Lifetime intellectual function and satisfaction with life in old age: longitudinal cohort study

Citation for published version:

Digital Object Identifier (DOI):
10.1136/bmj.38531.675660.F7

Link:
Link to publication record in Edinburgh Research Explorer

Document Version:
Publisher's PDF, also known as Version of record

Published In:
British Medical Journal (BMJ)

Publisher Rights Statement:

General rights
Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy
The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.
Although European Directive 95/46/EC allows national law (or a national supervisory body) to exempt healthcare or disease registries from the requirement to obtain informed consent for the processing of personal medical data, many countries have not legislated for any exemptions and there is much debate about the effect of the consent requirement on epidemiological research and surveillance.

What is successful ageing? Current opinion is that “cognitive vitality is essential to quality of life ... in old age.” This depends substantially on people’s cognitive ability from early life, and on how much they decline from their cognitive peak in young adulthood. Early cognitive ability also affects physical health and even survival to old age. But surely happiness and satisfaction with life are also key indices of successful ageing. Happiness was described as “the highest good and ultimate motivation for human action.” This does not seem to be related to current cognitive ability. Cognitive level in youth and the amount of cognitive change across the lifespan are important indicators of cognitive vitality in old age. We examined a unique data set to investigate whether these factors are associated with people being happier.

Participants, methods, and results

The Lothian birth cohort 1921 is a relatively healthy group of 550 older people (mean mini-mental state examination 28.2 (standard deviation 1.7), range 18-30). They were given the same test of mental ability (a version of the Moray House test number 12) at mean ages 10.9 (0.3) and 79.1 (0.6) years old, giving three cognitive measures: early life ability, late life ability, and lifetime cognitive change. Moray House test scores were converted to IQs (standardised to a mean of 100 (15) and adjusted for age at testing. To compute lifetime cognitive change we used the following process. IQ at age 11 was the independent variable in a linear regression with IQ at age 79 as the dependent variable and commented on drafts of the paper. AB and HD drafted the paper. AB and NC coordinated data collection. AB analysed the questionnaire data. AR, HDW, IRG, MG, RM, and VN completed questionnaires giving information on ethics and confidentiality in their registries. All authors are guarantors.

Funding: Eurocat is supported by the EU Commission Public Health Directorate Public Health Programme. Competing interests: None declared. Ethical approval: All registries have ethical approval appropri-

to their national and local ethics guidelines. The following registry leaders or members completed questionnaires giving information on ethics and confidentiality in their registries, and commented on the final draft of the paper: Lenore Abramsky, Neus Baena, Rosa Caballin, Eva Bermejo, Maria-Luisa Martinez Frias, Sebastiano Bianca, Alessandro Bonato, Romano Tescioni, Patricia Boyd, Mary Brethell, Martin Ward Platt, Maria Feijoa, Ester Garne, Blanca Gener, Yves Gillerot, Martin Haenseler, Anna Latos-Bielska, Ruth Meikle, Isabel Portell Roland, Carmen Mosquera-Tenreiro, Amanda Neville, Elisa Calzolari, Mary O’Mahoney, Anna Pierini, Fabrizio Bianchi, Annette Queisser-Luft, Girozzi Giovanni, Volker Steinbichler, Claudio Stoll, David Tucker, and Diana Wellesley.

Contributors: All authors are members of the Eurocat Working Group on Ethics and Confidentiality (chair AR, cochair AB) and were involved in the development of the questionnaire and commented on drafts of the paper. AB and HD drafted the paper.


(Accepted 27 June 2005)

This article was posted on bmj.com on 6 July 2005: http://bmj.com/cgi/doi/10.1136/bmj.38531.675662.F7
total from 5 to 35 (mean 25.3 (6.1)). Only participants with full cognitive and life satisfaction data were included (n = 416; 42.5% men); a further seven people were excluded who had mini mental state examination scores less than 24. Correlations between the satisfaction with life scale and IQ at age 11 (r = 0.00) and age 79 (r = 0.04) were not statistically significant. The relation between the satisfaction with life scale and cognitive change between ages 11 and 79 was also small and non-significant (r = 0.05, P = 0.30). The associations did not differ significantly between men and women.

Comment

In non-demented people aged about 80, satisfaction with life in late adulthood was unrelated to IQ in either childhood or late adulthood and to cognitive change in their lifetime. An association might have been expected as intelligence is a "highly valued resource in this society," and cognition is viewed as a key outcome in ageing. The lack of a cognition-life satisfaction relation could be due to the fact that higher ability is equally likely to lead to positive (increasing one's resources through entry to better employment, for example), as well as negative outcomes (an awareness of alternative lifestyles or a striving for greater achievement), which may be used when judging subjective wellbeing. Shorter term changes in cognitive function may influence ratings of life satisfaction; continued assessment of the cohort will allow an investigation of this possibility. Or it might be that, if people have sufficient cognitive ability for important aspects of their lives, individual differences do not matter much, as suggested by Thomas Hobbes in Leviathan: "For such is the nature of men, that howsoever they may acknowledge many others to be more witt, or more eloquent, or more learned; Yet they will hardly believe there be many so wise as themselves: For they see their own wit at hand, and other mens at a distance. But this proveth rather wise as themselves: For they see their own wit at hand, learned; Yet they will hardly believe there be many so others to be more witty, or more eloquent, or more

Contributors: AJG analysed the data and drafted the paper. AP and MCW managed the study and collected the data. IJD planned the study, and IJD, LW, JS planned the cognitive data collection phase of the Lothian birth cohort 1921. All authors contributed to the editing of drafts. IJD is guarantor.

Funding: AJG holds a Royal Society of Edinburgh/Lloyds TSB Foundation for Scotland Studentship. LW holds a career development award from the Wellcome Trust. IJD is the recipient of a Royal Society-Wolfson Research Merit Award. The phases of the Lothian birth cohort 1921 were funded by the Biotechnology and Biological Sciences Research Council and the Chief Scientist Office of the Scottish Executive Health Department.

Competing interests: None declared.