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Holly E. A. Sutherland
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Personal Profile

Postdoctoral researcher with an interdisciplinary focus on social communication and neurodiversity, and a strong research background using both quantitative and qualitative methods and analyses. I produce high-quality research with real-world impact— my work has been used by the Cabinet Office, the U.S. Department of the Interior, and various social care services. References available on request.

Education

Clinical Brain Sciences PhD, University of Edinburgh   2020-2024
4-year PhD funded by Medical Research Scotland/Scottish Autism. Thesis supervised by Prof. Fletcher-Watson and Dr. Crompton of the University of Edinburgh, and Dr. Long of Scottish Autism. Working title: "Reducing health inequalities for autistic people by understanding interactional rapport".

Applied & Theoretical Linguistics MPhil (Distinction), University of Cambridge   2017-2018
Modules included psycholinguistics, computational linguistics, experimental pragmatics, syntax, semantics, phonology, language death, and multiple statistics training courses. Experimental thesis, "The link between executive functioning deficits and impaired metaphor comprehension in high-functioning autistic spectrum disorders", supervised by Dr. Katsos (see appendix for abstract).

Linguistics BA Hons (1st), University College London   2014-2017
Modules included neurolinguistics, semantics, pragmatics, child language acquisition, programming in Java, introduction to AI, syntax, morphology, phonetics, phonology. Thesis, "Impaired metaphor comprehension in individuals with autistic spectrum disorder as symptom of impaired interhemispheric coordination and functional connectivity", supervised by Dr. Breheny (see appendix for abstract).

Berkhamsted School, England   2012-2014
Biology (A*), Maths (A), Physics (A) A levels; EPQ Dissertation (A*); 2 IGCSEs (A*A)

American School of Warsaw, Poland   2010-2012

Aylesbury High School, England   2007-2010

Employment

Postdoctoral associate, MMLL, University of Cambridge   2024-25
Exploring the linguistics of midrash; whether we can teach people to do midrash-like reading, and whether this improves their linguistic creativity; and what midrash and creative reading practices can tell us about neurodiversity.

EDI Intern, Development & Alumni, University of Edinburgh   2023-24
Worked to support the planning and delivery of initiatives to, attract, develop, and retain diverse staff working in the Development & Alumni office. Implemented recommendations designed to strengthen equality, diversity, and inclusion in the office, to achieve sustainable and lasting change.

Administrative Intern, ITAKOM Conference   2023
Assisted with administration and promotion for an international conference of 1000+ attendees. Designed abstract books, created promotional materials (images, videos, text) and website copy, managed social media channels, interviewed speakers, and liaised with external individuals and companies on behalf of the conference.

Research Assistant, Usher Institute, University of Edinburgh   2020-2021
Co-designed online surveys, and conducted semi-structured interviews, surveying Medical School staff and student experiences with/opinions on equality, diversity, and inclusion at the university. Analysed data using thematic analysis, including developing a coding scheme. Produced a literature review on student equality, diversity, and inclusion in university medical departments. Managed a team of 10 undergraduate medical students as research assistants.

Research Assistant, Winton Centre, University of Cambridge   2019-2020
Ran two 1,000+ participant online studies assessing risk matrix designs for improved communication of risk; my improved design was used by the Cabinet Office in the 2020 UK National Risk Register. Produced a systematic literature review on communication of quality of scientific evidence to the public. Assisted with public engagement activities including talks and workshops.

Research Assistant, Department of Informatics, University of Sussex   2018-2019
Developed cognitive profiling measures to assess individual differences in diagram comprehension, and deployed them via online survey. Assisted development of a behavioural coding scheme for videos of diagram production. Produced a literature review on individual differences in diagram comprehension. Developed a novel diagram taxonomy.

