

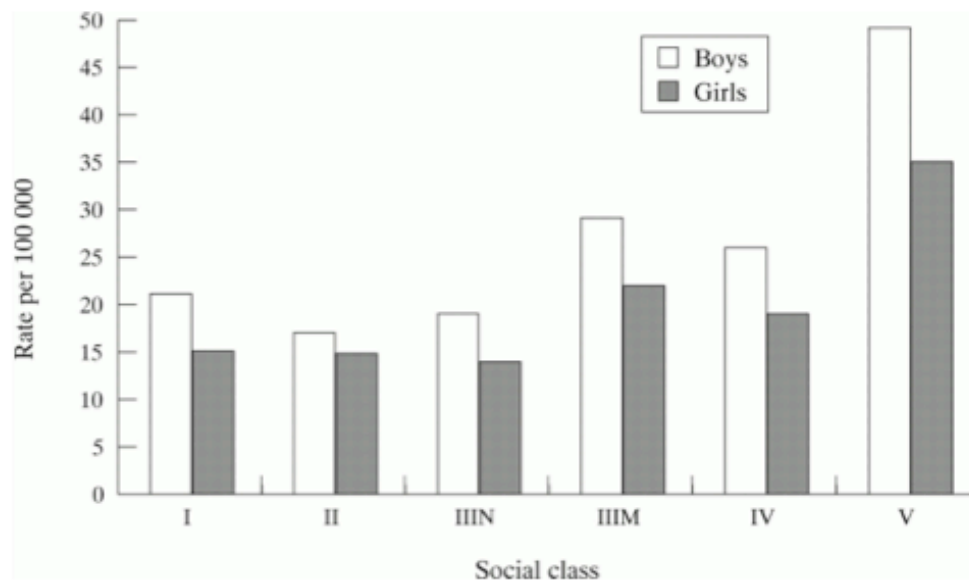
## Notes on the fragile male

### Mortality

Males are more likely to die, or be damaged by stress, than females at every age from conception to old age, from very low birthweight babies (22% vs 15% die) to schoolchildren to old men. There are always more widows than widowers. One factor is that while males have only one, females have two X chromosomes – with one in reserve – so that a mutation on one can be counteracted by its absence on the other<sup>1</sup>.

There is also a strong social class difference, so that, from toddler to school leaving age, boys in the bottom social class are *more than twice as likely to die from any cause* as those at the top. There is a social gradient for girls but it is not so marked. Female sex irons out vulnerability to external stress. (See also effects of maternal depression, and suicide statistics below)

Mortality rates of young people aged 1–15 years by sex and social class of parents, England and Wales, 1991–93.9 N, non-manual; M, manual.



Platt M J Arch Dis Child 1998;79:523-527

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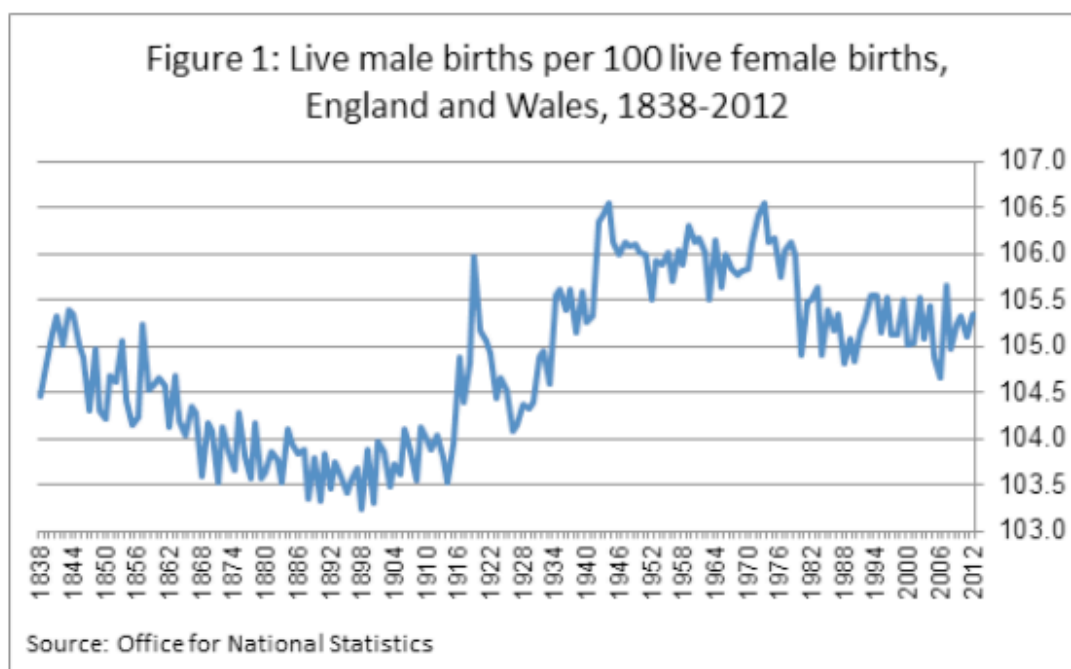


