The Disconnected Mind Newsletter

Newsletter 73: March 2026

Welcome to the 73rd edition of the Disconnected Mind Newsletter. In this issue, we bring you updates from December to February, including new research publications, recent scientific events, and highlights from our public engagement, knowledge exchange, and impact activities from the Lothian Birth Cohorts team.

Updates

LBC1936 Wave 8 begins
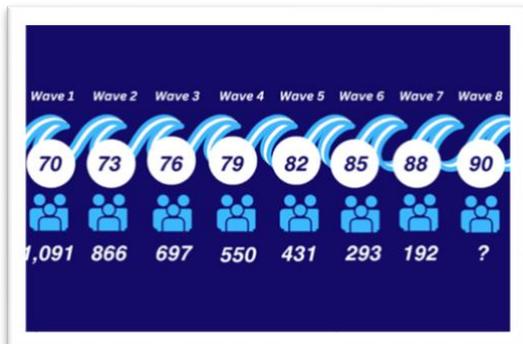
In the December issue of the *Disconnected Mind Newsletter*, we shared updates on preparations for Wave 8 of fieldwork. We are delighted to report that fieldwork is now well underway. LBC1936 Research Assistant, Sabela Méndez, said: *"I really looked forward to reconnecting with the participants. The relationships we build with cohort members are incredibly important to the whole team; it's their dedication over the years that has made this study possible."* Testing began on 20 January, and the team has already seen 25 participants. We anticipate welcoming approximately 150 participants during this wave. Mrs Margaret Dryden who recently visited the clinic said: *"I'm thrilled to have been a participant from age 70, or 11 years old, to age 90. I've benefited in so many ways. In material ways from early diagnoses being detected through the study, and in providing a greater understanding about ageing. It's also wonderful that it will benefit future generations. Being involved in the study has been much broader than I could have imagined when I came along at age 70. Thank you."*

LBC1936 participants turn 90 this year!

This stage of the study also marks a particularly meaningful milestone, as the testing team begins welcoming participants back as they reach their 90th birthdays. It is remarkable to see members of the cohort continuing to contribute to this long-running research, and we are deeply grateful for their ongoing commitment. From a scientific perspective it also adds another wave of overlap with the LBC1921 participants who were also tested at age 90 (from age 79), allowing further replication between these two valuable cohorts at an age typically underrepresented in neurocognitive ageing research. We are excited that the BBC has expressed interest in marking this milestone and celebrating this achievement alongside our participants. Watch this space!

A remarkable sporting achievement from one of our participants

We were delighted to hear from one of our LBC1936 participants, Mr Hamish McKenzie, who recently shared news of an extraordinary accomplishment. At the age of 88, he competed in the World Masters Athletics Championships, an international competition for athletes aged 35 and over, organised in five-year age bands. The 2024 Championships in Gothenburg brought together around 6,500 competitors from across the world. Encouraged by his keep-fit coach, he entered the 100-metre sprint and joined three other British athletes in the relay team. The team broke the British record in the 85–90 age group and proudly took home the silver medal. He now plans to compete again next year, when the Championships will be held in South Korea. Mr McKenzie said: "*I do feel my activity does not only make one feel good, but livelier and more active in other ways.*" We are grateful to our participant for sharing this inspiring story — a wonderful reminder of the vitality and determination within the LBC1936 cohort!

Staff News

Marie Drysdale joins the LBC team

We're delighted to welcome a new member to the team: Marie Drysdale joins the team as Project Administrator to support Dr Sarah Harris with the financial and administrative aspects of the NIH-funded 'Longitudinal Multi-Omic Biomarkers for Neurocognitive Decline Prior To Dementia Onset' project.

Marie said: "*I have been working in project administrator support roles for most of my career, which I hope will enable me to bring experience to the NIH-funded project*". Dr Sarah Harris added: "*I am delighted that Marie has joined us. She is proving to be a great asset to the team.*" Welcome aboard, Marie!

