: [10.1186/s12883-014-0204-1](https://doi.org/10.1186/s12883-014-0204-1)
- Shafto, M.A.**, Randall, B., Stamatakis, E.A., Wright, P., and Tyler, L.K. (2012). Age-related neural reorganization during spoken word recognition: The interaction of form and meaning. *Journal of Cognitive Neuroscience*, *19*(12) 1-11. doi: [10.1162/jocn_a_00218](https://doi.org/10.1162/jocn_a_00218)
- Stamatakis, E.A., **Shafto, M.A.**, Williams, G., Tam, P., & Tyler, L.K. (2011). White Matter Changes and Word Finding Failures with Increasing Age. *PLoS ONE*, *6*(1), e14496. <https://doi.org/10.1371/journal.pone.0014496>
- Shafto, M.A.** (2010). Orthographic error monitoring in old age: Lexical and sublexical availability during perception and production. *Psychology and Aging*, *25*,991-1001. doi: [10.1037/a0020117](https://doi.org/10.1037/a0020117)
- Shafto, M.A.**, & MacKay, D.G. (2010). Miscomprehension, meaning and phonology: The Unknown and Phonological Armstrong Illusions, *European Journal of Cognitive Psychology*, *22*, 529-568. <https://doi.org/10.1080/09541440902941967>
- Shafto, M.A.**, Stamatakis, E.A., Tam, P.P., & Tyler, L.K. (2010). Word retrieval failures in old age: The relationship between structure and function. *Journal of Cognitive Neuroscience*, *22*, 1530-1540. doi: [10.1162/jocn.2009.21321](https://doi.org/10.1162/jocn.2009.21321)
- Tyler, L.K., **Shafto, M.A.**, Randall, B., Wright, P., Marslen-Wilson, W.D., Stamatakis, E.A. (2010). Preserving Syntactic Processing across the Adult Life Span: The Modulation of the Frontotemporal Language System in the Context of Age-Related Atrophy. *Cerebral Cortex*, *20*(2), 352-364. doi: [10.1093/cercor/bhp105](https://doi.org/10.1093/cercor/bhp105)
- Shafto, M.A.**, Burke, D.M., Stamatakis, E., Tam, P., & Tyler, L. (2007). On the tip-of-the-tongue: Neural correlates of increased word-finding failures in normal aging. *Journal of Cognitive Neuroscience*, *19*, 12, 1-11.

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- MacKay, D.M., Shafto, M.A., Taylor, J.K., Marian, D.E., Abrams, L., & Dyer, J.R. (2004). Relations between emotion, memory and attention: Evidence from taboo Stroop, lexical decision, and immediate memory tasks. *Memory and Cognition*, 32, 474-488.
- Shafto, M.A., & MacKay, D.M. (2000). The Moses and Armstrong Illusions: Implications for Language Comprehension and Semantic Memory. *Psychological Science*, 11, 372-378.

Book chapters and other publications

- Neville, D. A., Fitz, H., & Shafto, M. (2021). AgeNet: A Neurobiological Model of Age-related Word Retrieval Deficits. In Proceedings of the Annual Meeting of the Cognitive Science Society (Vol. 43, No. 43).
- Williams, C., Thwaites, A., Buttery, P., Geertzen, J., Randall, B., Shafto, M., Devereux, B., & Tyler, L. K. (2010). The Cambridge Cookie-Theft Corpus: A corpus of directed and spontaneous speech of brain-damaged patients and healthy individuals. In Calzolari, N., Choukri, K., Maegaard, B., Mariani, J., Odjik, J., Piperidis, S., Rosner, M., & Tapias, D. (Eds.) *Proceedings of the Seventh Conference on International Language Resources and Evaluation (LREC'10)* Valletta, Malta: European Language Resources Association (ELRA)
- Burke, D.M., & Shafto, M.A. (2008). *Language and Aging*. Book chapter for F.I.M. Craik and T.A. Salthouse (Eds.), *The Handbook of Aging and Cognition*, Psychology Press.
- Shafto, M.A. & Tyler, L. K. (2007). Can Old Brains Learn New Tricks? Invited article for *Horizons*, magazine of Research Services Division, University of Cambridge.
- Shafto, M.A. (2007). Word comprehension in younger and older adults: When is a difference a deficit? Invited article for *British Academy Review*, issue 10.
- Shafto, M.A. (2002). Orthographic error monitoring in older adults. *Dissertation Abstracts International*, 63 (03), 1584. (UMI No. 3045605).

