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A Century of Growth in Australian Children

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It has been a consistent finding of studies from many parts of the world that the height and mass of children have been increasing over the last 100–150 years [1]. A review of 113 reports of increases in height in 14 countries since 1860 shows an average increase of $1.35 \pm 1.19 \text{ cm} \cdot \text{decade}^{-1}$. The average increase in mass from 114 reports from 9 countries was $1.07 \pm 0.92 \text{ kg} \cdot \text{decade}^{-1}$ [Harten and Olds, unpubl. data]. There has been some speculation that in recent years the secular increase in height and mass has slowed or stopped in some parts of the world [2, 3].

Although there have been many large anthropometric surveys of Australian schoolchildren from 1897 onwards, the earliest complete raw dataset of Australian schoolchildren was the result of a survey conducted in 1985 [4]. The authors have been able to reconstruct partial individual data from surveys in 1937, 1954 and 1970 from frequency tables. Where raw data have been discarded, available summary statistics are often lacunary or inappropriate. For example, no standard deviations are available before 1937, and means and standard deviations are typically used to describe mass, which usually shows a strong positive skew. Even when raw data are available, comparison is confounded by methodological differences in measurement techniques and the use of different and inappropriate scaling procedures. As a result, extensive primary data treatment is necessary before meaningful comparisons can be made and trends examined.

There have been very few large-scale studies taking direct measurements of fatness (for example, skinfolds or hydrodensitometry), and with skinfold measurements the large technical error of measurement can swamp small secular drifts. Consequently, great reliance is placed on measurements of mass