

Professors Richard Wilkinson and Kate Pickett, authors of *The Spirit Level*, reply to critics.

NOTE: Almost all of the research we present and synthesise in *The Spirit Level* had previously been peer-reviewed, and is fully referenced therein. In order to distinguish between well founded criticism and unsubstantiated claims made for political purposes, all future debate should take place in peer-reviewed publications.

Preliminary points (specific responses to Snowdon follow below)

As epidemiologists with decades of experience in analysing the social determinants of ill health, and having published over 100 articles in peer-reviewed journals, *The Spirit Level* represents a synthesis of our own and other people's research in this area, written for a wide audience. It was emphatically not written as a left-wing polemic and politicians and policy-makers across the political spectrum have welcomed and accepted the evidence it contains.

One of our critics has suggested that "sociology has been remarkably inept at providing us with the evidence and tools to create a better society". We agree, but epidemiology has been much more successful in uncovering the causes of disease, in identifying influences on population health and in pointing the way to effective public health policy. We work within this paradigm of quantitative observational studies and, because we so often act as peer reviewers ourselves, we can draw on the depth and breadth of research from other academics throughout the world. There are of course strong moral arguments in favour of greater equality and people often tell us that *The Spirit Level* speaks to their experience of life in very unequal countries. But our work rests on evidence, not moral arguments or anecdote.

As well as having subjected our analyses to peer review; our research has also been funded at various times by the UK's Economic and Social Research Council, the Medical Research Council, and Department of Health, as well as by the US National Institute of Health, all of whom subject research proposals to rigorous review. Our critics seem not only to be unaware of the vast public health literature in this area (particularly recent work) but also of the work of many sociologists, economists and other academics.

The Equality Trust was not set up on the basis of a left-wing political ideology. Politicians of all parties, including Conservative and UKIP candidates, signed our Equality Pledge prior to the election. The Liberal Democrats and Conservatives responded positively to our suggestion of a Fairness Test for deficit reduction measures, and peers across the benches cited our work in the House of Lords debate

on the Equality Bill. We spoke at fringe meetings of all main political parties last year and continue to abide by a simple principle – we will talk to anybody about the evidence that inequality is damaging, but will not align with any political party. In addition to politicians, we have discussed our evidence with civil servants, faith groups, charities, academics, NGOs, journalists, regional development groups, NHS organizations, trade unions, arts festivals and royal societies.

We are cautious about the quality of the data we use. For example, we found no relationship between inequality and adult obesity in US states when using self-reported data on height and weight, but when we were provided with data calibrated by actual measures of height and weight, the relationship was there. And when we find something contrary to our hypotheses - smoking, suicide and children's aspirations, we discuss that in our book.

Some critics have suggested that we are selective in the choice of health and social problems that we examine, but *The Spirit Level* is not a 'theory of everything' (as others have claimed): it is specifically a theory of problems which have social gradients – problems which become more common further down the social ladder. So, for example, we would not theorize that alcohol *use* would be related to inequality, as it does not have a social gradient, but that alcohol *abuse* would be because it does have a social gradient, and indeed deaths from alcoholic liver disease are more common in more unequal US states.¹

But to prove that we did not simply select problems to suit our argument, we included an analysis of the relationship between the UNICEF Index of Child Wellbeing in Rich Countries and income inequality.² We included the UNICEF Index because it combines 40 different aspects of child wellbeing which we had no part in selecting. Yet we show it behaves exactly like our Index of Health and Social Problems showing strong relationships with income inequality and none in relation to average national income.

Apart from problems with social gradients, we also extend our analysis, looking for pointers to how greater equality might affect prospects of achieving global sustainability and good relationships with developing countries.

It has been suggested that we should have included more, and poorer, countries in our analyses. We aimed to examine only those countries where population health is no longer linked to average levels of income – those on the upper flat part of the curve in figure 1.1 in *The Spirit Level*. Clearly poorer countries need economic growth to provide their citizens with adequate material resources.

We selected our countries according to a strict set of rules – with no departures or exceptions. We took the richest 50 countries ranked by wealth according to the Atlas method, which the World Bank uses to classify countries into Low, Medium and High Income categories. Our source was the World Development Indicators Database, World Bank, April 2004. From the richest 50 richest countries we excluded those with populations of less than 3 million to exclude tax havens, and then used all the remaining countries for which a comparable income distribution measure was available in the United Nations Human Development Reports.