Published Abstracts

- Shafto, M. A., Randall, B., Wright, P., & Tyler, L. K. (2010). Lexical access in young, younger-old and older-old adults: Age-related changes in the contribution of phonology and semantics. *Journal of Cognitive Neuroscience*
- Shafto, M. A., Randall, B., Tam, P. P., Burke, D. M., & Tyler, L. K. (2008). Hemispheric changes in the fronto-temporal language system in younger and older adults. *Journal of Cognitive Neuroscience*, 20.
- Stamatakis, E. A., Burke, D. M., Shafto, M. A., Tam, P. P., Williams, G. B., Harding, S., & Tyler, L. K. (2006). The role of white matter integrity in age-related word-finding difficulties. *NeuroImage*, 26(S1): 258.
- Shafto, M. A., Stamatakis, E. A., Tam, P. P., Burke, D. M., & Tyler, L. K. (2006). Age-related changes in activation during tip-of-the-tongue: An event-related fMRI study. *Journal of Cognitive Neuroscience*, 18, Suppl. D35.
- Burke, D. M., Stamatakis, E. A., Broderick, C., Finan, V., Shafto, M. A., Osborne, G., & Tyler, L. K. (2005). Aging, tip-of-the-tongue experiences, and atrophy of the insula: A voxel-based morphometry study. *Journal of Cognitive Neuroscience*, 17, Suppl. B195.

Conference Presentations

- Shafto, M.A., Cam-CAN, Tyler, L.K. (2014). *Diverse Cognitive Aging: Cross-Domain Performance in the Cam-CAN Project*. Paper presented at the meeting of the Psychonomics Society, Long Beach, USA.
- Shafto, M.A., White, S., Cam-CAN, Tyler, L.K. (2014). *Word Finding Failures in the Cam-CAN Cohort: Lifespan Interaction of Domain-General and Domain-Specific Factors*. Paper presented at the Experimental Psychology Society Cognitive Ageing Workshop, Pershore, UK.
- Shafto, M.A., White, S., Cam-CAN, Tyler, L.K. (2013). *Word Finding Failures in the Cam-CAN Cohort: Lifespan Interaction of Domain-General and Domain-Specific Factors*. Paper presented at the meeting of the Psychonomics Society, Toronto, Canada
- Shafto, M.A. (2010). *Language and memory: Impact of normal cognitive ageing*. Paper presented at the meeting of the British Society of Gerontology Conference, Brunel University, UK
- Shafto, M. A., Randall, B., Wright, P., & Tyler, L. K. (2010). *Lexical access in young, younger-old and older-old adults: Age-related changes in the contribution of phonology and semantics*. Paper presented at the biannual meeting of the Cognitive Aging Conference, Atlanta, USA.
- Shafto, M.A., Kim, T., Griffiths, J., & Tyler, L.K. (2009). *When did it all go wrong? Identifying the locus of age-related word-finding failures*. Poster presented at the 15th annual meeting of Architectures and Mechanisms of Language, Barcelona, Spain.

