

Title: Intelligence, Education and Addiction

Commentary on Daly & Egan: “Childhood cognitive ability and smoking initiation, relapse and cessation throughout adulthood: Evidence from Two British cohort studies”

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Commentary

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Contrary to the widely held view that education plays a moderate role in behaviour change, Daly & Egan's findings support the need for effective campaigns that improve mental competence to resist pressures to start smoking and to promote initiation of quit attempts.

Smoking is arguably the hardest drug to give up [1]. Untreated tobacco addiction costs governments around the world more than heart disease, diabetes and cancer combined. The annual cost to society is approximately £13.9 billion a year, in England alone. This estimate includes the cost to the NHS of treating diseases caused by smoking, which is roughly £2 billion a year [2].

Daly and Egan find that lower childhood mental ability and education predict a higher probability of smoking initiation in adulthood and a lower likelihood of quitting, but no strong association with relapse [3]. Their study is based on data from two large British cohort studies. Participants, born in 1958 and 1970, were contacted several times during their life starting from an early age and asked specific questions on smoking status, such as time of initiation, cessation or relapse.

Given that childhood mental ability is most environmentally malleable in early life and only later influenced by education, these results suggest a clear association between childhood mental ability and smoking behaviour, in addition to the mediating role of education. The originality of this work lies principally in examining the mediating role of education between early cognitive ability and major changes in smoking behaviour across adulthood.

Daly and Egan's findings reinforce earlier studies, which have demonstrated that lower childhood IQ and lower levels of education predict a higher risk of becoming a smoker and continuing to smoke until later in life [4, 5]. In another cross-cohort analysis using three British Birth Cohorts (1946, 1958 and 1970), Richards and colleagues also demonstrated a consistent pattern of associations between childhood cognitive ability and lifetime smoking behaviour. Richards was one of the first to show that these associations are mediated by education and socioeconomic position, with education being the strongest determinant [6].

Daly and Egan provide a more detailed account of the mediating role of education in smoking initiation, relapse and cessation. Interestingly, Daly and Egan report some differences between the two cohorts in their analyses (1958 and 1970); with a weaker association between cognitive ability and smoking initiation in the older cohort (1958). This might be due to differences in the educational system in the UK for those born in 1958 and those born in 1970; there being a gradual increase in access to education for those born later, especially women [7]. The weaker association in the younger cohort (1970) could also be a result of the increased awareness of the consequences of smoking behaviour that has occurred over time.

Extrapolating the findings by Daly and Egan to the current generation of potential young smokers, it is possible that the association between cognitive ability and smoking initiation will be even stronger for two reasons. First, the UK smoking ban came into force in 2007, restricting smoking in all indoor public places, including all social establishments where children would have initiated their smoking behaviour. This followed a complete ban on tobacco advertising in 2002, which was extended to a ban on tobacco display in shops in 2013 and the requirement of plain packages in 2016; all of which decrease the opportunities for children to initiate smoking. Second, the current generation of 'would be' smokers has access to a wealth of information about the dangers of smoking. Both of these reasons are

consistent with Daly and Egan's position that intervention programmes should focus on educating people and in particular those without a third-level degree.

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