

Dear Study Members,

Merry Christmas to you and to your families. This has been a big year for the Study and we are gearing ourselves up for an even bigger one in 2016.

The first important piece of news I have for you is that **the Unit has moved!** This first move is only a temporary one to 'The Logan Park Annex', a concrete building attached to the Otago Cricket Pavilion at the University Oval, down by the new Stadium. Our phone numbers and mailing address (PO Box 913, Dunedin) remain the same however.

Yes, at last the TV series on the Study "Predict our future: The Science of Us" will be aired in the early new year. I will be able to send you a complete DVD set of the series once we have a confirmed postal address. I know this has taken longer than any of us expected, but I can assure you the wait will be worth it.

As foreshadowed with many of you personally, and in the last newsletter, I am pleased to announce an important new addition to the science we conduct, neuroimaging – that is – scans of the brain. (See next panel)

Our usual assessment phase – Phase 45 – will start in April 2017. We have already begun planning for this and are very excited that it will be held in our brand new building. Our aim is to ensure the upcoming phase is the best in terms of science and Study member experience.

I do hope you get a decent break and have a safe and happy Christmas.

Richie Poulton
DIRECTOR



Exciting New Study

We plan to start what we expect will be a very valuable addition to the Dunedin Study. We will begin neuroimaging of the brain, scans using MRIs (Magnetic Resonance Imaging). Dunedin, for the first time, will have a facility which we are able to use. We want to do this to better understand the processes involved in the brain in the way we function and make decisions about experiences in our daily lives. Also, using all the information you have given us over the years, we will see if early life experience has an impact on how the brain functions and how this affects our abilities and outcomes in the real world. We also want to examine how everyone is aging in terms of the structure and function of the brain. Our focus from now onwards is on aging research – most people are going to live longer and it's important that those years are not riddled with disease and disability but instead are healthy years.

We will begin by inviting Dunedin-based Study members to take part next year. So all Dunedinites, please expect to receive an information package about this project and a follow-up phone call to answer any questions. The scan is completely painless and will not involve you being poked, prodded or disturbed in any way. The MRI uses magnetic fields to show a picture of what is going on inside the brain. You will be asked to lie flat on your back and made comfortable with blankets and pillows. Sometimes you will be asked to lie completely still while the pictures are being taken and other times, you will be asked to do some tasks to measure how the brain functions.

To experience what we would be asking of you, I underwent a scan myself and, as promised in the last newsletter, here are pictures of my brain.

Someone seems to have made a wee mistake with one of these photos!





Farewell Barningham Building...

We had to vacate the Barningham Building to enable the new Dental School development to go ahead and, by the time you read this, the Barningham Building will be no more, demolished to make way for more space for our future dentists!

The site has a long history. Originally, in 1871, it was part of the Barningham Foundry making ranges (stoves) for the South Island, after which it was taken over by the Wool Research Institute. The University then used it as a workshop before it became home to the Pharmacy department for 10 years. It was on the point of being knocked down for extra car parking spaces, when Phil Silva heard about it and thought it would make a great home for the Study. At the time, as you well know, the Study was in the Knox church buildings, sharing space with all the other church users. One letter to the church worthies gently asks that the equipment room be kept locked after Phil called in on an evening and found a boy scout playing with an expensive piece of research kit! So a home that was just for the Study was hugely attractive.

The Study has been in the Barningham Building since 1985 – a full 30 years! Though, not many would have envied its digs at the time. Part of a note from Phil to the Editor of the Otago University Newsletter runs as follows:

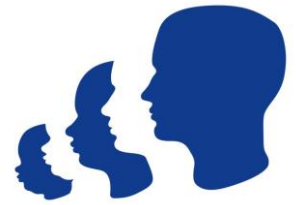


“Thank you for the 1985 newsletter. I note on Page 2 that the Pharmacy Department is moving from the “cramped confines of a decrepit old building behind the School of Dentistry.” It is with great pleasure that I wish to inform you that the Dunedin Multidisciplinary Health and Development Research Unit is moving into that building on 28th February!”