- Shafto, M.A.**, Stamatakis, E. A., Tam, P. P., & Tyler, L. K. (2008, September). *Senior moments and the brain: Convergent measures and an aging network*. Paper presented at the 14th annual Conference on Architectures and Mechanisms for Language Processing, Cambridge, UK.
- Shafto, M.A.** (2008, September). *Understanding word finding problems in old age: the interaction between space and time in the brain*. Paper presented at the annual Grantholder's Conference sponsored by Research into Ageing, Birmingham, UK.
- Shafto, M.A.**, Tyler, L. K., Stamatakis, E. A., Burke, D. M., & Tam, P. P. (2007, September). *Word finding problems in ageing: how does the brain cope?* Paper presented at the Strategic Promotion of Ageing Research workshop Understanding the ageing brain: linking cognitive and neural change across the lifespan.
- Shafto, M.A.**, Stamatakis, E. A., Tam, P. P., Burke, D. M., & Tyler, L. K. (2007, July). *Word-finding failures in old age: combining behavioural, functional, and structural data*. Paper presented at the meeting of the Experimental Psychology Society, United Kingdom.
- Shafto, M.A.**, Stamatakis, E. A., Tam, P. P., Burke, D. M., & Tyler, L. K. (2006, June). *Word-finding failures in old age: evidence from neuroimaging*. Paper presented at the Neuropsychology of Ageing Meeting, Crothorne, United Kingdom.
- Shafto, M.A.**, Burke, D.M., Stamatakis, E., Tam, P., Osborne, G., & Tyler, L.K. (2006, March). *Insula atrophy contributes to word-finding deficits in older adults*. Paper presented at the Meeting of the British Neuropsychological Society, Cambridge, United Kingdom.
- Shafto, M.A.**, Burke, D.M., Stamatakis, E., Broderick, C., Finan, V., Osborne, G., & Tyler, L.K. (2005, March). *Regional atrophy and language deficits in older adults*. Paper presented at the Neuropsychology of Ageing Meeting, Crothorne, United Kingdom.
- Shafto, M.A.** (2003, May). *Orthographic error monitoring in older adults*. Paper presented at the Neuropsychology of Ageing Meeting, Crothorne, United Kingdom.

Conference Posters

- Neville, D. A., Fitz, H., & **Shafto, M.** (2021). *AgeNet: A Neurobiological Model of Age-related Word Retrieval Deficits*. Poster presented at the Annual Meeting of the Cognitive Science Society.
- Shafto, M.A.**, Abrams, & L., James (2021, April). *Older Adults Can Handle Funny S**T: Age and Psychosocial Variables Predict Reactions to Highly Emotional Language*. Poster presented at the Annual Meeting of the American Psychological Society.
- Shafto, M.A.**, Abrams, L., James, L.E., Hu, P., & Gray, G. (2020, November). *Relating Tabooness and Humor Ratings: What the F*** is so funny?* Poster presented at the 61st annual meeting of the Psychonomic Society, Austin, TX.
- Shafto, M.A.**, Abrams, L., James, L.E., and Cam-CAN (2018, November). *The effect of emotional responsivity on name retrieval varies across the lifespan*. Poster presented at the meeting of the Psychonomics Society, New Orleans, USA.
- James, L.E., **Shafto, M.A.**, Abrams, L., and Cam-CAN (2018, April). *Age-Related Changes in Word Retrieval Vary by Self-Reported Symptoms of Anxiety*. Poster presented at the Cognitive Aging Conference, Atlanta, Georgia.
- Fuhrmann, D., Nesbitt, D., **Shafto, M.**, Cam-CAN, and Kievit, R.A. (2017, September). *Cardiovascular Problems Predict Poorer White Matter Health in the Cam-CAN Adult Lifespan Cohort*. Poster presented at Cambridge Neuroscience Symposium, Cambridge UK.
- Henson, R., Tyler, L., Kievit, R., Nesbitt, D., Chan, D., CamCAN and **Shafto, M.** (2017, April) Modifiable contributors to cognitive reserve and their neural correlates. Poster presented at BNA Festival of Neuroscience, Birmingham, UK.
- James, L.E., **Shafto, M.A.**, Abrams, L., Tyler, L.K., and Cam-CAN (2016, April). *The relationship between crystallized knowledge and word retrieval: What you know won't hurt you*. Poster presented at the Cognitive Aging Conference, Atlanta, Georgia.
- Shafto, M.A.**, Cam-CAN & Tyler, L.K. (2015, April) *Tip-of-the-tongue states across the lifespan: Different problems for different ages?* Poster presented at the Annual Meeting of the Cognitive Neuroscience Society (CNS2015), San Francisco.
- Campbell, K.L., **Shafto, M.A.**, Wright, P., Tsvetanov, K.A., Cusack, R., Cam-CAN, & Tyler, L.K. (2014). *Beyond the resting state: Age differences in neural networks identified during naturalistic viewing*. Poster session presented at the Annual Scientific Meeting of the Organization for Human Brain Mapping, Hamburg, Germany.
- Shafto, M. A.** & Tyler, L. K. (2014) *Diversity in successful aging: Deep cognitive phenotyping of the Cam-CAN cohort*. Poster presented at the biannual meeting of the Cognitive Aging Conference, Atlanta, USA.
- Campbell, K.L., **Shafto, M.A.**, Wright, P., Cam-CAN, & Tyler, L.K. (2013) *Beyond the resting state: Age differences in neural networks identified during naturalistic viewing*. Poster session presented at the Annual Scientific Meeting of the British Society for Research on Ageing, Norwich, UK.