Administrative, Teaching, & Service Activities

- Postdoctoral Research Associate @ Trinity Hall, Cambridge   2024-2026
- MBChB tutor (SEAM modules)   2023-24
- Interviewer for "Eating Disorders & Autism" PhD project   2023
- Advisory board member, Children Learning Language @ NYU   2022-24
- Cohort representative, MRS doctoral students   2022-24
- Lab manual co-manager, DART lab   2022-24
- Peer reviewing   2021-
- President & Events Organiser, UCLU student societies   2015-2017

Research & Technical Skills

- Qualitative methods (developing interview guides; structured and semi-structured interviews; focus groups; participant observation; ethnographic and autoethnographic methods) and analysis (thematic analysis, framework analysis, grounded theory).
- Quantitative methods (designing/running online surveys & questionnaires; using cognitive testing batteries; 1-to-1 participant testing; repurposing/modification of existing tests; designing novel tests; developing behavioural coding schemes) and analysis (descriptive statistics; data visualisation; linear modelling; non-parametric tests).
- Working with diverse participant populations, including autistic people and people with intellectual disabilities.
- Strong computer skills. Proficient in R Studio, E-Prime, Qualtrics, Stata, LaTeX, the Adobe Creative suite, and the Microsoft Office suite.
- Experience with coding. Proficient in R; some experience with HTML, CSS, and Java; comfortable self-teaching new programming languages.
- Performing literature reviews and systematic literature reviews.
- Writing and contributing to academic papers, posters, lay research summaries, and lay and academic research talks.
- Open science and reproducibility skills, including: preregistration, preparing data and analysis code for open-access sharing, and doing reproductions.
- Collaborative online/remote working, including running online studies.

Research & Skills Training

- Creative Research Methods   2023, 2024
- "Approaches to understanding dyadic interactions" workshop   2023
- "Conversation Analysis and Healthcare Encounters" (Oxford; 2 days) 2023
- "Institutional Ethnography" (NCRM; 2 days)   2023
- "Observational & ethnographic methods" (NCRM; 1 day)   2022
- Active bystander training   2021

Publications

- Sutherland, H.E.A., Crompton, C.J., Long, J., Fletcher-Watson (2024). 'A difference in typical values': autistic perspectives on autistic social communication. On OSF.
- Sutherland, H.E.A., Crompton, C.J., Long, J., Fletcher-Watson, S. (2024). 'Read my lips, not my body': a thematic analysis of autistic people's social communication preferences, experiences, and expectations. *Under review.*
- Sutherland, H. E. A., Axbey, H., Sharp, M., Ropar, D., Fletcher-Watson, S., Crompton, C. J. (2024) How successfully do autistic and non-autistic raters guess the diagnostic status of autistic and non-autistic people having conversations? *Under review.*
- Sutherland, H.E.A., Axbey, H., Sharp, M., Ropar, D., Fletcher-Watson, S., Catherine J. Crompton (2024). How successfully do autistic and non-autistic raters guess the diagnostic status of autistic and non-autistic people having conversations? *Dataset*.
- Sutherland, H. E. A., Zahir, R., McKinney, A. (2024) It takes all kinds of minds: organising an accessible conference. *The Psychologist,* 26-27.

- Sutherland, H.E.A., Recchia, G., Dryhurst, S., & Freeman, A. L. (2022). How People Understand Risk Matrices, and How Matrix Design Can Improve their Use: Findings from Randomized Controlled Studies. *Risk Analysis*, *42*(5), 1023-1041.
- Sutherland, H.E.A., Recchia, G., Freeman, A.L.J, Dryhurst, S., Protopopescu, R. (2021). Risk Matrix Comprehension. *Dataset.*
- Stockdill, A., Raggi, D., Jamnik, M., Garcia, G.G., Sutherland, H.E.A., Cheng, P.C.H., & Sarkar, A. (2020). Correspondence-based analogies for choosing problem representations. In *2020 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)* (pp. 1-5). IEEE.
- Raggi, D., Stockdill, A., Jamnik, M., Garcia, G.G., Sutherland, H.E.A., & Cheng, P.C.H. (2020). Dissecting representations. In *International Conference on Theory and Application of Diagrams* (pp. 144-152). Springer, Cham.
- Stockdill, A., Raggi, D., Jamnik, M., Garcia, G.G., Sutherland, H.E.A., Cheng, P.C.H., & Sarkar, A. (2020). Cross-domain Correspondences for Explainable Recommendations. In *ExSS-ATEC@ IUI*.
- Cheng, PC-H., Garcia. G.G.., Sutherland, H.E.A., Raggi, D., Stockdill, A. and Jamnik, M., (2019). Elucidating the Cognitive Anatomy of Representation Systems. In *CogSci*.
- Raggi, D., Stockdill, A., Jamnik, M., Garcia, G.G., Sutherland, H.E.A., & Cheng, P. C. H. (2019). Inspection and selection of representations. In *International Conference on Intelligent Computer Mathematics* (pp. 227-242). Springer, Cham.