In 1985, the entire staff of 20 spent an incredibly long week clearing out all the equipment and rubbish left behind and painted the whole building from top to bottom. By the time they had finished – well it was never going to be flash, but they had created a space that served the Study well for 30 years. The Study has very specific requirements and, as always, they are centred around you and the research. We need smallish private interview rooms and a few larger rooms for the bigger bits of equipment, we need access to an outside space and we need privacy. We also needed space for a space invaders machine in the Study members lounge! Barningham offered all that. We officially withdrew from the building on 12 November 2015, and had a special blessing of both the old building and our new temporary home. A whole heap of people came including two notables who had repainted the place 30 years ago - Founding Director, Phil Silva, and Sheila Williams. Phil gave a speech which focussed on the fun and the hard work that were so much a part of the three decades at the Barningham. Richie also gave a speech looking back to friends lost, both staff and study members, and looking forward to our planned new building and exciting research. Can you recognise a few faces among those in the group below?



Before leaving the building, some of those who had worked there for so long indulged in a little graffiti and left a mark of their own just as Barningham had left a mark on them (see “graffiti wall” on page 8)!



Hello University Oval!

Our temporary home for a year is the Otago Cricket Association's Logan Park Annex which is attached to the University Oval grandstand. This is very good if you like looking out at trees and such, and very, very good if you are a Cricket tragic, which a certain Director of the Study admits to being. As the Cricket season gets going he may disappear across the hall completely to sneak a look from Otago Crickets Office windows!



View from corner Union Street



View from Anzac Ave

NEW BUILDING

The design for the new and permanent home of the Dunedin Study is moving forward. It will be situated at the corner of Anzac Ave and Union Street right opposite the Stadium and we will be continuing with the best of the traditions that made Barningham work for the Study. It will have a private car park area for Study members and a private Study member lounge which will open out to an outdoor area. It is very exciting to have a purpose built facility for the Dunedin Study. We are grateful to the university for this vote of confidence in the work we have done thus far and plan to do in the future. A view of what the outside may look like is below. This may change but we will definitely let you know what it looks like and where you will be coming for Phase 45.

Dunedin Study Exhibition - Toitu

There will be an exhibition on the Dunedin Study at Toitu (Dunedin Early Settlers' Museum) from March 2016. We have been working closely with the Museum staff to put together a display that is exciting, interesting, and captures the history and achievements of the Study you have made possible. Even the old "body box" (I hear some of you groan!) will make it to the exhibition. We hope it does you and the Study justice. It should run for a whole year so there will be plenty of time to check it out.





The TV Series - Predict Our Future: The Science of Us.

This four-part documentary series is likely to air on TVNZ early in 2016. It features Study researchers and other academics from around the world explaining the importance of the research produced by the Dunedin Study – that is, you!

As an early indicator of the high quality and universal appeal of the series, it has already been sold to 30+ countries before completion. Apparently, this never happens!

To ensure you get your DVD series set, please confirm your mail address by email, or post using the reply-paid envelope enclosed.

Phase 45:

We are planning the next assessment phase to begin in April 2017 when the first of you turn 45 years old. It will come around quicker than you think and we have already begun preparations. As with previous assessments, we will repeat many of the things we have measured but we will add new items to keep us at the cutting edge of research.

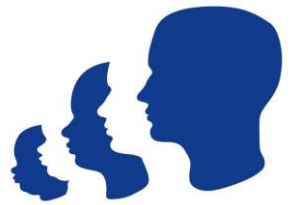
Parenting Study

Thank you to all 686 parents of your (then) pre-schooler for participating in the Parenting Study since it began in 1994. This Study has involved a member of the research team visiting your home to interview you about your parenting experiences. If you or your partner have had a baby or started parenting a child since we last heard from you, please make sure you fill out the parenting section of the enclosed contact information form before returning it to us. The last time we heard from you, 745 of you had had children and we expect that some more of you will have had children or taken on a parenting role since then. We are really eager to complete all the Parenting Study interviews so that everyone parenting a pre-schooler gets an opportunity to participate in the study.

Next Generation Study

We have also been conducting the Next Generation Study which focuses on your 15-year-old children, stepchildren and foster children. This involves your teenager and their primary caregiver parent undergoing a day of assessments very similar to the day you experienced at the Dunedin Study when you were 15. The Next Generation Study started in 2007 and, up until June 2015, had collected data from 342 awesome teenagers and their parents. Thanks so much to those families who have made the time to participate in this study.

