



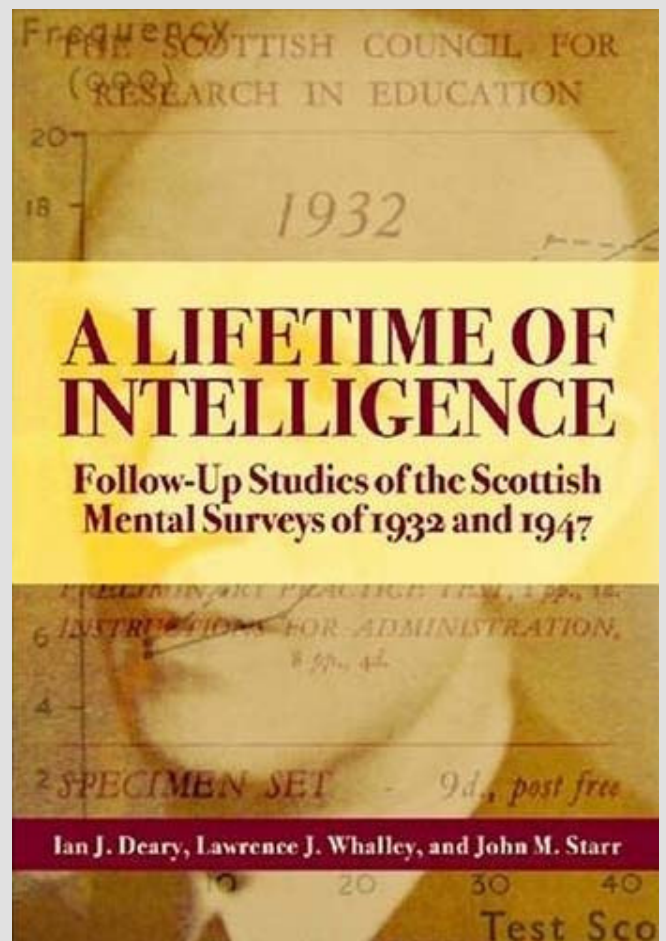
Merry Christmas from the  
Lothian Birth Cohort 1921  
Research Team

2008 has been another busy year for the LBC1921 study. It's been particularly good to have seen so many of you again, and we are very grateful for your continued interest and participation. We would like to take this opportunity to update you on how things are progressing and some of the new results we've been publishing over the past year. In this year's newsletter, you will find some more information about the recently-completed testing in which many of you took part. This is the third time we've seen you, which we think is wonderful. Little did you know, when you sat a test at school at age 11, that you'd be repeating it again 75 years later – in addition to all the other things we ask you to do!

Thank you to everyone who was able to help us again, whether by visiting us at the clinic, allowing us to see you at home, or by filling out our questionnaires. Even if you weren't able to help out this time, we are grateful for your previous participation. We do appreciate the time you have given to the study, and we hope you find this update interesting.

### Hot off the presses

Your participation in the LBC1921 study is the subject of a major book which has just been published by the American Psychological Association! It was written by the study directors, Professors Ian Deary, Lawrence Whalley and John Starr. They have been working together now for over ten years following-up individuals



### The new book about the follow-ups of the Scottish Mental Surveys

The book includes how your involvement in the LBC1921 study has contributed to our knowledge of how ageing affects the brain, and in particular, how this differs among individuals.

who, like you, took part in the Scottish Mental Surveys, both in Edinburgh and Aberdeen.

Here's a flavour of what's included in the book: "Advances in medicine and technology have dramatically extended the average life span. Despite these breakthroughs, cognitive longevity continues to vary among individuals. What causes a person's intelligence to diminish over a lifetime? What are the effects of this cognitive ageing, and what are these individual differences attributed to? In two landmark and world-famous studies, over 150,000 11-year-old subjects participated in Scottish national intelligence tests, known as the Scottish Mental Surveys, which are the only studies to date to test an entire population. Using the latest testing assessments and technology, [Deary, Whalley and Starr] have further

investigated the roles of biological and sociobehavioural factors in cognitive ageing. This book...captures a lifetime of intelligence, from childhood to about age 80. Does having a high childhood IQ affect your likelihood of being ill later in life or surviving to old age? Does it affect happiness later in life? These questions and more are explored in depth in this groundbreaking book."

Professor Nathan Brody, a leading expert in intelligence research, said that the studies summarised in the new book that you have participated in "represents the most important study of individual differences in the history of the field".