Rather than 'cherry-picking' the data and counting countries in or out according to whether they did or did not fit our thesis, we included them 'warts and all'. For example, we include Singapore in our analysis of income inequality and infant mortality although it is a very significant outlier, claiming the

lowest infant mortality in the world despite being the most unequal country in our dataset (see Fig 6.4 in *The Spirit Level*). This is the exact opposite of our critics' tactics of looking at the data in each relationship and selectively adding or removing countries, in an attempt to make the relationships go away. Our aim was to see if there was a consistent tendency among these countries for health and social problems with social gradients to be more common in societies with bigger income differences. And to double check that our findings were not just due to chance we repeated all the analyses among the 50 states of the USA.

In contrast to our approach, much the most common strategy used by our critics has been to selectively remove or add countries to our analyses in an attempt to make the damaging effects of inequality disappear. But it is important to note that the criticisms are entirely *ad hoc* criticisms of each relationship between inequality and a social outcome. This means they are irrelevant to almost all of the very many other demonstrations of similar relationships in different settings published in academic journals by other researchers. If, instead, we drew attention to research papers showing – for instance – that income inequality in the regions of Russia,³ the provinces of China⁴ or Japan,⁵ the counties of Chile,⁶ or among rich and poor countries⁷ combined, is related to health, which regions, provinces, counties or countries would Saunders and our other critics find excuses to remove to make those relationships disappear? We show (below) the weaknesses of each of these *ad hoc* criticisms of our data, but it should be remembered that, even if they were all accepted, there are many other demonstrations of these relationships in other settings where the criticisms of our work are entirely irrelevant.

Our analysis suggests that the social gradients which exist in health and many social problems cannot be the result simply of a tendency for social mobility to move the resilient up the social ladder and the vulnerable down. No amount of sorting would explain why problems with social gradients may be anything from twice to ten times as common in more unequal societies. Our findings also suggest that these problems are unrelated to differences in absolute material standards – national income per head – from one country to another. What the evidence does suggest is that problems which become more common further down the social ladder are substantially a responses to social status differentiation itself, and that when greater inequality increases the scale of social differentiation, the problems get worse. Our critics provide no alternative account of why so many problems have social gradients.

Responses from Professors Richard Wilkinson and Kate Pickett to the 20 questions posed by Mr Christopher Snowden - Fact Checking 'The Spirit Level'

1. Why do you exclude the Czech Republic, South Korea and Hong Kong from your analysis when all these societies are wealthier than Portugal?

There are different ways of measuring average income in different countries; the choice of measure makes small differences in precise ranking of countries by wealth. We chose countries ordered according to the Atlas Method, because this is used by the World Bank to classify countries into Low, Medium and High Income categories. Our source is the World Development Indicators Database, World Bank, April 2004. From this list we selected the 50

richest countries, excluded those with populations less than 3 million and those without income inequality data from the United Nations. Our aim was to examine the impact of inequality on health and social problems among rich countries, where average levels of income are not related to health, happiness or well-being. Our selection criteria also mean that we only consider the older, rich, developed, market economies, and so allows us to compare like with like. The countries which our critics suggest we should fail to meet the criteria.

2. Why do you exclude Singapore from your graph of mental illness when you included it in the same graph when it was published in Oliver James' Affluenza?

Comparing the prevalence of mental illness in different societies has long been thought to be problematic because of cultural differences in labelling mental illness or in help-seeking behaviours. To overcome these limitations, the World Health Organization established a consortium to provide international comparisons of the prevalence of mental illness. As referenced in *The Spirit Level*, we use these WHO estimates for Belgium, France, Germany, Italy, the Netherlands, Spain and the USA. We added in estimates from Canada, the UK and Australia because they used almost exactly comparable methods (diagnostic interviews of random samples of the population) to the WHO studies. We did not include a survey of mental illness from Singapore in either of our peer-reviewed publications on this topic, or in *The Spirit Level*, because the WHO surveys included questions on illegal drug abuse and, in 1988, the death sentence became mandatory in Singapore for manufacturing, importing, exporting or trafficking drugs in small quantities. Possession of small quantities was taken as prima facie evidence of trafficking. We therefore consider that self-reported estimates of mental illness in Singapore survey will be under-estimates. *However, even if Singapore is included, there is still a statistically significant association between income inequality and mental illness ($r=0.58$, $p=0.04$).*

3. Why do you say that the USA's decline in homicide ended in 2005 when 2008 saw the lowest number of homicides since 1965? As you must know, America's murder rate has halved in the last two decades despite rising inequality.

