Who gives me five?

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over 50 years previously, although she did have some influence on the running of the school once it was established. It is also of note that, contrary to popular belief, British military hospitals had employed female nurses at the beginning of the 19th century, long before Nightingale went to Scutari.12

While such myths are easily exposed, the limits of Nightingale’s influence at this time may be gauged more directly from her recorded failures, notably her attempts to stop the building of the new army hospital at Netley, near Southampton. The scheme had been instigated by Andrew Smith and was approved in January 1856 despite opposition from Nightingale and her supporters, who argued that the site was unsafe on sanitary grounds.10 In 1858, while Netley was in the process of construction, the Nightingale faction attempted to have it “finished as a barracks.”13 but this again proved futile, and Netley became a highly successful hospital, eventually closing in 1958. With the death of Herbert in 1861 Nightingale’s influence with the War Office waned, and henceforth she would focus her attention on sanitary reform.

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In most surveys quantitative data are gathered with questionnaires and interviews. A comparison of such self reported data with measured equivalents shows that people systematically underestimate or overestimate frequencies (cigarettes smoked daily, age of onset, time to pregnancy) or clinical parameters (height, weight, blood pressure), which may lead to misinterpretation of the association between self reported risk factors and related outcomes.1-3 Misreporting can occur because participants intentionally or unintentionally round figures to a preferred end digit. We analysed the preference for the end digits zero and five when reporting body height in a multinational survey of individuals aged 50 years and older who were not in institutions (12 nationally representative samples totalling 30 611 valid heights, see www.share-project.org).

When properly measured, around 10% of people have heights ending in each of the digits zero to nine.3 Accordingly, about 20% of participants could be expected to have heights ending with zero or five. As the figure shows, the reported proportion of the end digits zero or five was much higher (between 26% and 62%), suggesting that many people erroneously reported these end digits. Since height is overestimated in almost all cultures (with variable magnitude) people who round to zero and five probably overestimate rather than underestimate their height.1

The figure shows similarities between languages belonging to the same family. People speaking Germanic (and possibly Slavic) languages indicated the end digits zero or five consistently less frequently than did people speaking a Romance, Greek, or Semitic language. In a large and representative Swiss sample, people kept the end digit preference characteristic for their native language even when living in a region using a different language, suggesting that such preferences are inherent in culture.1 This hypothesis is supported by the analysis shown here. End digit preference may be rooted in early childhood, transmitted by language, and may persist throughout life.

Cultural preferences for rounding numbers could mask or exaggerate real differences between populations and could also explain why differences between measured and self reported estimates vary between cultures.2 To validly account for such bias and to tap the full potential for detection of data fabrication, preferences for reporting end digits should be assessed in different cultures and be compared with measured data in the same individuals.4 This approach might be particularly important when analysing trends in countries with high levels of immigration from different cultures or when threshold values affect decisions about treatment (for example, in management of hypertension).3 Since cultural patterns of rounding seem to be very consistent and specific, they could also be used to estimate the cultural homogeneity of a population or the representativeness of a mixed, multicultural population.

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