Celebrating Professor Ian Deary's 40 years at the University of Edinburgh

We are delighted to celebrate a remarkable milestone: Professor Ian Deary has reached 40 years of service at the University of Edinburgh. His longstanding commitment was recognised at this year's Long Service Awards, organised by the University's Protocol and Special Events team and held in the beautiful Playfair Library on 1 December. The Long Service Awards reception is held each year to recognise, thank, and celebrate colleagues who reach a significant service milestone. The event is hosted by the Principal each December at a central campus venue, with members of the University Court and Senior Leadership Team also in attendance. His four decades at Edinburgh have been marked by exceptional contributions to psychology, cognitive ageing research, and the development of the Lothian Birth Cohorts. His leadership, curiosity, and generosity have shaped the field and inspired countless colleagues and students, and he continues to bring his expertise and vision to our team. Congratulations, Ian, on this milestone!

Scientific highlights

Gardening and healthy ageing in the LBC1921

A new paper using data from the Lothian Birth Cohort 1921 (LBC1921) in the *Journal of Environmental Psychology* provides rare quantitative evidence that gardening in later life may support wellbeing, healthier ageing, and even longevity. While gardening is often discussed as beneficial for older adults, very few studies have examined it using long-term data and objective health measures. This study takes advantage of the LBC1921's rich longitudinal design to explore whether gardening frequency relates to psychological, physical, and biological ageing markers — as well as mortality. Participants reported how often they gardened, and ageing-related outcomes were assessed at ages 79, 83, 87, and 90. Psychological wellbeing and quality of life were self-reported; physical function (including lung function, gait speed, grip strength, and functional ability) was objectively measured; and biological ageing was indexed using telomere length and PhenoAge, a DNA-methylation–based biomarker that estimates a person's biological age, offering an indication of how quickly or slowly they are ageing at the molecular level. Mortality was ascertained over 25 years through linkage to national death registries. Among the 475 participants who completed the gardening questionnaire, 207 gardened frequently, 78 sometimes, and 190 never or rarely. At age 79, higher gardening frequency was positively associated with better psychological wellbeing, stronger physical function, and longer telomeres. Over time, higher gardening frequency was associated with slower declines in gait speed and slower telomere shortening between ages 79 and 90. Participants who reported gardening 'frequently' had a 22% lower mortality risk compared with those who never or rarely gardened. These associations remained significant after accounting for sociodemographic factors, lifestyle, and overall physical activity. Together, the findings suggest that gardening may play a meaningful role in supporting wellbeing and healthy ageing, with potential implications for helping older adults maintain independence and age in place.

Corley, J., et al. (2025). Gardening, healthy aging, and longevity: Longitudinal evidence from 25 years of the Lothian Birth Cohort 1921. Journal of Environmental Psychology.

## Identifying geriatric syndromes in electronic health records

A scoping review of how geriatric syndromes are identified in electronic health records (EHRs) highlights just how much variation exists in what researchers study and how they extract these complex, multifactorial conditions from routine healthcare data. Geriatric syndromes—such as falls, delirium, incontinence, malnutrition, and functional decline—are common in older adults, yet there is still no firm consensus on which presentations should be considered core syndromes. Because they often lack clear diagnostic boundaries and are frequently documented in unstructured clinical notes rather than formal codes, they can be difficult to capture reliably in large datasets. This review set out to understand how studies using EHRs or derived databases select geriatric syndromes and the methods they use to identify them. Across 12 studies from seven

countries, the review found 31 different geriatric syndromes represented. The most frequently examined were falls, functional decline, incontinence, delirium, and malnutrition. Only 13 syndromes appeared in more than one study, underscoring the limited agreement on which conditions belong under the geriatric-syndrome umbrella. Studies also varied in their data sources: half used primary EHR databases and half used secondary databases. Identification methods ranged widely, including diagnostic codes, screening tools, and free-text extraction. Eight studies used more than one method, and one applied two methods to every syndrome it examined. This heterogeneity reflects the inherent complexity of geriatric syndromes and the challenges of detecting them in routine healthcare data. It also raises concerns about comparability across studies, as differences in syndrome selection, definitions, and extraction methods can lead to inconsistent findings. The authors emphasise the need for researchers to clearly define the syndromes they include, explain their rationale for selecting them, and describe their identification methods in detail to support transparency and cross-study alignment.