### **Third time's a charm**

As you will know, the aim of the LBC1921 study is to find out how people maintain their health and mental abilities into old age. This can only be done by

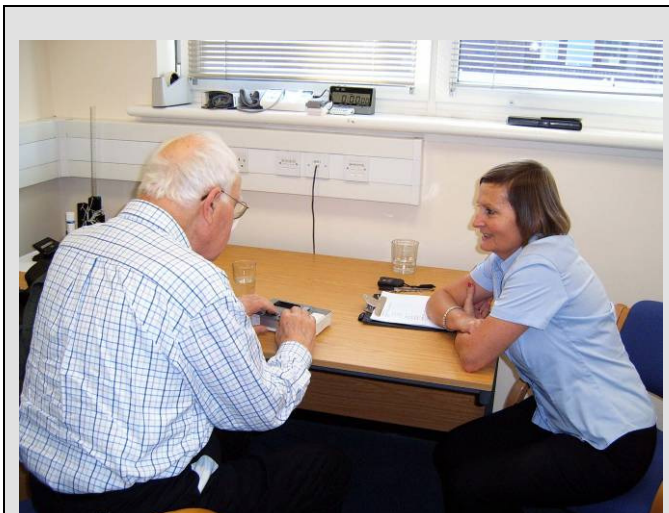


### **The Lothian Birth Cohort 1921 Research Team**

Pictured (left to right): Alan Gow, Alison Pattie, Martha Whiteman, Beverly Roberts, Caroline Brett and Ian Deary.

investigating the same people on a number of occasions, which is why we are very pleased that so many of you continue to take part.

The most recent update began in 2007 and was completed in October 2008. In total, we saw almost 200 of you at the Wellcome Trust Clinical Research Facility, with a further small number tested at home. This follow-up was to obtain an update in terms of your health and well-being, and your thinking and memory skills. What we're now going to be looking at is how these might have changed over the last few years, and what factors might be associated with these changes.



### **Mental testing at wave 3**

One of the LBC1921 having his reactions tested by Alison Pattie.

We've only recently finished seeing people at the clinic, and we're just beginning this analysis. We hope to be able to report some exciting findings in next year's newsletter. We do have some new results from the previous waves of testing to report at the end of this newsletter. The analyses we shall be

conducting will be focussed on some main areas. Firstly, we're interested in comparing how well people do on the Moray House Test on 3 occasions. This was the test you first sat at school when aged 11. We asked you to repeat it the first time we saw you as part of the LBC1921 study, at about age 79, and again recently aged about 86. This covers a period of 75 years and is amongst the longest follow-ups looking at cognitive change in the world. You can be rightly proud of your uniquely valuable contribution to the scientific understanding of how people can maintain their thinking skills as they age.

We also asked you to have a detailed medical assessment at the clinic, which included a number of physical fitness measures. These included your lung function, how strong your grip was, and your walking pace. We did some detailed blood pressure measurements too, this time taking the readings from your arm and your ankle at the same time. This is called the ankle-brachial index, and it gives us an idea of how healthy your blood vessels are. These measures of fitness might be related to how well you do on the mental tests. The old adage 'a healthy mind in a healthy body' might have some truth to it. We look forward to looking at these data and reporting back to you next year.

Thank you again to everyone who took part in the LBC1921 study for the third time. It was great to see so many of you during the past year and we look forward to keeping you up to date about all the important questions you are helping us to answer.



### Physical testing at wave 3

One of the research nurses performing the ankle-brachial measurement.



**Merry Christmas,  
and best wishes for  
a happy New Year.**

Yours sincerely,

**Professors Ian J. Deary, John M. Starr  
& Lawrence J. Whalley, Study Directors;  
Mrs Alison Pattie, Dr Martha  
Whiteman, Ms Caroline Brett, Dr  
Beverly Roberts & Dr Alan Gow,  
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Would you like to talk to us? We are here:

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### Thank you!

We could not continue the LBC1921 study without your participation. Please accept our sincere thanks for your continued support.

### Latest research publications

We know how interested you are in hearing what we have found from the information you have provided over the last few years. During 2008, we published a number of scientific papers from the LBC1921. The full references and a summary of these are given below. Please get in touch if you would like a copy of any of these articles. You might also be interested to know we give a number of talks at the local, national, and international level about the results from the LBC1921 study – this year included presentations in Berlin, Germany, and Tartu, Estonia!

**Childhood mental ability (measured at age 11) was found to predict the level of mental function at age 79, but did not predict the degree of change in mental function from age 79 to 83.\*** *Gow, AJ, Johnson, W, Pattie, A, Whiteman, MC, Starr, JM & Deary, IJ (2008). Mental ability in childhood and cognitive aging. Gerontology, 54, 177-186.*

**A gene related to preservation of cognitive function and decreased risk of diabetes was not associated with this in LBC1921.\*** *Johnson, W, Harris, SE, Starr, JM, Whalley, LJ & Deary, IJ (2008). PPAR $\gamma$  Pro12Ala genotype and risk of cognitive decline in elders? Maybe with diabetes. Neuroscience Letters, 434, 50-55.*

**Not all the publications have mental ability as their main focus. In this report, tooth loss (associated with ageing and subsequent quality of life) was predicted by years of education, and by own and father's social class.\*** *Starr, JM, Pattie, A, Whalley, LJ & Deary, IJ (2008). Predictors of tooth loss in the 1921 Lothian Birth Cohort. Age and Ageing, 37, 111-114.*