Platt 1998<sup>2</sup>

Biologically a species does not need many males if one individual can produce offspring from many females. In many (but not all) mammalian species, only a minority of males produce offspring. The rest are redundant, so it's worth taking big risks if you want to get a mate. It makes evolutionary sense that males tend to be less cautious than females<sup>3</sup>. One of the least known facts about male vulnerability is the effect of maternal stress on sex

ratios. Following the 9/11 terrorist attacks on New York in 2001 the number of boys compared to girls born around four months later (during January 2002) was lower than at any other recorded time. This suggests that male fetuses already 5 months old were the most vulnerable<sup>4</sup>. Other studies have shown similar effects of major disasters on sex ratio<sup>5</sup>.

If fewer males are born in hard times then conversely it could be the case that high male:female birth ratios indicate more optimistic mothers. In the data below peaks in 1920 and 1946 coincide with renewed confidence and relief at the end of world wars, while in 1975, though there was considerable political and social uncertainty, levels of income inequality in Britain were lower than they have ever been before or since (see p 5, below) which is associated with lower social stress and greater social cohesion<sup>6</sup>.

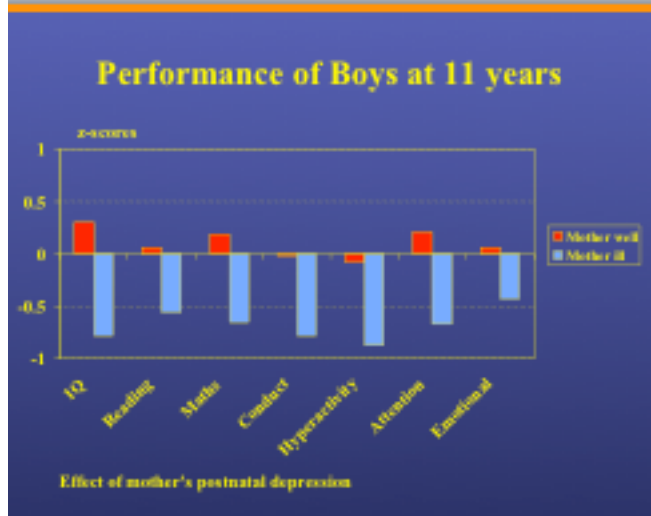
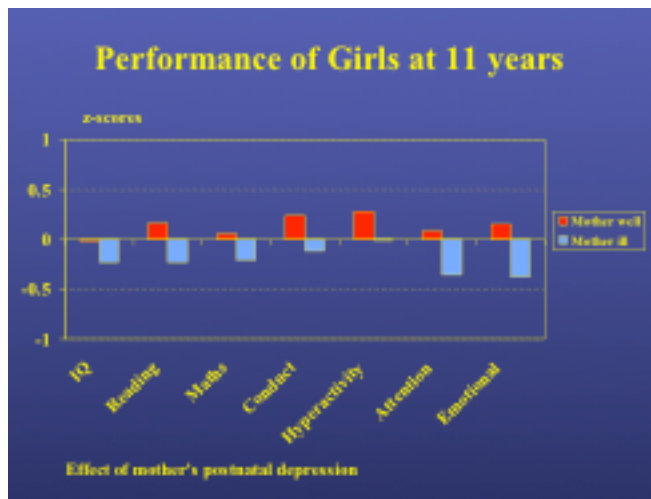


Department of Health (2014) *Birth Ratios in England and Wales A report on gender ratios at birth in England and Wales*, p.7<sup>7</sup>

### Developmental problems

Autism, hyperactivity, learning difficulties, conduct disorder are all commoner in boys.