- Shafto, M.A.**, Randall, B., & Tyler, L.K. (2012, November). *Proper Name Retrieval Across the Lifespan: The Impact of Semantic and Phonology Availability*. Poster presented at the meeting of the Psychonomics Society, Minneapolis.
- Zhang, J., Randall, B., Devereux, B., **Shafto, M.**, Zhuang, J., Tyler, L.K. (2010). *Age-related changes in the neural language system non-linear?* Poster presented at 16th Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.
- Shafto, M. A.**, Randall, B., Wright, P., & Tyler, L. K. (2010). *Lexical access in young, younger-old and older-old adults: Age-related changes in the contribution of phonology and semantics*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, Montreal.
- Geertzen, J., Randall, B., Williams, C., **Shafto, M.** & Tyler, L.K. (2010). *Age-related effects of syntactic complexity in spontaneous speech production*. Poster at Architectures and Mechanisms for Language Processing (AMLaP), York, UK.
- Shafto, M.A.**, Kim, T., Griffith, J., & Tyler, L.K. (2008, November). *Phonological availability and word finding failures across the lifespan*. Poster presented at the meeting of the Psychonomics Society, Chicago.
- Shafto, M.A.**, Randall, B., Tam, P.P., & Tyler, L.K. (2008, April). *Hemispheric changes in the fronto-temporal language system in younger and older adults*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco.
- Shafto, M. A.**, Stamatakis, E. A., Tam, P. P., & Tyler, L. K. (2007, November). *Word retrieval in old age: Integrating functional and structural neuroimaging*. Poster presented at the meeting of the Psychonomics Society, Long Beach, USA.
- Shafto, M.A.** (September, 2007). *Understanding word finding problems in old age: the interaction between space and time in the brain*. Poster presented at the annual Grantholder's Conference sponsored by Research into Ageing.
- Tam, P.P., **Shafto, M.A.**, Randall, B., & Tyler, L.K. (2006, November). *Do semantic and associative priming effects show age-related change?* Poster presented at the meeting of the Psychonomics Society, Houston, USA.
- Shafto, M. A.**, Stamatakis, E. A., Tam, P. P., Burke, D. M., & Tyler, L. K. (2006, April). *Age-related changes in activation during tip-of-the-tongue: An event-related fMRI study*. Poster presented at the Cognitive Aging Conference, Atlanta, Georgia.
- Shafto, M.A.**, Stamatakis, E.A., Tam, P.P., Burke, D.M., & Tyler, L.K. (2006, April). *Age-related changes in activation during Tip-of-the-Tongue: An event-related fMRI study*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco.
- Shafto, M.A.**, Burke, D.M., Stamatakis, E., Tam, P., Osborne, G., & Tyler, L.K. (2005, November). *Older adults' tip-of-the-tongue states associated with region-specific grey matter atrophy*. Poster presented at the meeting of the Psychonomics Society, Toronto, Ontario.
- Shafto, M.A.**, Burke, D.M., Stamatakis, E., Tam, P., Osborne, G., & Tyler, L.K. (2005, November). *Insula atrophy contributes to word-finding deficits in older adults*. Poster presented at the meeting of the Society for Neuroscience, Washington, D.C.
- Burke, D.M., Stamatakis, E., Broderick, C., Finan, V., **Shafto, M.A.**, Osborne, G., & Tyler, L.K. (2005, April). *Aging, Tip-of-the-Tongue Experiences, and Atrophy of the Insula: A Voxel-based Morphometry Study*. Poster presented at the annual meeting of the Cognitive Neuroscience Society, New York.
- Shafto, M.A.** (2004, November). *Older adults' proofreading ability varies by error type and difficulty*. Poster presented at the meeting of the Psychonomics Society, Minneapolis, Minnesota.
- MacKay, D.G., & **Shafto, M.A.** (2003, November). *The role of semantic anomaly in Moses-like illusions*. Poster presented at the meeting of the Psychonomics Society, Vancouver, British Columbia.
- Mackay, D.G., **Shafto, M.A.**, Taylor, J.K., Marian, D.E., Abrams, L.A., & Dyer, J. (2002, November). *The Taboo Stroop and Related Effects of Emotion on Memory & Attention*. Poster presented at the meeting of the Psychonomics Society, Kansas City, Missouri.
- Shafto, M.A.**, & MacKay, D.M. (2002, April). *Age-linked asymmetries in detecting and correcting spelling errors: Empirical and theoretical implications*. Poster presented at the Cognitive Aging Conference, Atlanta, Georgia.
- MacKay, D.M., & **Shafto, M.A.** (2000, November). *Disruptive effects of emotion on cognition: The taboo Stroop*. Poster presented at the meeting of the Psychonomics Society, New Orleans, Louisiana.
- Shafto, M.A.**, & MacKay, D.M. (2000, April). *Improved procedures show how aging affects sentence comprehension in the Moses and Armstrong Illusions*. Poster presented at the Cognitive Aging Conference, Atlanta, Georgia.
- Shafto, M.A.**, & MacKay, D.M. (1999, November). *The Moses and Armstrong Illusions: Language Comprehension and Semantic Memory*. Poster presented at the meeting of the Psychonomics Society, Los Angeles, California.
- Shafto, M.A.**, & MacKay, D.M. (1998, July). *The Moses and Armstrong Illusions: Implications for language comprehension and the structure of semantic memory*. Poster presented at the meeting of the Cognitive Science Association for Interdisciplinary Learning, Hood River, Oregon.

