Australian Government
Department of Education

Benefits of Educational Attainment

Healthy behaviour

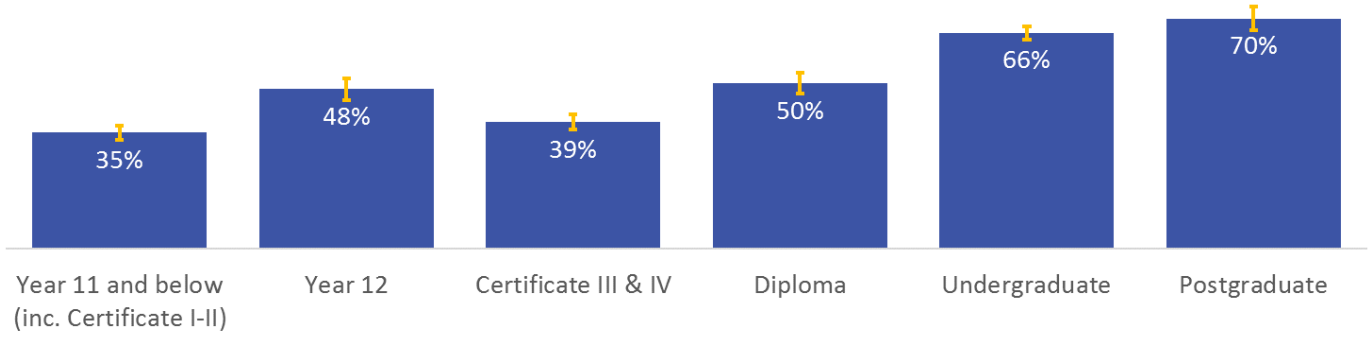
Higher educational attainment leads to more healthy behaviour including never smoking, meeting exercise guidelines and responsible alcohol consumption.

Smoking, lack of exercise, and excessive alcohol consumption can have a detrimental effect on health outcomes.[1] Previous international research has identified that higher educational attainment leading to higher health literacy, was linked with healthy behaviour.[2] Using the 2014-15 National Health Survey, we show that positive relationships exist between higher educational attainment and healthy behaviour in Australia. These trends hold after controlling for a range of confounding factors including age, gender, occupation, income and country of birth. Increasing educational attainment is also associated with reduced rates of mortality. We also found positive but weaker evidence of improved body mass index, fruit and vegetable consumption and blood pressure (see Appendix).

Smoking

Smoking is a leading preventable cause of chronic disease and death in Australia.[3] Further, passive smoking causes early death and health problems in children and adults who do not smoke.[4] Using National Health Survey data we found the likelihood of people never smoking significantly increased with educational attainment (Figure 1).

Figure 1. Proportion of 30-64 year olds that have never smoked, by highest level of educational attainment, 2014-15.



Source: National Health Survey, 2014-15.

Notes: Data filtered by age (30-64), not studying. Survey weights applied. Error margins are 95 per cent confidence intervals. Post-matching logit likelihood ratio results show educational attainment is associated with never smoking ($\chi^2 = 98$, $p < 0.001$, $N = 1,858$). Significant pairwise

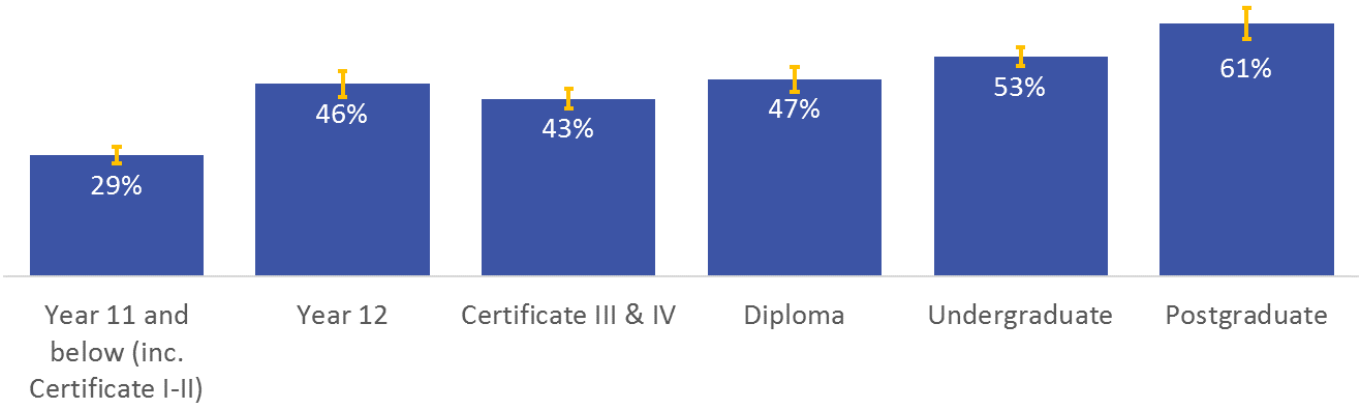
[1] Australian Institute of Health and Welfare (2018) Behaviours and risk factors, accessed 12 June 2019
2 Friis K, Lasgaard M, Rowlands G, Osborne RH, & Maindal HT (2016). Health literacy mediates the relationship between educational attainment and health behavior: A Danish population-based study. Journal of health communication, 21(2): 54-60
3 Australian Institute of Health and Welfare (2018) Behaviours and risk factors: Smoking, accessed 12 June 2019
4 Australian Institute of Health and Welfare (2018) Behaviours and risk factors, accessed 12 June 2019

