

Dear Study Members,

You are amazing. Thanks to your continued outstanding support and commitment to the Study, 961 Study members took part in the age 38 assessments. At 95% of the surviving Study members, this is another world-beating turnout and has further enhanced the Study's international reputation.

The assessment phase finished in April 2012 and, since then, the Dunedin Study team has been analysing, writing-up and disseminating the information you provided. Some of the research findings are highlighted in this newsletter and I hope you will find these interesting. Please don't hesitate to contact us if you would like copies of the actual research papers or more information on the studies we have conducted. Any feedback on the last assessment phase or how we can keep you better informed is always welcome.

When Phase 38 finished, so too did the employment of interviewing and office staff hired for the duration. Sadly, this also included Bron Driver, an integral member of the Study team since the age 26 assessments and well-known to you all in her role as contact and organiser for your visits to the Unit. However, we were able to retain Sean Hogan and the prime function of his new role is the ongoing liaison and engagement with Study Members, including pastoral care.

We have applied for funding to conduct an exciting new measure at the next assessment – fMRI scans (functional Magnetic Resonance Imaging). I recently had this done myself to test the experience – I wouldn't ask you to do something I wouldn't! The process was painless – apart from having to lie still but the time flew by quickly as I did the tasks (the 'functional' part) while images of the blood flow in my brain were being taken. If our funding application is successful, I will be in touch again with more information and show you pictures of my brain!

And here's wishing you all the best for Christmas and the New Year.

Richie Poulton
DIRECTOR



The Science of Us: The 1000 Most Studied People in the World

We are very excited to let you know that all four episodes of the documentary on the Study have been edited to their final form and are in post-production for final picture grading and sound finish. Once this and the narrated voice-over have been completed, all four programmes will be delivered to Television New Zealand for screening. As soon as TVNZ decides when the series will go to air, you will be the first to know and receive the promised DVD of the series.

Did you know...?

You can update your current contact information anytime by emailing us:

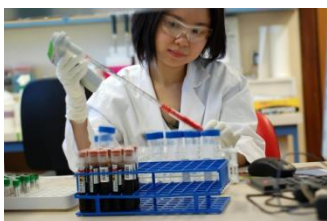
dmhdru@otago.ac.nz

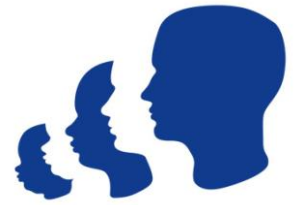
completing our website online form:

<http://dunedinstudy.otago.ac.nz>

or calling toll-free:

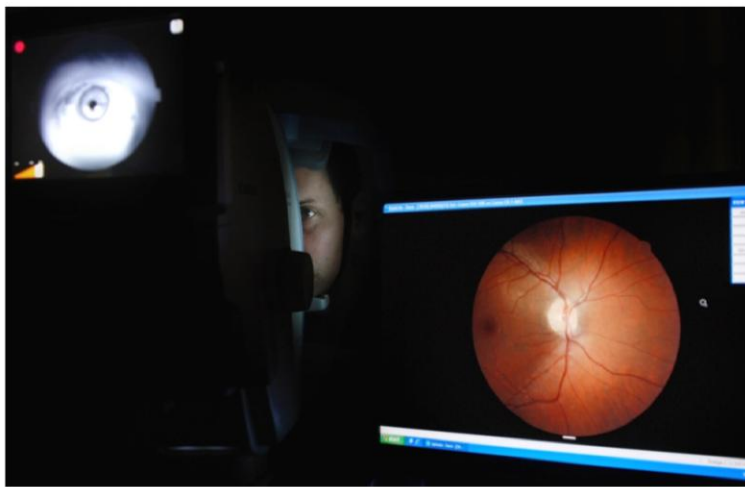
0800 479 8508





A Peek into the Health of your Brain through your Eyes

I'm sure you remember the photo we took of your retina – surely you have framed the copy we gave you! We used these photos to assess the small blood-vessels in the back of the eye (that is, the small branches of the arteries and the veins) called 'arterioles' and 'venules'. And you may also remember those long lists of words we had you memorise, and other colourful memory and learning tests. It turns out that the size of the venules in the eye is related to some aspects of brain function such as memory and learning. This is important because other studies which show that these blood vessels can indicate a risk of developing diseases related to the vessels in the brain, were carried out with elderly people. We have now shown small blood vessels can indicate the health of the brain in 38-year-olds many years before age-related diseases such as dementia take root. This new tool is mainly used by eye doctors to study eye diseases. We hope our work will show other doctors and researchers that retinal imaging is a very valuable tool for science and clinical practice more generally. One day GPs might look into the eyes to get an idea of brain health.

