Dunedin Multidisciplinary Health and Development Study receives a civic award

Professor Richie Poulton, Director of the Dunedin Multidisciplinary Health and Development Research Unit, recently accepted a civic award on behalf of the Study Members from the Dunedin City Mayor, Dave Cull.

Dunedin City Mayor, Dave Cull (centre), with Professor Jennie Connor (front left), and Professor Richie Poulton (front right) surrounded by some of the Phase 38 research interviewers (Photograph: University of Otago, Dunedin, July 2011)

The Dunedin Study is an ongoing, longitudinal study of the health, development and well-being of a large sample of New Zealanders. They were studied at birth (1972-73), followed up and assessed at the age of three, then every two years until the age of 15, then at ages 18 (1990-91), 21 (1993-94), 26 (1998-99), 32 (2003-2005), and 38 (2010-2012). It is planned to next see the Study Members at age 44, then again at age 50, and beyond.

The Dunedin Study is asking, and answering, some of the most fundamental questions about the human condition today. Is nature or nurture the significant factor, or is it the complex interplay between our genes (nature), and our environment (nurture) that determines how we turn out? How do social experiences ‘get under the skin’ to cause physical disease? What are the life course ‘ingredients’ for successful ageing? As governments try to make the most efficient possible use of limited resources they are looking for the best evidence of what areas of social policy might give the maximum return on their investment. They can, and do, turn to the Dunedin Study for the answer.
Some recent results:

Self-control predicts health, wealth, and public safety

From analysing data over 32 years researchers have shown that poor self-control in childhood predicts poorer health, wealth and happiness later in life – this has been used as important evidence to back up childhood programmes around the world that look to encourage the development of self-control.

How common are common mental disorders?

Comparing results from the Dunedin Study with large New Zealand and US national surveys it was found that there is likely a large underreporting of mental disorder. The evidence gathered from the Dunedin Study indicates that the real prevalence is likely to be double that previously thought.

Smoking and periodontal (gum) disease

Smoking tobacco is recognised as the primary risk factor for gum disease and that has been confirmed by the Study. However, the Dunedin Study has now gone further and shown that smoking cannabis can also lead to gum disease, independent of the effects of tobacco. Gum disease is a progressive condition where the teeth become loose with time. The good news from the Study is that the rate of damage falls away if you stop smoking. The overall best gum health is seen in the non-smoking Study Member group.

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Director’s cut

By Professor Richie Poulton

Director of the Dunedin Multidisciplinary Health and Development Research Unit

“We were thrilled when the Dunedin Mayor, Dave Cull, received our suggestion of a Civic Award for the Dunedin Study Members so positively. It just shows how the whole community of Dunedin is invested in the ongoing success of the Dunedin Study.”

“It is fitting that this unique award is going to the true stars of the Dunedin Study - the Study Members. Never before have they been given an award of their own - this is in keeping with the high regard we place on the precious gift that our Study Members give us.”

The research staff recognise the huge responsibility they have to achieve their best work in order to honour this gift. For us, the Study Members are ‘co-collaborators’ with the research staff in this continually unfolding story of life and experience.

The investment and trust of the Study Members has been mirrored by the historic and ongoing support of the Health Research Council of New Zealand as a key funder. This has been a really productive alliance with our team of researchers producing over 1,100 academic papers and reports. Perhaps more amazingly, I believe the best is yet to come.

The truly humbling aspect to the Dunedin Study has been how many of the original birth cohort have been ready and willing to return to Dunedin and give us a day from their busy lives to undergo a range of physical and cognitive tests and discuss the most sensitive and private areas of their lives.

At the conclusion of the last assessment phase at age 32, we had 96 per cent of living Study Members assessed, an incredible number. On the cusp of the fortieth anniversary, we are again expecting to see in excess of 90 per cent of our living Study Members. In part, this is because of a trust built up over four decades, but it also reflects the community spirit which is perhaps unique to New Zealand and Dunedin.

The logistics of giving an award to almost 1,000 Study Members while assuring their confidentiality has been a challenge. Each Study Member will get an A4 certificate personalised with their name, but the award is from the Dunedin City Council who cannot have any access to the Study Members information.

The art work for the certificate was downloaded by a Dunedin Study staff member and taken together with a computer file containing the names of the Study Members to the University of Otago printery. The files on the print machines were deleted in front of the staff member who returned with the certificates which will be kept under lock and key until they can be sent out.

The Study Members are a well travelled group and at present we have about 330 Study Members in Dunedin, and 250 in the rest of the South Island. We have more Study Members in Australia (around 175) than in the North Island (around 150). The final 80 or so Study Members are spread around the world, with Europe the main location. We work hard to keep our mailing database up to date so that we don't lose anyone.
Blood, sweat and tears – A day like no other

Sean Hogan, the Team Leader for Assessment Phase 38 of the Dunedin Study, asked one Study Member who had been having quite an intense day how it was going - she smiled and said “Oh you know blood, sweat and tears”. In a few words she had captured the feel of this busy assessment day - blood donation, the exercise bike and a moment of upset in the detailed six year life history chart completed as part of the emotional health interview.