Hyperactivity is a serious problem, much commoner in boys, but it only affects a small minority. Besides some genetic influences the impact of a mother's antenatal anxiety and/or postnatal depression on attention is more marked in boys, even long after her condition has lifted. Affected boys tend to be more dreamy, restless and hard to manage in primary classes<sup>8</sup> and continue to show academic effects into the teens<sup>9</sup>.



Hale, Pawlby et al 2001

Apart from sheer muscle power and skill (such as in sport) on *average* (there are always striking exceptions) females are better at most cognitive skills except three-dimensional spatial awareness/mental rotation<sup>10</sup>, which includes a variety of abilities from architectural imagination and Rubik's cube, to reversing into car parking spaces, 'bending it like Beckham', and darts. Not all of these are culturally determined (which female diffidence about maths is thought to be<sup>11</sup>) There are some similar differences in rats for example.

### Suicide

Historically male suicides increase when there is more unemployment (an unmatched peak in the 30s) and down when there is a war (more social solidarity).

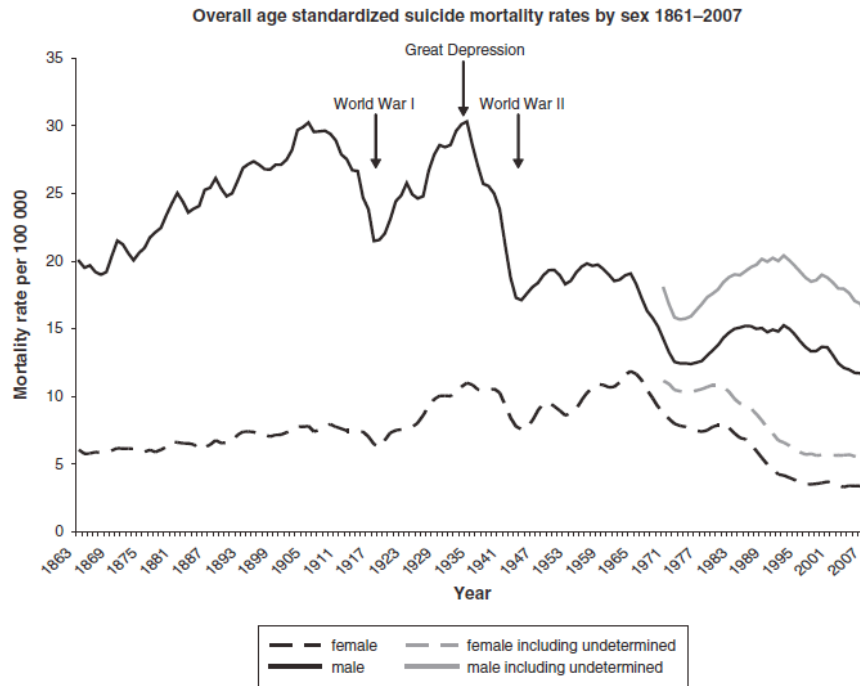
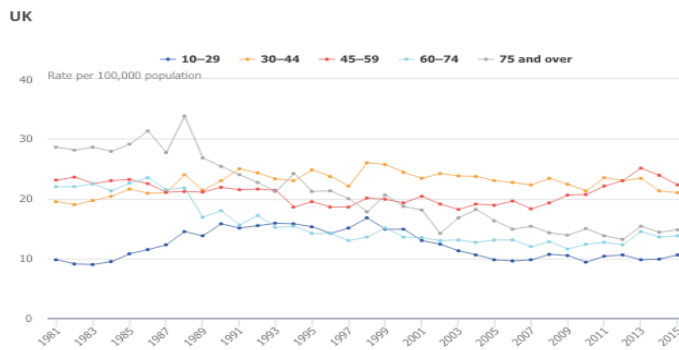