We started writing *The Spirit Level* in January 2007 and delivered it to our publisher in February 2008, so clearly we could not have accessed homicide data from 2008 – typically official statistics are published 2-3 years post-collection. At time of writing (mid-2010), the most up-to-date data are for 2008.

The homicide rate in the USA has indeed declined, on average over the past two decades, whilst income inequality has been rising. But, as we discuss in *The Spirit Level*, and show here, there is a match over time between bottom-sensitive measures of income inequality and changes in homicide rates.

4. Why did you use older data for your life expectancy/inequality graph than you used elsewhere in The Spirit Level? Is it because more recent data shows no correlation with inequality?

To avoid the effects of random fluctuations in inequality measures in each country, we took the average of inequality measures published in four consecutive years of the UN Human Development Report. We then matched outcome data (including life expectancy) as nearly as possible to the same time frame as the measures of inequality. When looking at life expectancy against National Income per head we again took the most up to date measures of those covering the same time frame. There are also many recent studies that demonstrate a relationship between income inequality and health, see for example the study of more than 60 million individuals by Kondo and colleagues.⁸

5. You use the high rate of teen births in Portugal (in 2002) as proof that inequality is related to teen births. Why do you not mention that abortion was illegal in Portugal until 2007?

We do indeed show that teenage births are related to income inequality in rich countries, as have UNICEF.⁹ This is not dependent on Portugal; indeed if we exclude Portugal the relationship with inequality is slightly stronger, not weaker. In the USA, unlike internationally, data on teenage conceptions were available so we use those, rather than births, as they are unaffected by state differences in access to abortion, and we show the same robust relationship with inequality.

6. Why do you not include the crime rate in your index of health and social problems? Is it because the crime rate tends to be higher in 'more equal' countries?

It has often been pointed out that homicides are one of the few crimes which can be compared reliably between countries. Comparisons of other kinds of crime are affected by differences in the law, in reporting, and by other extraneous influences. Car crime, for instance, is affected by the number of cars and rape is dramatically affected by reporting (see our answer to Q 19 below. While there are some research papers showing relationships between inequality and property crime, there are no sources of data (including those used by Snowden) which deal adequately with these problems. Hence, we confined our attention to adult and juvenile homicide rates. There are more than 50 studies showing that inequality is related to violence, see for example the review by Hsieh and Pugh¹⁰ and the recent study by Elgar and Aitken.¹¹

7. Why do you say that homicide is inversely related to suicide when there is no evidence for this?

In fact, there are several pieces of research which show that homicide rates are inversely related to suicide, see for example ^{12 13}

8. Why do you suggest that people in more equal countries give more to charity when the reverse is true?

We do not say that people in more equal countries give more to charity - instead we show that more equal countries donate more in development aid to foreign countries. We do cite Eric Uslaner's work which shows that people who have high levels of trust are more charitable. ¹⁴ Snowden presents data from the Charities Aid Foundation, which suggests that more unequal countries (especially the USA) have higher levels of individual charitable giving. However, as the Charities Aid Foundation points out, charitable giving in the USA is heavily influenced by tax policy, and may also be a response to the exceptional need created by the US lack of social security systems. Only 3% of US charitable giving goes overseas, so total US donations to overseas development are substantially lower than other rich countries.

Low levels of US government aid are partly a reflection of low trust in government (strongly related to inequality) and also of a lack of social security and welfare provision. Together these shift the onus of support to wholly inadequate private charitable giving.

9. Why did Kate make a video called 'Why Cubans live longer than Americans?' when all the sources show that life expectancy in Cuba is lower than in the USA?

Kate was not consulted about the title for this online clip from a short interview. What she actually said was that countries such as Cuba, Costa Rica and some poorer European countries have life expectancy as high, or higher than, the USA. In fact, in the 2006 revision of the United Nations World Population Prospects report, for 2005-2010, infant mortality rates in Cuba were 5.1 per 1000 live births, compared to 6.3 for the United States, and life expectancy was in Cuba was 78.3 years, compared to 78.2 years in the USA.

10. Why do you write about "increased family break-down and family stress in less equal countries" when divorce and single-parent households tend to be more common in more equal countries?

Although lone parent families are not more common in more unequal countries, changes in income inequality are correlated with rising divorce rates in US counties.

11. Why do you say that community life is weaker in less equal countries when these nations have more people involved in community organisations (charities, sports clubs, environmental groups etc.)?