A Study Member’s path through the day is described below by some of the research staff who administer the sessions:

08:20 - Study Members arrive and are welcomed (Up to four Study Members can be accommodated a day).

08:25 - Consents - We send detailed descriptions of the day and consent forms in advance but it is important that the day is explained again in some detail to the Study Members to ensure informed consent.

08:40 - Cardiovascular Health - Hanne Stegen, Research Nurse, describes the cardio session as: “A busy session and quite physical, we are doing some new and cutting edge tests this time. We have a retinal camera that produces the most beautiful colour images of the blood vessels of the eye - we give the Study Members a colour copy to take away. The retinal images are sent to Singapore to be graded by the Singapore Eye Research Institute. We record blood pressure and pulse three times and invite the Study Member to lie down while we test the flexibility of their blood vessels using a very new endothelial function test. We weigh and measure the Study Member as accurately as possible, using a body analyser scale, before encouraging them to perform on the exercise bike in an eight minute fitness test. Study Members comment that they have a wee snooze during the endothelial test before being chased up onto the bike!” (55 minutes).

09:35 - Cognitive - Dr David Ireland, Research Interviewer: “The cognitive tests are made up of a variety of different tasks and puzzles that look at a lot of different mental abilities. Study Members have told us that they like the challenge of the tests. Some remember one or two of the tests from when they did them last time way back at Phase 13 (Richie Poulton was a tousle haired young interviewer at the time with earrings and sideburns!). We use a whole range of tests including; computer tests, block design, word recognition and others, and no test is longer than four minutes. Cognitive tests can be mentally tiring so we split the tasks into two sessions, separated by a practical session. One session ends with a grip test, allowing the Study Members to grip as hard as they can - which might be a relief after 55 minutes of cognitive testing!”

10:45 - Respiratory - Kirk Jurgens, Respiratory Technician, describes the session he administers as: “Hospital standard lung evaluation tests using a state of the art body-box. The Study Member sits inside the box which can very accurately measure air volumes within the lung noninvasively. We measure Nitric Oxide in exhaled breath on another machine because higher levels of this gas indicate excessive stimulation of muscles around airways. The physical tests are complemented by detailed history taking including; occurrence of asthma and wheeze, exposures to irritants, history of smoking, sleep and family health factors. Study Members tend to remember us encouraging them to “Keep going, keep going, keep going!” (55 minutes).

11:40 - Cognitive - More tests ending with a balance test - all our Study Members are of course well balanced! (55 minutes).
13:05 - Emotional Health - Jane Carroll, Research Interviewer:
“The emotional health/life events session is in four parts. First, the Study Member is faced with the challenging task of updating the long cardboard calendar that details where they have lived and major life events. This gets a range of feedback from Study Members, but: “How cool! I get to look back over six years of my life”, is not unusual. Because we use the last chart from Phase 32 to orientate the Study Member, they get the chance to see 12 years of their lives down in black and white - this can be a real moment for reflection. It is always humbling to share that with the Study Member.”

“The second part of this session is the mental health interview, which is about a centimetre thick and seeks to capture symptoms of common mental distress/illness in the last year in particular. It can be a bit daunting, but actually flows through very quickly - often with a few laughs on the way.”

“The third part is the emotional history chart which gives a quick snapshot of the last six years to capture any information about mental distress/illness not caught in the mental health interview and only takes about 10 minutes to complete. We finish with the informants form. We ask the Study Member to choose three people who know them well who will be sent a short questionnaire asking about them. (100 minutes).

14:55 - Lifestyle - Katherine Skillander, Research Interviewer: “Lifestyle is a real mix. A big range of topics which are covered in short interviews within the bigger session. We ask about work, money, relationships, illegal behaviour, so all the things not talked about in polite society.”

“We mix it up with a computer-based session about sexual behaviour, and an interview about cultural activities. Finally, we take a face photograph to look at skin ageing. This long session is made easier by the fact that it is broken up into short interviews and this can keep interest going when energy levels are flagging. It can feel like putting together parts of a jigsaw to produce the full picture of what is going on for a person. People’s individuality and resilience shine through.” (100 minutes).

15:45 - Blood - 60mls of blood - which is about an egg cup full is donated, which can be used to correlate with many of the interviews through the day and allow DNA and RNA to be extracted. Amazingly at this point of Phase 38 after seeing 800 people, all but two per cent of people have agreed to donate blood.

General Health - Amanda Bauman, Research Nurse: “This interview is a quick capture of any physical health problems since the Study Member was 32. We also look at nutrition, physical activity, computer use and television watching. The whole interview can be done in under 20 minutes. Some of the injuries we have been told about are simply eye watering.”

Sometime after 5.00pm the Study Member will finish and will leave with our thanks.

The quality of the partnership between researchers and participants in the Dunedin Study has produced an incredibly rich resource, with unparalleled international standing. The Study has consistently delivered, and will continue to deliver, outstanding research findings and insights into human health.

Dr Robin Olds, HRC Chief Executive