Squires, C., et al. (2026). Extracting geriatric syndromes from electronic health records: A scoping review. *European Geriatric Medicine*.

Gene–Depression Interactions and Blood Pressure: Insights from a Large Multi-Ancestry Study
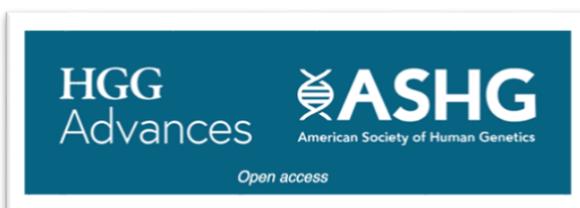

LBC data continue to contribute to large international consortia aimed at understanding genetic contributions to health across diverse populations. A recent paper in *Human Genetics and Genomics Advances*

examined how genetic factors interact with depression to influence blood pressure across more than half a million individuals from multiple ancestral backgrounds. High blood pressure is a major risk factor for cardiovascular disease, stroke, chronic kidney disease, and vascular dementia. Although genetic studies have identified variants accounting for roughly 60% of blood-pressure heritability, a substantial proportion of genetic variants remain unidentified. Risk of high blood pressure is shaped by environmental, lifestyle, and psychological factors. Stress and depression are known to influence blood pressure, but the underlying genetic interplay between the two is far less understood. This study, conducted within the Gene–Lifestyle Interactions Working Group of the CHARGE Consortium, combined genotype data with validated measures of depressive symptoms across participating cohorts. Using genome-wide interaction analyses, the researchers identified 16 genetic loci where the association with blood pressure was modified by depression, treated either as a categorical or continuous measure. The team also carried out druggability analyses, assessing whether any of the implicated genes have properties that make them promising candidates for future therapeutic targeting. The findings highlight several molecular pathways that may link depression and blood pressure regulation. Importantly, many of the identified interactions were observed in non-European populations, underscoring the value of diverse cohorts in genetic discovery. Overall, the study provides new insights into how psychological and genetic factors jointly shape blood-pressure risk and points toward the potential for more personalized approaches to hypertension management in individuals experiencing depression.

Lee, S. et al. (2026). Large-scale blood pressure GWAS accounting for gene-depression interactions in 564,680 individuals from diverse populations. *Human Genetics and Genomics Advances*.

Tracing the impact of preterm birth and SES on brain development across the first five years
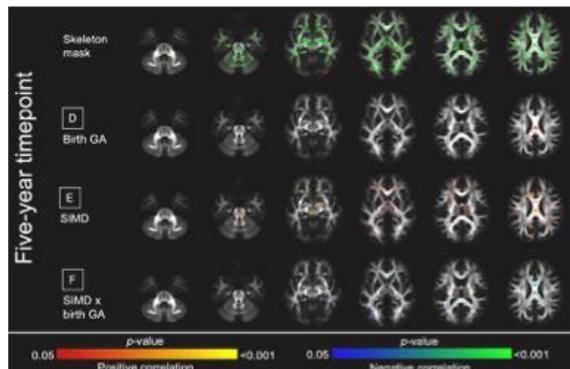
The Lothian Birth Cohorts team continues to contribute its imaging and analytical expertise to research well beyond the LBC datasets. The team recently supported a study examining how preterm birth and socioeconomic status (SES) shape white matter development from birth into early childhood. By combining neonatal and childhood diffusion MRI, the study explored how biological vulnerability and social context interact across the first five years of life. The study analysed data from 243 infants scanned at term-equivalent age (153 preterm, 90 term), with 58 children returning for follow-up scans at age five. Researchers focused on fractional anisotropy (FA), a widely used indicator of white matter microstructure. They examined how gestational age (GA), maternal education, and neighbourhood-level deprivation (SIMD) related to FA at both timepoints. In preterm infants, higher GA and higher maternal education were associated with higher FA at birth, suggesting more advanced white matter development. SES also modified the relationship between GA and FA, indicating that biological and social factors jointly shape early brain structure. By age five, the SES measure most strongly associated with FA was SIMD, highlighting the increasing influence of children's broader environments as they grow. Among term infants, the pattern differed. Lower SES was linked to higher FA at birth, but this association did not persist to age five. The authors note that higher FA at birth should not be assumed to indicate more