Shafto, M.A., & MacKay, D.M. (1998, April). *Effects of Aging on the Moses Illusion and Related Conceptual Errors*. Poster presented at Cognitive Aging Conference, Atlanta, Georgia.

Additional Information

Funding Support and Awards

- 2010 - 2015 Named Project Manager BBSRC Longer and Larger Grant BB/H008217/1; *"Systems Cognitive Neuroscience of Healthy Ageing: Population-representative studies of Functional Plasticity and Neural Change."* Held at University of Cambridge, £5 million
- 2009 - 2013 Co-applicant research grant from the Dunhill Medical Trust, *"The role of neural flexibility in successful ageing: Maintaining language function across the lifespan."* Held at University of Cambridge, £274,048
- 2006 - 2010 Research into Ageing (now Age UK) 30th Anniversary Fellowship, *"The relationship between age-related word-finding problems and neural change."* Held at University of Cambridge, £147,944
- 2006 - 2007 Strategic Promotion of Ageing Research Capacity (joint BBSRC and EPSRC funding), *"Investigating the neural underpinnings of word-finding problems across the life span."* Held at University of Cambridge, £40,022.
- 2005 Travel Award, Committee on Women in Neuroscience (C-WIN), \$1000
- 2005 - 2006 Research Small Grant SG-40847, British Academy, *"Orthographic error monitoring in older adults"* Held at University of Cambridge, £3504
- 2003 - 2004 Research Small Grant SG-35664, British Academy, *"Proofreading in old age: why do older adults fail to notice errors?"* Held at University of Oxford, £7487
- 2003 Lockey Bequest travel award, Life and Environmental Sciences Division, University of Oxford, £579
- 1996 - 2001 National Science Foundation Graduate Research Fellowship. Held at University of California, Los Angeles, USA.
- 1996 - 1997 Fulbright Post Baccalaureate Fellowship, *"Memory in Western Samoans: literacy and oral traditions."* Held at the University of Samoa, Apia, Samoa.