Unfortunately, the funding for these studies has expired so data collection for the Next Generation Study has temporarily ceased while we seek more funding. Local Dunedin Study members with pre-schoolers will continue to be interviewed for the Parenting Study but those who live further afield will not be able to be interviewed at this stage.



Blood Pressure from Childhood to Adulthood

High blood pressure has been described as a “silent killer” because most people are unaware that they have the condition. High blood pressure puts a person at greater risk of heart disease. It is commonly treated in middle or old age. We wanted to find out if we could make predictions about who are at risk of developing high blood pressure while still young, long before the problem begins. We found it was possible – as early as age 7 years, to identify who were at risk of developing high blood pressure (and other related conditions e.g. higher cholesterol) by age 38 years. Important factors for being in a high risk group were: a family history of high blood pressure, being first born, low birthweight and being male. Also, being overweight or obese and smoking cigarettes over time were related to increasing blood pressure levels from childhood to early mid-life. This is important new information for clinicians – to screen young people (not wait until middle age) – for these risk factors and to encourage lifestyle changes – maintenance of a healthy body weight, weight reduction, and stopping smoking – all may help lower blood pressure levels over time, especially for this “at-risk” group.

ACNE ANXIETY

We all know that acne is a problem that causes a lot of angst amongst teenagers but we wanted to know whether it persisted beyond adolescence and also if acne was linked to psychiatric disorders. We looked the links between acne and common disorders – anxiety, depression and alcohol and cannabis dependence – and found a consistent pattern of those with acne having higher rates of anxiety, not just in adolescence, but in adulthood as well. This is important information for GPs and dermatologists to be aware of so they can check the patient’s emotional status when they present with acne.

Sexual Health

We have undertaken lots of valuable analyses linking the information you have provided on sexual and reproductive health and behaviour at age 38 and earlier assessments. Some key findings include:

Infertility was experienced by over quarter of women and one in five men by age 38. Those with fertility problems in their early thirties or younger were more likely to have a child by age 38 than if it first occurred later in mid-thirties. This confirms that postponing parenthood could result fewer children than hoped for.

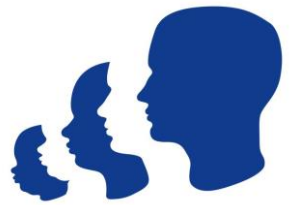
Alcohol and Sex: At 38 years of age, 1 in 7 of the men and 1 in 8 of the women reported unwanted consequences of sex after drinking, such as regretted sex or failure to use contraception or condoms. Between 32 and 38, we found that there was a higher risk of sexually transmitted infections (STIs) amongst the heaviest drinking men and abortions amongst the heaviest drinking women.

First sexual intercourse: We compared reports of first sexual intercourse given at age 21 with age 38 – 23 years later. Only half gave exactly the same age and men were less consistent than women. However, the overall pattern (younger versus older age) remained the same. When asked whether both partners were ‘equally willing’ at first intercourse, at age 38, more men and women alike said they were equally willing compared to 23 years earlier. At age 21, 77% of men and 53% of women said they were equally willing; this rose to 92% of men and 70% of women at 38 years.

We would very much like to thank you for providing this very personal information over a long period since early adulthood. This has resulted in the longest comprehensive study of sexual behaviour worldwide.

Social Jetlag

We know about regular travel jetlag but the phenomenon of *social jetlag* is getting increasing attention. What this means is the difference between sleep pattern between work days and weekends. We investigated this in our Study and found the greater the difference in sleep between work days and free days, the more likely one is to suffer from obesity and obesity-related diseases. Normal travel jetlag causes temporary problems with our metabolism but social jetlag can occur chronically throughout one’s working life so more likely to have serious consequences for metabolism. Even just a two hour difference in sleep patterns on the weekend can be risky to your health. The take home message here is to keep sleeping patterns regular – whether it is a weekend, a free day or work days.