Figure 1 Age standardized suicide rates for ages  $\geq 15$  years in England and Wales (3-year moving averages) 1861–2007

Thomas & Gunnell 2010<sup>12</sup>

Suicide rates in young men increased rapidly in societies where neoliberal policies took hold, such as New Zealand and UK. For instance in UK in 1971 male rates of suicide among young men 15 -24 were double the rates for females in the same age range. By 1981 suicide amongst young men had *doubled again*<sup>13</sup>, yet the rates amongst young women did not change at all. Since a recent peak around 1997 male rates declined but in the youngest age group (10-29) are now rising again<sup>14</sup>.

Figure 6: Age-specific suicide rate, males, deaths registered between 1981 and 2015



Source: Office for National Statistics, National Records of Scotland, Northern Ireland Statistics and Research Agency

Suicide occurs when the person in despair feels there is no help available<sup>15</sup>. The tendency of males to be self-reliant and less understanding of – even to feel contempt for – their own emotions are likely to be factors in this worldwide and highly significant difference.

Males have been left behind in a feminised world, but that is no reason to backtrack on gender equality.

Men die, women suffer.

### Education

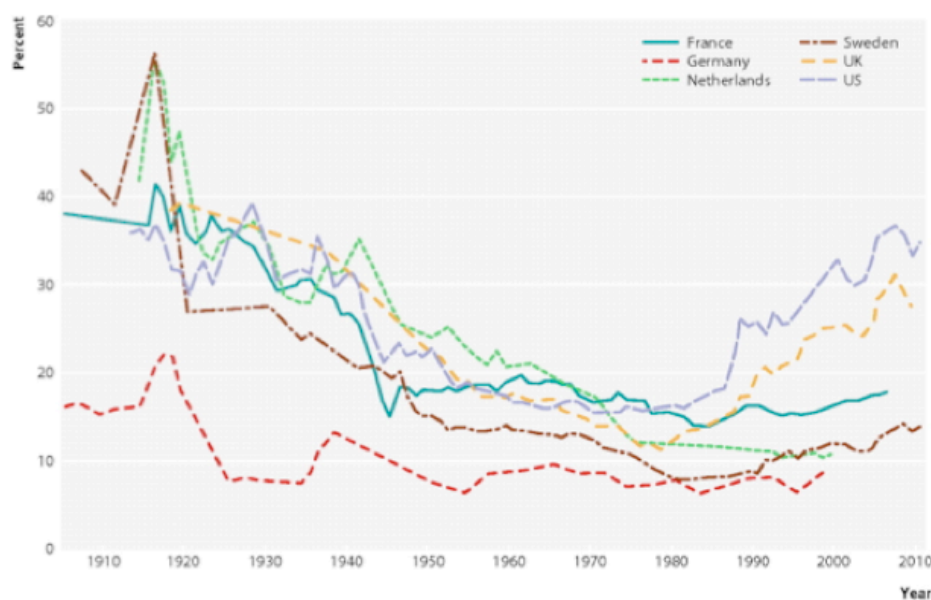
The female:male gap in GCSE results is around 10%<sup>16</sup> every year, girls always ahead of boys. In England in 2015 70.9% of girls and 59.2% of boys passed five or more A\*-C grades.<sup>17</sup>

It is possible that education favoured boys when it was more regulated to rote learning and punishment, and when less was expected of girls.

### Social disconnections

Enormous increases in social and wealth inequality<sup>18</sup> in UK compared to most other EU countries will be a factor in children's and young people's unhappiness, because *everyone* (even the very rich and the political class, who are largely out of touch) is alienated in such a society.

Top 1% share of national income by country and year



Alvaredo F, Atkinson T, Piketty T, Saez E. The world top incomes database. <http://g-mond.parisschoolofeconomics.eu/tonincomes/#Database>.

World, Wealth and Income Database <http://wid.world/>

No one feels secure on a steep slope<sup>19</sup>. Child-unfriendliness is only a symptom. Children are profoundly affected by what happens to their parents, and inequality is not people-friendly. It is a source of morbidity and mortality<sup>20</sup>.