Invited Speaker

- Sutherland, H.E.A. (2024, November) *What does the neurodiversity paradigm have to say about autistic people with high support needs?* University of Stirling, online.
- Sutherland, H.E.A. (2025, March) *How can the double empathy problem impact services for autistic people with high support needs?* Therapist Neurodiversity Collective, online.
- Sutherland, H.E.A. (2024, September) *Friendships, fear, and (double) empathy.* Manchester Metropolitan University, Manchester, UK.
- Sutherland, H.E.A. (2024, April) *Social communication and interaction: what autistic people want you to know*. College of Psychiatrists of Ireland, Mullingar, Republic of Ireland.
- Sutherland, H.E.A. (2023, November) *Talking to autistic people: what autistic people want you to know.* Euregional Congresburo, online.
- Sutherland, H.E.A. (2023, October). *Neuro-affirming support and intellectual disability: where do we start?*. Therapist Neurodiversity Collective, online.
- Sutherland, H.E.A. (2023, October) *Autistic perspectives on autistic communication*. Scottish Autism Conference, online.
- Sutherland, H.E.A. (2023, March). *Peer communication amongst neurodivergent people*. Edinburgh Psychiatry Society Neurodiversity Conference, Edinburgh, UK.
- Sutherland, H.E.A. (2023, March). *"Whose "support" is it anyway?: A critical look at supportive environments*. It Takes All Kinds Of Minds (ITAKOM) Conference, Edinburgh, UK.

- <u>Sutherland, H.E.A.</u> (2022) *'I was brought up in an NT-speaking household': autistic perspectives on autistic communication.* BPS Seminar Series on Double Empathy and Autism, online.
- <u>Sutherland, H. E. A.</u> (2021, November). *Neurodiversity: similarities vs. differences panel discussion.* Salvesen Annual Lecture, Edinburgh, UK.

Talks & Presentations

- <u>Sutherland, H.E.A.</u>, Axbey, H., Sharp, M., Ropar, D., Fletcher-Watson, S., Crompton, C.J. (2024, June) *How does social context affect observers' ability to identify autism in others*? [Speaker presentation.] NDAS, East Anglia, England.
- <u>Sutherland, H.E.A.</u>, Crompton, C.J., Long, J., & Fletcher-Watson, S. (2024, May). *An (auto)ethnographic study of the double empathy problem in social care services for autistic people with high support needs.* [Poster presentation]. INSAR, Melbourne, Sweden.
- <u>Sutherland, H.E.A.</u>, Crompton, C.J., Long, J., & Fletcher-Watson, S. (2023, May). *"Read my lips, not my body": the joys and challenges of autistic social communication.* [Speaker presentation.] SARG, Stirling, Scotland.
- <u>Sutherland, H.E.A.</u>, Crompton, C.J., Long, J., & Fletcher-Watson, S. (2023, May). *"Read My Lips, Not My Body": Autistic Perspectives on Communicating with (non-)Autistic People.* [Poster presentation]. INSAR, Stockholm, Sweden.
- <u>Sutherland, H.E.A.</u> (2023, April). *Social communication in autism: the autistic perspective*. [Speaker presentation.] Centre for Autism Research Science Meeting, University of Philadelphia, Philadelphia, USA.
- <u>Sutherland, H.E.A.</u>, Protopopescu, R. (2022, November). *What's the risk?* Winton Centre Finale, London, England.
- <u>Sutherland, H.E.A.</u>, Crompton, C.J., Long, J., & Fletcher-Watson, S. (2022, October). *Understanding (and accommodating) an autistic social communicative 'style' to support autistic wellbeing*. [Poster presentation]. Autism-Europe International Congress, Krakow, Poland.
- <u>Sutherland, H. E. A.</u>, Ropar, D., Fletcher-Watson, S., Axbey, H., Sharp, M., Crompton, C. (2022, October). *Are social difficulties in autism context-dependent? Investigating how conversational partners affect the accuracy of observers' judgements about a person's autistic diagnostic status*. [Poster presentation]. Autism-Europe International Congress, Krakow, Poland.
- <u>Sutherland, H.E.A.</u>, Crompton, C.J., Long, J., & Fletcher-Watson, S. (2022, July). *Autistic social communication: 'a minefield of problems', or 'a difference in typical values'?* [Poster presentation]. Autistica Research Festival, online.
- <u>Sutherland, H. E. A.</u>, Ropar, D., Fletcher-Watson, S., Axbey, H., Sharp, M., Crompton, C. (2022, July) *Investigating (non-)autistic success at identifying (non-)autistic people in videos and pictures.* [Poster presentation]. Autistica Research Festival, online.
- <u>Sutherland, H.E.A.</u> (2022, May). *The key is acceptance: Exploring autistic adults' social communicative wants, needs, and expectations*. [Speaker presentation.] KCL ArCH Showcase, London, UK

