

Rising IQ Scores: Implications for the Elderly

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Data from twenty nations show not a single exception to massive IQ gains over time. The escalation of whatever skills are involved probably began no later than the onset of the industrial revolution. There are national differences, of course. However, over the last 60 years, the most interesting differences are in terms of the kind of IQ test.

Tests of fluid intelligence like Raven's Progressive Matrices, which measure on-the-spot problem solving using patterns presumed to be recognisable across cultures, show gains of about 20 IQ points per generation (30 years). Wechsler Performance Scales show gains ranging from 9 to 20 points, Wechsler Verbal Scales average at about 9 points, while academic achievement tests show small gains or even losses [1,2,3].

The implications for the elderly fall under three headings: how much does cognitive performance decline with age; can we compete with our children and grandchildren; are we being surrounded by an intellectually enriched culture?

HOW MUCH DOES COGNITIVE PERFORMANCE DECLINE WITH AGE?

The orthodox view used to be that fluid intelligence peaked by the early 20s, then began a gradual decline which accelerated in old age [4, p.235]. The elderly were thought to suffer losses much later on verbal IQ tests that measured crystallised intelligence: things like vocabulary, general information and arithmetic, things an intelligent person will excel in mastering over a lifetime. The theory was that even after fluid intelligence had withered, the crystallised benefits it had conferred when in full bloom were retained [5].

Unfortunately, much of the evidence for the orthodox view came from cross-sectional data: studies that compared 70-year-olds and 20-year-olds tested at the same time. Clearly such data are not equivalent to longitudinal data: studies that test individuals as they age from 20 to 70. Cross-sectional studies are comparing across as much as two generations and measuring not only decline with age but also IQ gains over time. Since IQ gains are far greater on tests of fluid intelligence than on tests of crystallised intelligence, much of the apparent difference in the 'decline' of these faculties with age is an artefact of differential IQ gains.

Pat Rabbitt at Manchester is conducting the kind of longitudinal study needed. Preliminary results:

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decline after age 50 for fluid intelligence is less than we once believed; the elderly show a surprisingly robust gain from practice effects, which may not boost our estimate of their IQs but does show a lively ability to learn in old age.

CAN OLDER PERSONS COMPETE?

Can the person of 55 hope to compete with the new employee of 25 who has come to the workplace with an extra 20 points of fluid IQ? As we shall see, I am a sceptic as to whether those extra 20 points really signal some kind of real-world general intelligence gain. But let us stick to hard data and compare Full Scale IQ gains on Wechsler tests with gains on various subtests.

Data for four nations (US, Scotland, Germany, Austria) show Full Scale gains averaging almost 15 points over 30 years, so the older employee should be hopelessly out-classed. However, the subtest data show a loss of 1 or 2 points (SD = 15) for arithmetical reasoning and a small gain of not quite 3 points for general information. Vocabulary is odd: the two English-speaking countries named (and others like England and Northern Ireland) show negligible gains of under 2 points; the two German-speaking countries show a huge gain of 12 points. At any rate, unless the boss includes IQ test performance as an essential duty, there is no reason to believe an older person will be any less articulate, informed, or able to calculate the balance sheet [6, p.238, 2, Tables 12 & 13, 7, p.47-48, 8, 9, 10, p.139, 11, Table MHV3].

ARE WE BEING SURROUNDED BY AN ENRICHED CULTURE?

The huge fluid IQ gains, or even large Wechsler Full Scale IQ gains, have not been accompanied by cognitive gains of real-world significance. Therefore, I am sceptical about our prospects of enjoying a society that would put classical Athens to shame. Imagine that IQ gains had not occurred and all we had were the modest gains on the above Wechsler subtests. No one would be talking about massive intelligence gains, merely about schooling trends that had undermined arithmetic skills a bit and enhanced general information and vocabulary a bit. There is something the matter with 'intelligence' gains that we would not know were there, had not IQ scores kindly tipped us off.

This brings us back to the question of whether cognitive performance declines with age. Assume that there really are causal factors that boost IQ from one generation to another, while not raising intelligence. These same causal factors might keep IQ-test performance relatively stable within a generation as people age, while masking an

intelligence decline. If so, even the best IQ data from longitudinal studies would not be of much help. If we want to know whether real-world cognitive performance declines with age, there is no substitute for real-world measures.

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Oral Health for the Elderly

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Oral health is always a difficult topic to put on the agenda. This is because many people feel uncomfortable with it as a topic of conversation and because it has been perceived that the dental profession 'owns' everything to do with the mouth. This article aims to redress that imbalance by stimulating discussion concerning current trends and debates regarding oral health services for the elderly in Australia.

The ageing of the Australian population, the greater likelihood of older persons retaining their natural teeth and the perceived barriers to dental treatment for older people, have highlighted the parlous state of oral health for the elderly in Australia. Poor oral health affects a person's overall quality of life and should be recognised as an essential and integrated component of general health [1].

Currently, oral health services are provided through the private sector in dental surgeries and denture clinics, through the public sector in Aboriginal medical centres, community health centres and hospital denture clinics, and through both sectors via schemes such as the Pensioner Denture Scheme and Veteran's Affairs. Moreover, as routine dental services are not provided through Medicare, the majority (88 per cent) of dental services are provided in the private sector with the

remainder (12 per cent) provided in the public sector [2].

Unfortunately, there are specific groups of people who are financially unable to access the private sector, or those whose needs have not been met in the public sector, with respect to oral health care. These groups include people with disabilities, people who suffer chronic ill health, the elderly (especially the homebound and institutionalised) and people living in rural and remote areas [3,4].

Wealthy people are treated promptly in the private sector whilst many middle and lower income people are forced to wait years for treatment in the public sector or simply learn to endure needless pain and infection [5]. As an emergency stop-gap measure, some consumers are forced to seek medical care in the form of antibiotics and pain killers.

Access to dental services is made more difficult by limited surgery hours, limited physical access into surgeries and limited public transport to surgeries [6]. This is especially true for the elderly living in hostels and nursing homes as well as for people with disabilities.

In terms of the type of care provided, there is a need for elderly clients to receive regular preventive dental care instead of sporadic relief of pain or an extraction [2,6]. One possible strategy would be to link a dental examination into the geriatric assessment process so that carers and family members would know if oral health care was required for a new resident.

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