### **Conclusion: males are human**

The main message is that when parents and educators fully realise that boys are more vulnerable to both biological and psychological stresses they will be in a better position make allowances for individual boys who might otherwise be misjudged as too temperamental, or dismissed as lazy or not trying hard enough to concentrate.

Although the differences are small they are quite significant and are amplified by social attitudes about male and female qualities.

When I first produced this material in the *British Medical Journal* seventeen years ago<sup>21</sup> the press said I was suggesting that boys should be treated more like girls. Not so. I say they should be treated more like human beings, rather than little bundles of muscular energy. Infant boys require more maternal help to settle themselves than girls<sup>22,23</sup> and also display more emotions but tend to stifle them as they are socialized into current versions of masculinity<sup>24</sup>.

Parents need time to get to know their babies, of either sex, before getting full time back into their work or careers. We need more and longer and better paid parental leave and support from health visitors and children's centres in the early years. There is increasing evidence to show that the more parents are paid to care for their infants, the fewer of these children die.<sup>25,26</sup>

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<sup>1</sup> "There are 1100 genes on the X chromosome, and most of them are not expressed from the Y chromosome."  
Migeon BR. (2007) Why females are mosaics, x-chromosome inactivation, and sex differences in disease. *Gend Med* **4**(2): 97-105.

<sup>2</sup> Platt MJ (1998) Child Health Statistics Review 1998. *Arch Dis Child* **79**:523-7

<sup>3</sup> Swanepoel A, Sieff DF, Music G, Launer J, Reiss M, Wren B. (2016) How evolution can help us understand child development and behaviour. *BJPsych Advances* **22**; 36-43 [10.1192/apt.bp.114.014043](https://doi.org/10.1192/apt.bp.114.014043).

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<sup>4</sup> The evolutionary case for male vulnerability: “natural selection conserved this mechanism because extinguishing weak male fetuses increases the chance that females in stressful environments will have grandchildren (Trivers and Willard 1973)” cited by Catalano et al 2006, p.3127.

..and the physiology: “Cortisol shocks produced by maternal stressors late in gestation may, moreover, increase the incidence of premature delivery (Bolt et al 2002; Hobel 2004).” cited by Catalano et al 2006, p 3130

Catalano R, Bruckner T, Marks AR, Eskenazi B. (2006) Exogenous shocks to the human sex ratio: the case of September 11, 2001 in New York City, *Human Reproduction* **21**(12):3127-3131

<sup>5</sup> Fukuda M, Fukuda K, Shimizu T, Møller H. (1999) Decline in sex ratio at birth after Kobe earthquake, *Human Reproduction* **13**; 8: 2321–2

<sup>6</sup> Wilkinson, R & Pickett K. (2010) *The Spirit Level: Why Equality is Better for Everyone*, Penguin

<sup>7</sup> <http://bit.ly/2uvdjzK>

<sup>8</sup> Morrell J & Murray, L (2003) Parenting and the development of conduct disorder and hyperactive symptoms in childhood: a prospective longitudinal study from 2 months to 8 years. *Journal of Child Psychology and Psychiatry* **44**: 489–508. doi: 10.1111/1469-7610.t01-1-00139

Hay DF, Pawlby S, Sharp D, Asten P, Mills A, Kumar R (2001), Intellectual Problems Shown by 11-year-old Children Whose Mothers Had Postnatal Depression. *Journal of Child Psychology and Psychiatry*, **42**: 871–889 doi: 10.1111/1469-7610.00784

<sup>9</sup> Murray L, Arteche A, Fearon P, Halligan S, Croudace T, & Cooper P (2010) The effects of maternal postnatal depression and child sex on academic performance at age 16 years: a developmental approach. *Journal of Child Psychology and Psychiatry* **51**: 1150–1159 doi: 10.1111/j.1469-7610.2010.02259.x

<sup>10</sup> Moore DS & Johnson SP (2008) Mental rotation in human infants: a sex difference. *Psychol Sci* **19**(11): 1063-6.

Cherney ID & Poss JL (2008) Sex differences in Nintendo Wii performance as expected from hunter- gatherer selection. *Psychol Rep* **102**(3): 745-54.