- Sutherland, H.E.A., Crompton, C.J., Long, J., & Fletcher-Watson, S. (2022, May). *An 'autistic communicative style'? Exploring autistic people's social communication preferences.* [Poster presentation.] INSAR, Texas, USA.
- Sutherland, H. E. A., Ropar, D., Fletcher-Watson, S., Axbey, H., Sharp, M., Crompton, C. (2022, July). *Investigating the accuracy of people's judgements about social dyads' autistic diagnostic status from videos of social interaction.* [Poster presentation.] INSAR, Texas, USA.
- Finikarides, L., Sutherland, H.E.A. (2019). *Communicating risks and benefits in numbers and words.* [Workshop]. Patient Information Forum's Health Literacy Training Workshop, London, UK.

Awards & Prizes

- Medical Research Scotland 4-year PhD studentship   2019
- UCL Dean's List (top attaining 5% of students)   2017

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Appendix

MPhil Thesis Abstract

Studies in neurotypical populations and various clinical populations have implicated executive functioning as playing a pivotal role in the metaphor comprehension process. However, though executive functioning and metaphor comprehension deficits are well attested in autistic spectrum conditions, there is little research on the link between the two in this population. The present study assessed a range of executive function cognitive domains (generativity, set shifting, inhibition, and working memory) as well as tasks examining the ability to identify and explain metaphors in 10 autistic participants without intellectual disability (mean age 24.10 years, 5 females) and 13 non-autistic participants (mean age 26.50 years, 7 females). Results showed significant response inhibition and metaphor identification impairments in the autistic group. Near-significant group differences were also found on the metaphor explanation task, with autistic participants numerically but not significantly more likely to given concrete or incorrect explanations. Higher generativity and response inhibition scores correlated positively and significantly with faster and more accurate metaphor identification, and with a higher quality of metaphor explication in both groups. The effect of group interaction on these correlations was not significant – indicating that both autistic and non-autistic groups had the same profile of executive functioning contribution to metaphor comprehension. The study points to executive functioning deficits as explaining the impairment of and variance in metaphor comprehension in autistic individuals without intellectual disability.

BA Hons Thesis Abstract

Impaired metaphor comprehension has been widely reported in the autistic population. Autistic adults with a typical IQ, vocabulary, and linguistic competence still underperform on metaphor comprehension tasks. Several explanations for this have been proposed: impaired theory of mind, weak central coherence, low verbal IQ, a lack of prior semantic knowledge, problems with information integration, or some form of hemispheric dysfunction within the autistic brain. However, the evidence in support of these proposals is equivocal.

In this thesis, I contend that impaired metaphor comprehension in autistic individuals is not, in fact, caused by the dysfunction of a single skill, or a single area of the brain. A review of the literature suggests instead that impaired metaphor comprehension is due to pervasive, systematic differences in the autistic brain. These differences make various linguistic tasks more effortful for autistic individuals than they are for neurotypical individuals – and, as figurative language and metaphor comprehension are high-effort tasks with a high processing load, these competencies are disproportionately affected.

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Impaired interhemispheric communication and impaired functional connectivity (specifically a frontal-posterior connectivity impairment that affects synchronization of activity in Wernicke's and Broca's areas) mean that the neurological functions required for metaphor comprehension (i.e. transfer of information between hemispheres, and coordination of Wernicke's and Broca's areas) are more demanding for the autistic brain. An atypical lack of lateralization of linguistic functions in the autistic brain compounds this problem, necessitating even more widespread information transfer. Additionally, autistic individuals display decreased activation in areas of the brain involved with mediating executive functioning-related process that are essential to metaphor comprehension, such as retrieval of prior semantic knowledge, selection between competing semantic alternatives, verbal processing, and working memory.