comparisons were found for; postgraduate versus diploma (p = 0.001), postgraduate versus certificate III-IV (p <0.001), and postgraduate versus year 12 (p = 0.007), postgraduate versus year 11 and below (p <0.001), undergraduate versus diploma (p = 0.006), undergraduate versus certificate III-IV (p <0.001), undergraduate versus year 12 (p = 0.042), undergraduate versus year 11 and below (p <0.001), diploma versus year 11 and below (p = 0.011) and year 12 versus year 11 and below (p = 0.003).

Exercise

Regular physical activity is important for the health and wellbeing of adults and results in a reduced risk of chronic disease.[5] In 2014-15, the recommended amount of exercise was a minimum of 150 minutes over 5 sessions per week.[6] We found that the likelihood of meeting these recommended exercise guidelines significantly increases with higher educational attainment (Figure 2).

Figure 2. Proportion of 30-64 year olds who met exercise guidelines, by highest level of educational attainment, 2014-15.



Source: National Health Survey, 2014-15.

Notes: Data filtered by age (30-64), not studying. Survey weights applied. Error margins are 95 per cent confidence intervals. Post-matching logit likelihood ratio results show educational attainment is associated with meeting 2014-15 exercise guidelines (χ^2 = 81, p <0.001, N = 1,858). Significant pairwise comparisons were found for postgraduate versus certificate III-IV (p = 0.037), postgraduate versus year 11 and below (p <0.001), undergraduate versus year 11 and below (p <0.001), diploma versus year 11 and below (p <0.001), certificate III-IV versus year 11 and below (p <0.001), year 12 versus year 11 and below (p <0.001).

Alcohol consumption

In Australia, excessive[7] alcohol consumption is responsible for an increased risk of death, disease and injury.[8] Lifetime alcohol consumption risk was measured using a seven-day inventory based on the National Health and Medical Research Council 2009 guidelines.[9] In the same matched sample, we found that the likelihood of excessive alcohol consumption declined with increasing educational attainment from 23 and 25 per cent for *Year 11 and below* and *Cert III-IV* down to 14 per cent for *Undergraduate* and *Postgraduate* (χ^2=16, p<0.001, N=1,858).

Mortality

Annual mortality rates tend to decrease as educational attainment increases for both men and women. Mortality rates were highest for Year 11 and below (2.9 and 3.5 per cent for women and men, respectively) with the lowest mortality rates observed at the postgraduate masters level (0.3 and 0.5 per cent for women and men, respectively).

5 Australian Government Department of Health (2017) Physical activity and sedentary behaviour, accessed 10 May 2019
6 Australian Bureau of Statistics (2017) National Health Survey: Users' Guide, 2014-15 (Cat. No. 4363.0)
7 Excessive consumption is defined here: https://www.nhmrc.gov.au/health-advice/alcohol. For healthy adults this is no more than two standard drinks per day.
8 National Health and Medical Research Council (2009) Australian guidelines to reduce health risks for drinking alcohol, accessed 12 June 2019
9 National Health and Medical Research Council (2009) Australian guidelines to reduce health risks for drinking alcohol, accessed 12 June 2019
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Data and Methodology

The analysis in this paper used 8,200 records from the ABS National Health Survey, 2014-15 (Cat. No. 4364.0.55.001), where persons were aged 30 to 64 years (inclusive) and were not currently studying. To control for confounding factors, randomised control trials were simulated by finding groups of statistically similar people across the following covariates: age, sex, occupation, remoteness, labour force status, personal income, household composition, SEIFA, English-speaking country of birth, household income. Significance in health behaviours and highest education were assessed with a logit generalised linear model on the matched sub-populations (N=1,858). This provides the strongest possible evidence of cause and effect in cross-sectional data. Mortality data, containing 132,907 records, was sourced from the ABS Mortality, Enhanced Characteristics, 2011-12 (Cat. No. 3303.0.55.002). Matching was not undertaken for this dataset.