

# Fluoridating water does not lower IQ, new research says

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New research out of New Zealand's world-renowned Dunedin Multidisciplinary Study does not support claims that fluoridating water adversely affects children's mental development and adult IQ.

The researchers were testing the contentious claim that exposure to levels of fluoride used in community water fluoridation is toxic to the developing brain and can cause IQ deficits. Their findings are newly published in the highly respected *American Journal of Public Health*.

The Dunedin Study has followed nearly all aspects of the health and development of around 1000 people born in Dunedin in 1972-1973 up to age 38.

Lead author Dr Jonathan Broadbent of the University of Otago, New Zealand, says the new research focused on Study members' fluoride exposure during the first five years of their lives, as this is a critical period in brain development, after which IQ is known to be relatively stable.

Dr Broadbent and colleagues compared IQs of Study members who grew up in Dunedin suburbs with and without fluoridated water. Use of fluoride toothpaste and tablets was also taken into account.

They examined average IQ scores between the ages of 7-13 years and at age 38, as well as subtest scores for verbal comprehension, perceptual reasoning, working memory and processing speed. Data on IQ were available for 992 and 942 study members in childhood and adulthood, respectively.

Dr Broadbent says the team controlled for childhood factors associated with IQ variation, such as socio-economic status of parents, birth weight and breastfeeding, and secondary and tertiary educational achievement, which is associated with adult IQ.

"Our analysis showed no significant differences in IQ by fluoride exposure, even before controlling for the other factors that might influence scores. In line with other studies, we found breastfeeding was associated with higher child IQ, and this was regardless of whether children grew up in fluoridated or non-fluoridated areas."

Dr Broadbent says that studies that fluoridation opponents say show that [fluoride](#) in water can cause IQ deficits, and which they heavily relied on in city council submissions and hearings, have been reviewed and found to have used poor research methodology and have a high risk of bias.

"In comparison, the Dunedin Multidisciplinary Study is world-renowned

for the quality of its data and rigour of its analysis," he says.

"Our findings will hopefully help to put another nail in the coffin of the complete canard that fluoridating [water](#) is somehow harmful to children's development. In reality, the total opposite is true, as it helps reduce the tooth decay blighting the childhood of far too many people."

**More information:** Community Water Fluoridation and Intelligence: Prospective Study in New Zealand, Jonathan M. Broadbent, PhD, W. Murray Thomson, BSc, PhD, Sandhya Ramrakha, PhD, Terrie E. Moffitt, PhD, Jiaxu Zeng, PhD, Lyndie A. Foster Page, BSc, PhD, and Richie Poulton, PhD, *Am J Public Health*. [DOI: 10.2105/AJPH.2013.301857](#)

Provided by University of Otago

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