Contreras MJ, Rubio VJ, Pena D, Colom R, & Santacreu J (2007) Sex differences in dynamic spatial ability: the unsolved question of performance factors. *Mem Cognit*, **35**(2): 297-303.

Parsons TD, Larson P, Kratz K, Thiebaut M, Bluestein B, Buckwalter JG, & Rizzo AA (2004) Sex differences in mental rotation and spatial rotation in a virtual environment. *Neuropsychologia* **42**(4): 555-62.

<sup>11</sup> Hyde J & Lynn M. (2006) Gender Similarities in Mathematics and Science, *Science* **314**; 599-600  
<http://www.montana.edu/wrt/Science06GendSim.pdf>

<sup>12</sup> Thomas K & Gunnell D (2010) Suicide in England and Wales 1861–2007: a time-trends analysis. *International Journal of Epidemiology* **39**:1464–1475 doi:10.1093/ije/dyq094

<sup>13</sup> Lewis G, Sloggett A.(1998) Suicide, deprivation, and unemployment: record linkage study. *BMJ* **7**;317(7168):1283-6.

<sup>14</sup> ONS 2016 <http://bit.ly/2gRPOWJ>

<sup>15</sup> Book review <http://bjp.rcpsych.org/content/191/6/573.full?ct=>

<sup>16</sup> range 6.8 –14 between 2010 – 2015

<sup>17</sup> <http://www.bstubs.co.uk/5a-c.htm#table1a>

<sup>18</sup> [www.equalitytrust.org.uk/resources/our-publications/spirit-level-slides](http://www.equalitytrust.org.uk/resources/our-publications/spirit-level-slides)

<sup>19</sup> <http://bit.ly/1kGiI5>

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<sup>20</sup> Marmot M. (2015) *The Health Gap: The Challenge of an Unequal World*. Bloomsbury

<sup>21</sup> Kraemer S (2000) The fragile male, *BMJ* **321**: 1609-12 <http://bit.ly/1PQecXG>

<sup>22</sup> at 6 months “boys displayed more negative affect than girls during the face-to-face still-face paradigm. They were more likely than girls to show facial expressions of anger, to fuss, to gesture to be picked up, and to try to escape or get away by turning and twisting in the infant seat. In addition, boys tended to cry more than girls.

... mothers and sons more carefully tracked each other's behavior and facial expressions than mothers and daughters. This greater coordination, which takes place at a subtle microtemporal level, may function to help boys maintain self-regulation... *the capacity for self-regulation may be at the base of gender differences in infant emotional expressivity.*

Boys appeared to have a more limited capacity for self-regulation than girls and made their needs explicit to the mother by using a wider range of both positive and negative expressive displays”

Weinberg, MK, Tronick EZ, Cohn JF, Olson KL. (1999) *Developmental Psychology* **35**; 175-188. (p 187)  
<https://www.ncbi.nlm.nih.gov/pubmed/9923473> (*italics added*)

<sup>23</sup> A recent review confirms these findings. The entire volume 38(1) of the *Infant Mental Health Journal* is devoted to the vulnerability of boys.

Golding P, Fitzgerald H. (2017) Psychology of boys at risk: indicators from 0-5. *Infant Mental Health Journal* 38(1), 5-14.

<sup>24</sup> Frosh, S., Phoenix, A. & Pattman, R. (2001) *Young Masculinities: Understanding Boys in Contemporary Society*, London: Palgrave

<sup>25</sup> Tanaka S (2005) Parental Leave and child health across OECD countries *The Economic Journal* **115**, F7-F27 (F11)

“paid leave reduced mortality during the post-neonatal period (between 28 days and one year) and in early childhood (between one and 5 years). For example, a 10-week extension of paid leave could reduce post-neonatal deaths by 3.7–4.5% and could decrease child mortality by 3.3–3.5%.”

<sup>26</sup> Ferrarini T & Norström T (2010), Family policy, economic development and infant mortality: a longitudinal comparative analysis. *International Journal of Social Welfare* **19**: S89–S102 (S91) doi: 10.1111/j.1468-2397.2010.00736.x

“the links between family policy and child health may have more to do with the distribution of economic resources than with the level of economic resources in society”