

0090

A Review of the Birth Date Effect on Educational Attainment in England

Elizabeth Sykes, Tim Oates, Joanne Emery, John Bell, Carmen Vidal Rodeiro
Cambridge Assessment, Cambridge, United Kingdom

Background

Qualifications data for England has long shown readily-observable evidence of a birth date effect on attainment that persists throughout the years of education. Averaged over large numbers of pupils, those born later in the school year (i.e. the youngest) show lower academic attainment than those born earlier in the school year. In England, where the school year begins in September, the disadvantage is greatest for those born during the summer months (June, July and August).

A number of causes have been postulated to account for these findings. Medical / seasonality hypotheses have implicated the timing of pre-natal exposure to winter viruses for those born during the summer months. Length of schooling hypotheses suggest that, when school admissions are staggered over the year to take age into account, those born later receive less overall schooling and this is to blame. Relative age hypotheses suggest that the youngest in the year group are less mature than their older counterparts in terms of cognitive, physical, emotional and social maturity, leading to unequal competition that impacts negatively on the youngest.

Research Questions

This literature review aims to bring together the accumulated evidence to investigate the magnitude of the birth date effect in England at different phases of education, from primary through to university level. Although the English education system is the focus of enquiry, international comparisons are used to advance our understanding of this phenomenon.

Methods

A large review of birth date effects, published in 1990, examined the literature from the previous 30 years. This review therefore focuses on the literature from 1990 onwards.

Frame

The evidence for or against the three different causal hypotheses above (medical, length of schooling and relative age) is examined. There were no *a priori* assumptions.

Research findings

The weight of evidence suggests that the birth date effect is a serious issue. There is robust evidence that it persists throughout the years of education. It is most pronounced during the earliest years of schooling, with the magnitude of the effect decreasing over the school years from Key Stage 1 to Key Stage 5. Selection effects also appear to be in operation beyond the compulsory years of schooling (at A-level and degree level), whereby a higher than expected proportion of summer-borns do not actually progress that far. In the early years, a disproportionately high percentage of summer-born children are referred for Special Educational Needs and it may be the case that teachers do not make sufficient allowances for their relative immaturity.

The fact that birth date effects are seen in countries where the school year begins at other times of year tends to rule out medical / seasonality hypotheses. Evidence in support of length of schooling versus relative age hypotheses is sometimes difficult to disentangle but tends to support the latter. Birth date effects appear to be greatly reduced in countries where formal education begins at a later

age and it is possible that some children aged 4 to 5 may not be ready, developmentally, for formal education.

We do not advance recommendations for remedies here. Substantial work is required on the means of devising adequate approaches. It is likely that adequate remedy will lie not only in development of a strategy regarding *when* formal schooling should start but also regarding, among other things, the balance of curriculum elements devoted to cognitive, emotional and social development.