Reasons to be small. From left to right: William Hogarth, Immanuel Kant, Charles (Charlie) Chaplin, Milton Friedman, Olga Korbut, and Lionel Messi

From Thomas Samaras, San Diego, USA

It was refreshing to read your excellent WN March column on human size (1). There are so many examples of short people who have excelled in so many fields that it is hard to know where to start. The column gave examples. Here are more, above: from left, British painter William Hogarth, German philosopher Immanuel Kant, US economist Milton Friedman, and gymnast Olga Korbut, all of whom were about 5 foot or just over 1.50 metres in height, and therefore ‘stunted’, and movie star Charlie Chaplin and footballer Lionel Messi, who were or are around 5 foot 6 or about 1.67 metres in height (2).

There are many mortality studies showing taller people have lower death rates than shorter people. But only a few longevity studies show that taller people live longer. Perhaps it is assumed that mortality studies are longevity studies. However, mortality studies do not track a population’s mortality over a lifetime. In economically developed countries, the top six highest life expectancy populations are shorter than the six tallest populations (3). In addition, most longevity studies show that shorter people live longer and are more likely to become centenarians (3,4).

Again, most studies show that shorter people have more cardiovascular disease. But such findings are likely to be confounded by many factors unrelated to height as such, examples being socio-economic status, catch-up growth, excess weight, and childhood illnesses that stunt growth (4). My own reviews on height and
cardiovascular disease shows that shorter people have less disease than taller ones (4,5). Andrzej Bartke also recently presented the case for ‘smaller is healthier’ (6).

**Thomas Samaras**
San Diego, California, USA
Email: Samarastt@aol.com

**References**


Samaras T. *Human height, weight, size*. If, when and why it is best to be small. [Feedback]. *World Nutrition* August-September 2013, 4, 7, 581-582

---

**If, when and why it is best to be small**

**Reasons to be small. From the left to right: Rene Dubos and John Waterlow; and then, Voltaire, Yuri Gagarin, Sachin Tendulkar, and Queen Elizabeth II**

**From Geoffrey Cannon, São Paulo, Brazil**

Here is an apology, an addition and a correction (1). My apology is for inadequate attention to Thomas Samaras, who has for 40 years trawled the literature to demonstrate the overall comparative biological and other benefits for humans of being relatively small (2,3).
He does not address the issue of infants and young children in low-income countries, especially in India and Africa, who when very short or thin are much more likely to suffer repeated infections and other diseases, and so are at high risk of death. This is a gap in his thesis. Scientists who believe that short stature in parts of the world where food is scarce is a healthy adaptation (4,5) have been understandably attacked (6), despite evidence of adaptability to dietary energy availability (7). A reconciliation here, is that in all but severe cases ‘stunting’ and ‘wasting’ are ‘warning signs’: reliable markers of vulnerability, but not in themselves causal.

The biological evidence on cardiovascular disease and on lifespan in high-income countries, mostly favours being tall (8), but tallness is associated with increased incidence of some cancers (9). Accelerated growth and early puberty, perhaps why the risk of hormone-related cancers is increased, are not ‘facts of nature’. These are in part a result of the paediatric policy of ‘going for growth’ which has involved feeding infants artificial formula or weaning them on to energy-dense products.

In his book and WN commentary (2,3), Thomas Samaras mentions that many distinguished people have been or are short. Some of these would fall into the ‘stunted’ category, such as (in the pictures introducing his letter) William Hogarth, Immanuel Kant, Milton Friedman and Olga Korbut, and (in the pictures introducing this letter) Voltaire and Queen Elizabeth II. In some cases, such as Olga Korbut and Yuri Gagarin, success depended on being short; and a low centre of gravity favours some players in some sports, which may help explain the success of Sachin Tendulkar and Lionel Messi.

But this does not mean that it is better to be small from a biological point of view. My own belief that ‘it is best to be small’ derives primarily not so much from the biological evidence, as from the ecological, economic and environmental consequences of a tall and relatively heavy human race, bred on protein-dense and energy-dense diets to become the equivalent of gas-guzzling automobiles. In resolving current public health problems, bigger problems for future generations, and for the living and physical world, can be created.

My addition is this. In my column I quoted nutrition scientist John Waterlow’s (second to left, above) concern about a big human race. Also, the idea that physically big populations are problematic was outlined half a century ago by the biologist and philosopher René Dubos (1901-1982, left above). Here is what he writes (10):

‘One of the criteria of health most widely accepted at the present time [the late 1950s] is that children should grow as large and as fast as possible. But is size such a desirable attribute? Is the bigger child happier? Will he live longer? Does he perceive with greater acuity the loveliness or grandeur of the world? Will he contribute more to man’s cultural heritage? Or does his larger size merely mean that he will need a larger motor-car, become a larger soldier, and in his turn beget still larger children?’
Dubos adds: ‘The criteria of growth developed for the production of market pigs would hardly be adequate for animals feeding on acorns in the forests and fending for themselves as free individuals. Nor are they for man…The assumption that human beings should grow fast and large has never been examined closely… Its only certain merit is that weight, size and a few other physical traits can be measured readily… There is no evidence, however, that these criteria have much bearing on happiness [or] on the development of civilisation… Large size is likely to prove even less of an asset in the world of the future, and may even become a handicap’.

My correction, is a result of finding my papers on Hugh Trowell. I met Hugh in London at the Royal Society of Medicine in December 1985. His paper on pathological growth, based on an address to the Harvard department of nutrition around 1971, was eventually published in a small journal in 1975 (11). Citing the precipitate drop of menarche in industrial societies since the mid 19th century, he writes: ‘The whole basis by which we are differentiated from the primates has been reversed… Everywhere all over the globe children are seen with a shortened period of rapid growth [and] an earlier menarche… The excessive growth and premature maturation of children is, in my opinion, an expression of [the] general tendency to high energy absorption and obesity’. In a letter to me he wrote ‘I still feel, if you believe that evolution applies to man, that my fears of pathological growth are true’.

Geoffrey Cannon
São Paulo, Brazil
Email: GeoffreyCannon@aol.com

References

7 James WPT. Research relating to energy adaptation in man. Reports presented at an IDECG meeting of 3-7 August 1987, in Guatemala City. United Nations University. archive.unu.edu/unnpress/food2/UID08E/UID08E02.HTM
8 Davey Smith G. The conundrum of height and mortality. Western Journal of Medicine 2002; 176, 209.


*Cannon G. Human height, weight, size. If, when and why it is best to be small. [Feedback]. World Nutrition August-September 2013, 4, 7, 583-585*

**How to respond**

*Feedback* is edited by Isabela Sattamini. Please address letters for publication to wn.letters@gmail.com. Letters usually respond to or comment on contributions to *World Nutrition*. More general letters will also be considered. Usual length for main text of letters is between 200 and 850 words but they can be shorter or longer. Any references should usually be limited to up to 12. Letters are edited for length and style, may be shortened or developed, and once edited are sent to the author for approval.