mature white matter development. In neonates, FA can rise for multiple reasons, some related to maturation and others to early physiological or environmental influences such as tissue composition or perinatal stress. This makes the direction of SES–FA associations at birth more complex to interpret, particularly in term infants. This finding underscores that SES–brain associations are developmentally dynamic and not uniform across gestational groups. Together, the results show that both preterm birth and SES leave measurable signatures on white matter development, and that the SES factors most relevant to brain structure shift across early childhood.

Mckinnon, K. et al. (2026). Preterm birth, socioeconomic status, and white matter development across childhood. *Developmental Cognitive Neuroscience*.

Knowledge Exchange, Public Engagement & Impact

LBCs at the Scottish Ageing Forum

Members of the LBC team — Simon, Anna and Barbora — took part in the Scottish Ageing Forum on Monday 9 February. The networking event was organised by ACRC PhD student Anna Bryan, whose research focuses on music in care homes. The forum brought together a diverse group of participants, including university researchers, community practitioners, and representatives from government and third-sector organisations, reflecting the breadth of ageing-related

expertise across Scotland. The programme opened with a series of short talks from a wide range of organisations, including the Scottish Government's Social Care Analytical Unit, Playlist for Life, the Intergenerational National Network, the Alzheimer Scotland Centre for Policy and Practice, and the Eric Liddell Community. Professor Simon Cox introduced the Lothian Birth Cohorts and their contribution to ageing research. Following the talks, participants joined small-group discussions, sharing their interests, experiences, and future plans. These conversations highlighted opportunities for collaboration as well as common challenges in developing sustainable, community-focused solutions and research opportunities. We look forward to building on the connections made at the event. The forum was sponsored by the British Society of Gerontology.

Boroughmuir High School partnership: Supporting the next generation of women in science

Scarlett, now an S6 student at Boroughmuir High School, first connected with the Lothian Birth Cohorts through the Healthy Brains programme in Autumn 2025, when she was in S5. Since then, she has been working on her Scottish Baccalaureate project, exploring neuroscience and the role that religious practices might play in supporting healthy brains across the lifecourse. As part of her research, she reached out to the LBC team for guidance. We were delighted to connect her with Rita Dargham, a PhD student in Translational Neuroscience. The two met at the Edinburgh Futures Institute to discuss Scarlett's ideas, and their conversation offered a thoughtful exchange — an example of how the partnership between Boroughmuir High School and the LBCs can help nurture young scientists. Scarlett reflected on the

experience: *"Speaking with Rita really benefitted my project by allowing me to clarify the direction of my presentation and gain information from an expert in the field. She did a great job at explaining some complicated topics in a simpler way. I found our discussions incredibly interesting as well as useful. The EFI is a great facility, and the LBC is a fascinating project."* Rita also shared her perspective: *"Meeting with Scarlett to discuss her project was a real pleasure. Our conversation was a great opportunity to connect neuroscience to broader cultural practices and social perspectives. It was inspiring to see how the research we do in the LBCs can empower a young person to think critically and confidently about complex scientific ideas and brain health concepts in ways that extend beyond a purely biological framework."* This collaboration illustrates the value of our ongoing partnership with Boroughmuir High School and the meaningful connections it creates between students and early career researchers.