Computing Skills

- Microsoft Office applications including Word, Excel, and PowerPoint
- Behavioural analysis: SPSS, R, and Matlab
- Structural MR, fMRI, and MEG analyses: Statistical Parametric Mapping (SPM) and affiliated toolboxes (predominately Matlab-based).
- Experiment presentation: Eprime; some experience with Matlab, Superlab, and Qualtrics
- Database management: Microsoft Access
- Website and Wiki: some experience with html, wordpress, mediawiki and Atlassian Confluence

Reviewing and Editorial Experience

- Action Editor, *Language, Cognition, and Neuroscience* (from 2016- present)
- Program Committee Member and meta-reviewer, Cognitive Science Society (CogSci 2019, CogSci 2020)
- Co-Editor, *International Journal of Environmental Research and Public Health* Special issue "Aging and Cognition" (finished December, 2015)
- **Journals reviewed for:** Aging, Neuropsychology, and Cognition; Cognition; Cortex; Dementia and Geriatric Cognitive Disorders; Experimental Ageing Research; Frontiers in Psychology; JEP: Learning, Memory, and Cognition; Journal of Cognitive Neuroscience; Journal of Gerontology: Psychological Science; Language and Cognitive Processes; Language and Linguistic Compass; Memory; Neurobiology of Aging; Neuroimage; Psychology and Aging; Psychological Science; PLoS ONE
- **Institutions reviewed for:** Cognitive Science Society; Research into Ageing/Age UK; ESRC; BBSRC; National Science Foundation

Invited Talks and Guest Lectures

- 2012 Invited presenter, BBSRC Showcase for Industry. *Cam-CAN project*

- 2010 Invited departmental talk. Department of Psychology, Royal Holloway, University of London. Topic: Language and Aging.
- 2007 Invited seminar. *Age-Related Deficits in Word Retrieval: Integrating Functional and Structural Neuroimaging*. NASA Ames Research Centre.
- 2004 Invited colloquium. Department of Psychology, University of Warwick. Topic: Aging and Written Language.
- 2003 Invited colloquium. Department of Psychology, Royal Holloway, University of London. Topic: Language and Anomaly Detection.
- 2003 Invited colloquium. Department of Experimental Psychology, University of Oxford. Topic: Language and Anomaly Detection.
- 2002 Invited colloquium. MRC Cognition and Brain Unit, Cambridge, UK. Topic: Language and Anomaly Detection.
- 2002 Invited colloquium. Department of Psychology, University of California, Los Angeles. Topic: Emotion and Cognition.
- 2000 Cognitive Psychology Forum. Department of Psychology, University of California, Los Angeles. Topic: Emotion and Cognition.
- 2000 Seminar on Cognitive Aging. Department of Psychology, University of California, Los Angeles. Topic: Aging, and Amnesia.
- 1999 Language and Memory Symposium. Department of Psychology, Pomona College. Topic: Emotion and Cognition.
- 1998 Seminar on Cognitive Aging. Department of Psychology, University of California, Los Angeles. Topic: Cognitive Illusions and Aging.

Public Engagement

- 2016 Invited speaker, Joint Kent U3A Science Groups Study Day, Your Ageing Brain: Use It or Lose It? (9 June, 2016). *Age-related changes in cognitive functioning*.
- 2016 Guest on BBC Radio 4 Programme "Word of Mouth", *Tip of the Tongue*, <http://www.bbc.co.uk/programmes/b071tqc0>
- 2015 Invited speaker at Canterbury Festival, 26 Oct 2015. *The secrets of a successful ageing brain*
- 2011-15 Contributor to Cambridge Centre for Ageing and Neuroscience Newsletters (www.cam-can.com)
- 2004-13 Presenter at Cambridge Science Festival, Department of Psychology, University of Cambridge.
- 2011 Invited speaker at Cheltenham Science Festival, 8 June 2011. *Your Aging Brain*.
- 2009 Prepared materials for Channel 4 dispatches taping, "Too old to work"
- 2009 Interview with Strategic Promotion of Ageing Research Capacity (download page: http://www.sparc.ac.uk/downloads_audio.asp)
- 2007 Invited speaker for Cambridge Help the Aged event, 11 Oct 2007. *The Ageing Mind and Brain: Looking at language, it's not all downhill*