

R4N Autumn Workshop 2024

Requirements and Learning Objectives

Please note attendees need to bring their own laptops as no individual computers are provided.

Qualitative Research Stream with Dr Felicity Sedgewick and Sarah Douglas

1. Learning Objectives

These sessions will introduce a range of qualitative research methodologies and analytical approaches, primarily focusing on interviewing, thematic analysis, and framework analysis. We will also discuss how and when different forms of qualitative approach are most suitable, and how to ensure the most authentic co-production possible in different research arrangements. There will be a mixture of traditional teaching and practical activities, giving opportunities to work with different types of data.

- Become familiar with a range of qualitative research approaches
- Discuss strengths and weaknesses of different qualitative research approaches
- Identify appropriate qualitative research methods for different scenarios
- Practice analysing data using thematic analysis and interpretative framework analysis
- Reflect on ways to incorporate people with lived experience in qualitative research

2. Background requirements

There are no prior requirements for attending these sessions, and everyone is welcome regardless of prior qualitative research experience. However, there is prior essential reading.

3. Preparatory Materials

Essential Reading prior to the event:

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Clarke, V., & Braun, V. (2017). Thematic analysis. *The journal of positive psychology*, 12(3), 297-298.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, 11(4), 589-597.
- Furber, C. (2010). Framework analysis: a method for analysing qualitative data. *African Journal of Midwifery and Women's health*, 4(2), 97-100.
- Parkinson, S., Eatough, V., Holmes, J., Stapley, E., & Midgley, N. (2016). Framework analysis: a worked example of a study exploring young people's experiences of depression. *Qualitative research in psychology*, 13(2), 109-129.

Additional Reading:

- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, 11(4), 589-597.
- Thematic analysis – an introduction: <https://youtu.be/5zFcC10vOVY?si=k1Wnz0zVThVm25L5>
- Grounded Theory according to Glaser & Strauss (1967): <https://www.youtube.com/watch?v=QhuxF5JY9aY>
- Bandola-Gill, J., Arthur, M., & Leng, R. I. (2023). What is co-production? Conceptualising and understanding co-production of knowledge and policy across different theoretical perspectives. *Evidence & Policy*, 19(2), 275-298.
- Le Cunff, A. L., Logan, P. E., Ford, R., Martis, B. L., Mousset, I., Sekibo, J., ... & Giampietro, V. (2023). Co-design for participatory neurodiversity research: collaborating with a community advisory board to design a research study. *Journal of Participatory Research Methods*, 4(1).
- Stark, E., Ali, D., Ayre, A., Schneider, N., Parveen, S., Marais, K., ... & Pender, R. (2021). Coproduction with autistic adults: Reflections from the authentic research collective. *Autism in Adulthood*, 3(2), 195-203.

MRI Methodology and Connectivity Analyses with Dr Jonathan O'Muircheartaigh and Dr Tomoki Arichi

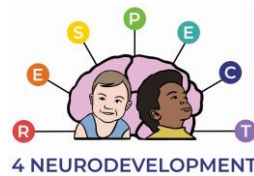
1. Learning objectives
 - Understand the key practical considerations for performing MRI studies of the developing brain and how they influence study designs.
 - Understand the fundamental changes seen in neuroanatomy and how this changes how data is analysed compared to adults. To provide an overview of the background and methods for registration, tissue segmentation, surface generation, atlas tools, tissue microstructure.
 - Appreciate the key concepts of fMRI studies including task design, preprocessing, task and resting state approaches
 - Understand the basic concepts underlying “the connectome” and how this is studied

2. Background requirements
 - It would be preferable if attendees would have access to their own laptop with at least 20GB of hard disk space for Neurodebian <https://neuro.debian.net/>
 - Data will be provided on the day for download for each delegate.
3. Recommended reading: Korom M, et al. (2022) Dear reviewers: responses to common reviewer critiques about neuroimaging studies. *Developmental Cognitive Neuroscience* 53: 101055.
<https://www.sciencedirect.com/science/article/pii/S1878929321001444>
 - Jbabdi S, et al. (2015) Measuring macroscopic brain connections in vivo. *Nature Neuroscience*; 18: 1546-55. <https://www.nature.com/articles/nn.4134>
 - Batalle D, et al. (2018) Annual Research Review: Not just a small adult brain: understanding later neurodevelopment through imaging the neonatal brain. *J Child Psychol Psychiatry*; 59(4): 350-71.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5900873/>

Developmental trajectory modelling with Prof Andrew Pickles and Dr Virginia Carter Leno

1. Learning Objectives
 - To understand the scope, strengths and weaknesses of the SEM approach
 - To be able to specify, fit, assess and interpret results of some standard SEMs for developmental data (e.g., latent growth curves, multi-group growth curves, latent class/growth mixture models, longitudinal mediation)
 - To be able to implement these models in Mplus
2. Background requirements
 - The course will use the free-to-download-and-install demo version of Mplus – no prior use will be assumed but it should have been installed and an example successfully run.
 - A good understanding of linear and logistic regression will be assumed.
3. Recommended materials for people to go through in their own time.
 - Curran, P. J., Obeidat, K., & Losardo, D. (2010). Twelve Frequently Asked Questions About Growth Curve Modeling. *Journal of Cognition and Development*, 11(2), 121–136.
 - <https://doi.org/10.1080/15248371003699969> CenterStat's Youtube videos. <https://www.youtube.com/channel/UC7kcXN1Xoj4PzMIKPHJ5m7Q> are accessible for non-experts in the field

For more specific topics the following may be useful



- Goldsmith KA, Chalder TC, White PD, Sharpe M, Pickles A. Tutorial: Simplex, latent growth and latent change structural equation models for longitudinal mediation in the PACE trial of treatments for chronic fatigue syndrome. *Psychological Methods*, 2018; 23(2):191-207. doi: [10.1037/met0000154](https://doi.org/10.1037/met0000154).
- Herle, M., Micali, N., Abdulkadir, M., Loos, R., Bryant-Waugh, R., Hübel, C., Bulik, C. M., & De Stavola, B. L. (2020). Identifying typical trajectories in longitudinal data: modelling strategies and interpretations. *European journal of epidemiology*, 35(3), 205–222. <https://doi.org/10.1007/s10654-020-00615-6>
- MacKinnon DP, Fairchild AJ, [Fritz](#) MS. Mediation Analysis. *Annu Rev Psychol*. 2007; 58: 593. doi: [10.1146/annurev.psych.58.110405.085542](https://doi.org/10.1146/annurev.psych.58.110405.085542)