Dr Janie Corley joins a panel discussion on academic careers to MSc students in Psychology
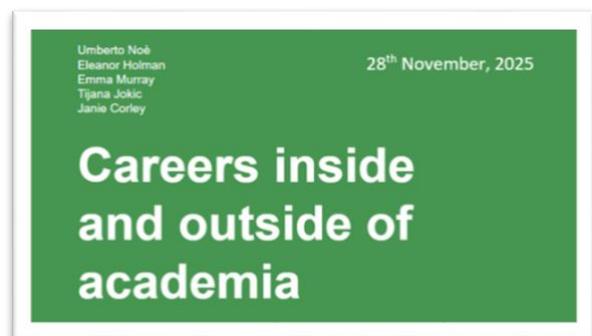
Dr Janie Corley recently gave a presentation and took part in a panel discussion for MSc psychology students on "Careers inside and outside of academia." Representing academic research, she joined three industry experts to share diverse career pathways and reflections on the challenges and rewards of research careers. Drawing on her experience with the Lothian Birth Cohorts and ageing research, she highlighted the intellectual freedom, societal

impact, and skills development academic careers offer, while also acknowledging the competitive and demanding nature of the field. Janie appreciated the students' enthusiasm and interesting questions, noting, *"It was a real pleasure to engage with such motivated students — their insightful questions made the discussion worthwhile."*

Visit to Loretto High School: Introducing the Lothian Birth Cohorts to future psychologists

A group of Lower and Upper Sixth psychology students at Loretto School in Musselburgh spent a Tuesday afternoon learning about the Lothian Birth Cohorts and what it means to study people longitudinally. The Head of Psychology had reached out months earlier, looking for a real-world example to support their teaching on research methods—specifically, how long-term cohort studies are designed, what they can reveal, and why they matter. The LBCs were an ideal fit, and after planning the visit well in advance, the session took place on 20 January. The class met in Mrs Stuart's science lab, with both year groups represented and the room full of students ready to engage. The hourlong session was informal and interactive. It began with a short introduction to the history of the LBC, who the participants are, and how the study has evolved over time. The group then explored what makes longitudinal research unique—its strengths, its challenges, and the kinds of questions it can answer that other designs cannot. Students also had the chance to try out some of the cognitive tests used in the LBC waves, giving them a hands-on sense of how data are collected. The session closed with a brief look at several key findings from the cohorts, offering a late afternoon taster of the science behind healthy ageing. Barbora said: *"It was a pleasure to visit the school, meet Mrs Stuart, and spend time with the class. They were model participants — engaged, focused, and curious. Their interest in how research unfolds in practice made the visit particularly rewarding."*

Healthy Brains at Edinburgh Neuroscience Afternoon

Edinburgh Neuroscience brings together a vibrant community of more than 600 researchers across the University of Edinburgh who study the brain and mind from conception through old age, in both health and disease. As part of the Edinburgh Neuroscience Afternoon—half day events held throughout the academic year—colleagues gathered on 12 February for a session dedicated to Public engagement: *Showcase, Reflections and Inspiration*. Public engagement is an increasingly important part of academic life. It is encouraged by the University and often required by funders, yet it can be difficult to know where to begin, how to build confidence, or how to scale up activities. To explore these questions, the session brought together a panel of colleagues who have led a wide range of engagement initiatives and were invited to share what they have done, what they have learned, and what they have gained from the experience. Barbora Skarabela, Knowledge Exchange Officer for the Lothian Birth Cohorts, joined the panel to speak about *Healthy Brains*, the LBC's research-based intergenerational educational programme raising awareness of brain and cognitive health across diverse platforms and audiences. She reflected on the value of creating accessible, evidence-based materials that resonate with the public, and on the importance of building long-term relationships with communities about how

research connects to their own lives. Other speakers included Dr Rana Fetit (IRR), Prof Cathy Abbott (INCR), Prof Sharon Abrahams (PPLS), Dr Dom Cairns-Gibson (IRR), and Prof Sinéad Rhodes (INCR), each offering perspectives from their own engagement journeys—from hands-on activities and school outreach to policy-relevant communication and creative collaborations. Barbora said: *"The session showcased the breadth of public engagement happening across the network. It was inspiring to hear colleagues discuss their work and to speak with students afterwards about getting involved in future outreach. Many thanks to the organisers for facilitating such a constructive and engaging conversation."*

Professor Simon Cox joins the Scottish Government Expert Group "HABIT"

Simon joined the first meeting of the Scottish Government Expert Group "Health Attitudes, Behaviours and Inequalities Team" (HABIT) on smoking and vaping. The aim of the group is to provide analytical and evidence-based support to a number of policy areas including to the Tobacco Control Policy Team, contributing to data collection and analysis, evidence reviews, cross-nation collaboration on the Tobacco and Vapes Bill, and development of indicators for the Tobacco and Vaping Framework. He is joined by long-time LBC collaborator Professor Riccardo Marioni, who has also used LBC and other data to understand the relationship between smoking and epigenetic aging. The group will meet again in approximately six months.