Fluoride in water can be a confusing and controversial issue. Over the years we have asked you whether you think fluoride in drinking water is good for you or not. Most of you thought it helped prevented tooth decay, some did not and many of you changed your mind one way or the other. Recently it has been claimed that fluoride can affect IQ. We decided that to look at this in the Dunedin Study and foundno differences in IQ between those of who grew up in suburbs which had fluoride in the water versus those that did not.

Suicide – takes its toll

Looking at the Study members who (up to their twenties) had acted on suicidal thoughts but survived, it was found that despite recovering from the experience, many continued to suffer. They had higher rates of mental illness, physical health problems and were more dependent on welfare. They also reported being more lonely and unhappy at 38. Although many who attempted suicide had a psychiatric disorder, the long term effects of the attempt were over and above any mental health diagnosis. So, a suicide attempt is a powerful signal for the need for more support. It is important to target services towards young people who have attempted suicide. This may help alleviate future suffering, and reduce risk, among suicide attempters, their families and communities.



Credit – it could break your heart

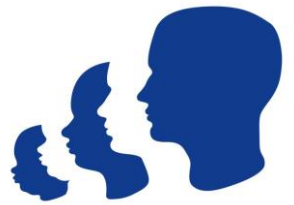
It may seem a bit unusual and a little unlikely at first glance, but we looked at credit scores to see if one's credit rating indicated more than just credit worthiness. Credit scores are used increasingly, in some countries, for reasons other than their original intent. For example, they are used for pre-screening for jobs, to give a proxy measure for personality, and life insurance companies even use it to provide an indication of health. Our research showed that, indeed, it does tell a lot about health status too. Poor credit score ratings were linked to poor cardiovascular health. But this doesn't mean that poor financial management hurts your health; rather, characteristics which predict good financial management also predict better health. Characteristics such as self-control, planning ahead and perseverance are good for both better financial status and better health. We found that 20% of the link between credit scores and heart health could be predicted from childhood characteristics. Luckily, though, these are characteristics we can continue to improve throughout our lives! It's important to note that New Zealand has pretty strict rules about accessing credit information to protect privacy.

Little Snippets

- At age 21, young people who smoked cigarettes occasionally – even just at weekends – had almost four times the odds of becoming a daily smoker in their late 30s compared to non-smokers. People who smoked occasionally tended to think of themselves as “non-smokers”, that they were not doing much harm and could quit anytime. Although some did stop smoking, many were still smoking at age 38, and some of them daily by then.



- Is there any long-term harm to school children working part time? We looked at school children who worked part time while at school and how they fared by age 32. We did not observe any negative outcomes in terms of psychological wellbeing or academic qualifications. Nor did working whilst at school make them more likely to smoke, drink alcohol excessively or regularly use cannabis.



Aging – are some of us aging backwards?

Study researchers identified a group of 18 different measures (like blood pressure and cholesterol and measures of inflammation) that could be used to show the pace of aging in younger people. So, although everyone might be the same age in the Dunedin Study, the 'biological age' that was calculated using these biomarkers could vary a lot. Some lucky people had a biological age of only 30 and others a biological age of 60! Most however hovered around their actual age.

Not everyone ages the same...



Leonardo DiCaprio, pictured aged 22 and aged 38



Riche Poulton aged 22, aged 38 (tracking OK); and at 50 (oops, slightly derailed!).

40-YEAR OVERVIEW

I recently had the pleasure of writing a paper describing the Dunedin Study with Phil Silva and the Associate Director, Terrie Moffitt. It was wonderful reflecting on how the Study started and the amazing progress it has made over forty years. We describe the themes of research that have been conducted and our future aspirations for the Study. Please get in touch if you would like a copy.

Richie.

The message gets through!



You may remember a paper we did showing the effects of cannabis on IQ for those who started using early in life and continued to use cannabis throughout adulthood. We showed that there was a significant decline in IQ. We were chuffed when this photo, taken in Phoenix, Arizona, was sent to us by a relative of one of our researchers. We are more used to being reported in academic papers!



Graffiti Wall



THEY SAID IT:



"It's probably the world's most successful longitudinal study of a general community sample, ever"

Professor Sir Michael Rutter
King's College, London

"It's an amazingly successful project. No question about it."

Professor James Heckman
Nobel Laureate, Economics



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