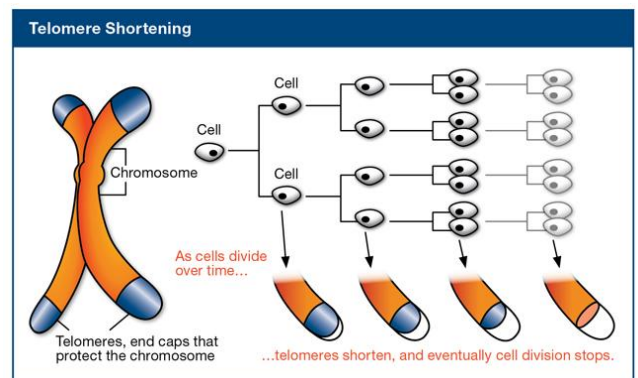


Sexual Attraction and Experiences

The majority of Study members reported heterosexual attraction and experiences over the years from age 21 to 38 years. A small number also reported same-sex attraction and experiences. In this group, over the years more women reported same-sex attraction than men. *Same-sex attraction* (who you fancy) was more common than *same-sex experiences* (what you do about it) or *same-sex identity* (how you describe yourself). This is the first study of its kind to show changes in sexual behaviour from early- to mid-adulthood. Our study showed that people moved both from and into all different levels of sexual attraction, experience and identity between assessments, especially among those with mixed sexual attraction and experiences or with a bisexual identity.

DNA Studies

We have been using the DNA samples that you provided at age 26 and, most recently, age 38 to look at telomeres. Telomeres are the bits of DNA at the end of your chromosomes that protect the chromosomes from unravelling. Just like the plastic bits at the end of your laces. However, each time a cell divides (which is normal for most cells in the body), the telomeres get a little shorter. Eventually, the telomeres are so short that the cell can no longer divide and becomes inactive. Because of this, telomere length is a key player in determining how quickly we age, and might be linked to our health as we get older.

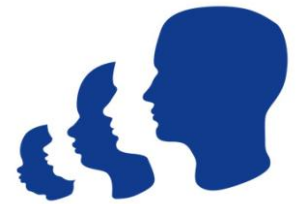


The good news is that the DNA samples you provided are great quality, and we were able to get really good data about how telomeres have changed over time. Watch this space!

THE PARENTING STUDY

This on-going Study began in 1995. We interview you at home together with your first pre-schooler, film you playing together and then send you a copy of the DVD which at least the children seem to enjoy watching! The support for this study has been fantastic - nearly all Study members who have had a child over 3 years of age have taken part in this study - and we thank you all. If you have not taken part in this Study but have a toddler or are expecting your first child, **please return the enclosed form.**

Back in 2005, we found that women raised in positive nurturing environments were more likely to raise their own children in a similar way but the evidence was not as strong for men. We were interested to see whether parents who have their children later in life were less influenced by their own childhood parenting experiences since more time had passed between being parented and parenting than for the younger parents. So, we repeated these analyses last year to include those who had become parents later. Interestingly, there was no difference between the older and younger parents: they were equally influenced by how they'd been parented themselves.



Dental Health

We found tooth loss has increased...

At age 18, one person in 500 had lost a tooth; by 26 years, it was one in 10;

and, at 38 years, one in every three people have lost a tooth. Thanks to the earlier information you and your family gave us, we were able to show that socio-economic inequalities are linked to tooth loss - that is, Study members who grew up in a deprived household and were poorer as adults were three times more likely to have lost at least one tooth due to decay.



You know the expression "Longer in the tooth"? We are the first study to show that, throughout one's life, decay in the crown (the bit that sticks out through the gum and is covered in enamel) signals a very strong probability of decay in the root surfaces later in life. This results in the tooth surfaces becoming more exposed as we age; hence we become longer in the tooth!

Remember we asked you to rate your dental health? Using that information (and other data from national dental surveys from New Zealand and Australia), we found that how you rate your teeth was surprisingly close to clinician's ratings.

Does personality predict health?

Are some personality types more prone to ill-health? Can we predict your health now from the information you gave us on your personality at 26? We found that the personality trait known as 'conscientiousness' predicted physical health as well or better than other indicators such as smoking status and family medical history routinely used in medical check-ups. Our study suggests that integrating personality questionnaires into clinical practice may help give doctors a head start in getting to know their patients better and identifying which individuals will need extra encouragement for a healthy lifestyle.

The Next Generation Study

As you may know, the Next Generation Study focuses on any 15 and 16 year-old children you are parenting. We invite them to do an assessment that is very similar to what you did when you were 15, but also updated to reflect today's world. Again, we have had fantastic support for this Study with 93% of eligible teens having participated. Since the Study began in November 2007, 259 young people (125 young women and 134 young men) and their parents or step-parents have been interviewed here in Dunedin for the Study. This has been an absolute privilege for the interviewers because the young people (and their parents) are interesting and interested!

- 54 Study members have had more than one teenager participating in the Study.
- 222 are biological children of Dunedin Study members and the others are step- or adopted children. Quite a change from the traditional nuclear family!
- 223 of the teens live in NZ and the others overseas (mostly Australia); 160 lived in cities (102 in Dunedin), 83 in smaller cities or towns, and 16 in rural areas. So, we have seen an interesting range of teenagers from different backgrounds....

If you are parenting a teenager(s), we will contact you around the time they turn 15 but please feel free to contact us any time if you would like to take part in the Study.

To Alcohol!