Publications

Biesbroek, J. M., et al. (2025). Signature White Matter Hyperintensity Locations Associated With Vascular Risk Factors Derived From 15 653 Individuals. *Stroke*. https://doi.org/10.1161/STROKEAHA.125.051159

Corley, J., et al. (2026). Gardening, healthy aging, and longevity: Longitudinal evidence from 25 years of the Lothian Birth Cohort 1921. *Journal of Environmental Psychology*. https://doi.org/10.1016/j.jenvp.2025.102889

Corley, J., et al. (2025). Dietary exposures and risk of anxiety and depression symptoms in the Lothian Birth Cohort 1936: A cohort-level GLAD Project analysis. *Wellcome Open Research*. https://doi.org/10.12688/wellcomeopenres.24950.1

Deary, I. J., et al. (2025). Effect sizes of APOE e4 on the same general cognitive ability test taken by the same people from age 11 to age 90: The Lothian Birth Cohorts 1921 and 1936. *Molecular Psychiatry*. https://doi.org/10.1038/s41380-025-03274-9

Hatton, A. A., et al. (2026). Blood-based DNA methylation captures variance in adult height. *Genome Biology*. https://doi.org/10.1186/s13059-025-03918-7

Lee, S., et al. (2026). Large-scale blood pressure GWAS accounting for gene-depression interactions in 564,680 individuals from diverse populations. *Human Genetics and Genomics Advances*. https://doi.org/10.1016/j.xhgg.2026.100566

Moodie, J. E., et al. (2025a). Cognitive dedifferentiation in later life: Longitudinal findings from the Lothian Birth Cohort 1936. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*. https://doi.org/10.1093/geronb/gbaf189

Moodie, J. E., et al. (2025b). Brain maps of general cognitive functioning: Neuroimaging and neurobiological signatures. *Translational*

Psychiatry. https://doi.org/10.1038/s41398-025-03617-8

Noordam, R., et al. (2026). Genome-wide gene-sleep interaction study identifies novel lipid loci in 732,564 participants. *Atherosclerosis*. https://doi.org/10.1016/j.atherosclerosis.2025.120603

Senaratne, D. N. S., et al. (2025). Adverse childhood experiences and chronic pain in adults aged 86: Findings from the Lothian Birth Cohort 1936. *Frontiers in Aging*. https://doi.org/10.3389/fragi.2025.1657525

Shen, X., et al. (2025). *A methylome-wide association study of major depression with out-of-sample case-control classification and trans-ancestry comparison*. Epidemiology. https://doi.org/10.1101/2023.10.27.23297630

Yang, Z., et al. (2026). Agreement between self-reported and device-measured sedentary behaviour varies with cognitive function. *Psychology and Aging*. https://doi.org/10.1037/pag0000977

Deary, I. J., et al. (2026). Those Evenings of the Brain – When Not a Moon Disclose a Sign. *Intelligence & Cognitive Abilities*. https://doi.org/10.65550/001c.154856

Mckinnon, K., et al. (2026). Preterm birth, socioeconomic status, and white matter development across childhood. *Developmental Cognitive Neuroscience*. https://doi.org/10.1016/j.dcn.2025.101643

Squires, C., et al. (2026). Extracting geriatric syndromes from electronic health records: A scoping review. *European Geriatric Medicine*. https://doi.org/10.1007/s41999-025-01388-5

Contact

You can contact the LBC team by email and keep up with our latest news on our website:

https://lothian-birth-cohorts.ed.ac.uk/

Email lbc1936@ed.ac.uk to reach the LBC1936 cognitive testing team, or lbc.ke@ed.ac.uk for knowledge exchange, public engagement, media inquiries, and policy.

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