At age 18 years, some of you told us you were drinking more than you wanted or were having difficulty quitting or cutting down. The good news is that by age 38, most of you have overcome these difficulties. We now know that most people who have a problem with alcohol do so only for a short period of time. For those who do struggle with ongoing alcohol problems, we now have a better idea of how to prevent and treat these based on everything you have told us over the years.

Smoking Dope...

One of the first studies we did using age 38 data looked at cannabis and its effect on IQ. We discovered that if a person started using cannabis in adolescence (before age 18) and carried on using it regularly into adulthood, they showed, on average, an 8 point decline in IQ. A loss of 8 points may not sound like much them in the 50th percentile compared to other 50th to 29th percentile, which is a big drop. When we looked at those who did not start using cannabis until they were adults, their IQ was not affected. Why is



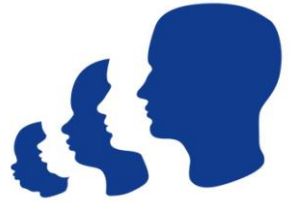
development and it is believed that cannabis has neurotoxic effects on the brain. IQ affects important aspects of our lives including education, income, jobs and even our physical health, so this decline is significant. This finding is important because fewer young people today believe that cannabis poses any serious risk but our study has shown that, if cannabis use starts early in life and continues well into adulthood, it can have significant lifelong consequences.

but to illustrate...an average person has an IQ of 100 which places people of the same age. If they lose 8 IQ points, they drop from the 50th to 29th percentile. When we looked at those who did not start using cannabis until they were adults, their IQ was not affected. Why is

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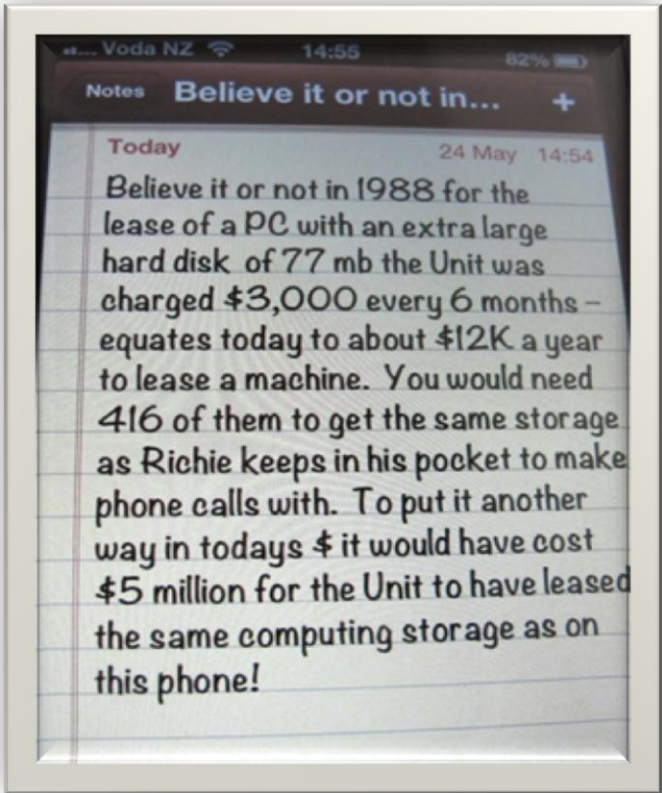
COMMON QUESTIONS



The Study is world famous and has been running for ages – it must be worth a fortune and have heaps of money?

To us the Study is priceless! All the information you, your family, teachers, partners and friends have provided over four decades has formed a Taonga - a treasure that will be a resource for all of New Zealand and the world, not only for now but well into the future. But as to having heaps of money...Resources were scarce in the early days of the Study and, as you know, much of the actual testing was carried out by volunteers working in borrowed premises. Your parents (and maybe you too) will remember the assessments held at Knox Church annex. Even at age 15, Phil Silva was writing to Dunedin-based Study members asking if they could billet out-of-towners. At the same time, he was also asking the out-of-towners to be sure to book flights ahead of their birthdays as the Study could not afford the adult airfares (at the time, 14 was the cut-off age for children's fares)!

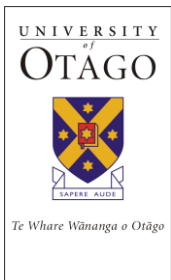
Every 3-5 years, the Unit has had to apply to funding agencies for monies to fund itself and each assessment phase of the Study. So far we have been successful but funding is never assured, especially in an ever-increasing competitive market for a limited pool of funds! Each time we apply to our main funder, the Health Research Council, we have to show that we have made excellent use of the data we collected to advance knowledge which may influence clinical practice, policy and prevention.



When are we going to be assessed again?

At the moment we are working to a timetable of next assessing Study members when they turn 44/45 - so in 2016/17!

An important bit of news - **We expect to be relocated** so it will be our turn to let you know of a move of house instead of the other way around! Our premises, the Barningham Building, is scheduled for demolition to enable an extension of the dental school to be built.



The Dunedin Study is funded by the Health Research Council of New Zealand, with additional support from the US National Institutes of Health and the UK Medical Research Council.