Robert Putnam's measures of 'Social Capital' are based on membership of voluntary and community associations of the kind you mention. Both in his earlier study of the Italian regions and in his study of the American states he shows there is a very strong tendency for the more equal regions and states to have stronger community ties measured in this way. Looking at changes over time in the US as a whole he also says: "Community and equality are mutually reinforcing... Social capital and economic inequality moved in tandem through most of the twentieth century. In terms of the distribution of wealth and income, America in the 1950s and 1960s was more egalitarian than it had been in more than a century. ...those same decades were also the high point of social connectedness and civic engagement. Record highs in equality and social capital coincided. Conversely, the last third of the twentieth century was a time of growing inequality and eroding social capital. By the end of the twentieth century the gap between rich and poor in the US had been increasing for nearly three decades, the longest sustained increase in inequality for at least a century. The timing of the two trends is striking: somewhere around 1965-70 America reversed course and started becoming both less just economically and less well connected socially and politically." p.359

Sociologists distinguish between generalized trust (trust of people with whom we do not have an intimate relationships) and particularized trust (trust of people like ourselves). Generalized trust is related to social capital, and many researchers, including Putnam, have linked these measures of social capital to greater equality. Indeed, they have shown that it is inequality that affects trust, rather than the other way round.¹⁴

12. Do you accept that the World Values Survey data show no correlation between 'happiness' and inequality, but a strong correlation between 'happiness' and income?

We accept that there is no relation between inequality and WVS measures of happiness, but among the rich countries neither is there a relation between happiness and Gross National Income per head (see our figure 1.2 in The Spirit Level). In our debate at the RSA, Richard meant to say that happiness and income have a reverse social gradient, rather than no social gradient. The correlation between income and happiness among individuals within countries has been shown to be a relationship with relative income and social status. It has also been shown that additional income makes much more difference to the happiness of the poor than the rich. This would suggest that redistribution would improve over-all happiness. Several economists who study happiness (e.g. Blanchflower and Oswald¹⁵) show that, in sub-national analyses, more equal societies, for example more equal US states, are happier. International comparisons of subjective variables, such as happiness, are notoriously unreliable (for example, self-reported health appears better in countries with

higher death rates¹⁶) This is why in *The Spirit Level* we concentrated very largely on objective measures of health and wellbeing.

13. On page 19 of *The Spirit Level*, you say you included alcohol addiction as a 'health and social problem', but you never discuss it in the rest of the book. Is this because the highest rates of alcoholism are in Scandinavia?

It is important to distinguish between *alcohol use* and *alcohol abuse*. *Alcohol use* is difficult to measure and often has no social gradient – consumption tends to be higher in higher social classes. This is in marked contrast to binge and problem drinking. We include *alcohol abuse* (as measured by surveys of mental illness that cover drug and alcohol addiction) in our Index of Health and Social Problems, and have previously demonstrated a significant relationship between deaths from *alcohol-related liver disease* and income inequality in US states.¹⁷

14. Why do you show no data about the (high) prevalence of mental illness in Scandinavia?

The World Health Organization has not yet produced internationally comparable data on mental illness for Scandinavian countries, but we eagerly await such data. In the absence of robust estimates from the WHO, we know of no high quality data to justify the suggestion that Scandinavian countries have a higher prevalence of mental illness.

15. If equality creates good health, why does Denmark currently have the lowest life expectancy of any country in your list?

As with our other analyses, we (unlike our critics) do not pick and choose different countries to include or exclude according to whether or not their outcomes fit the inequality data. Denmark does indeed have much lower life expectancy than we would expect given its level of inequality. We have never claimed that income inequality is the *only* cause of worse health and social problems in a society. There will always be countries that do a bit better or worse on any outcome than we might predict given their level of inequality. Some researchers have attributed Denmark's relatively poor health to its high levels of smoking.

16. Why were Singapore and Hong Kong excluded from your graph on obesity?

The International Obesity Taskforce did not report data on obesity for Singapore in the 2002 report which was available when we were writing *The Spirit Level*. Hong Kong is not a nation state but even if it were it does not meet our inclusion criteria (see point 1).

17. Do you accept that the "correlation" between trust and equality rests entirely on figures from the four Nordic countries and that there is no pattern amongst the remaining 19 nations?

Absolutely not. These countries are NOT outliers, but lie on the trend line. However, even if they are excluded there is still a statistically significant correlation among the remaining countries ($r=-0.46$) as well as among US states where the correlation between trust and inequality is also highly significant ($r=-0.7$).

18. Why do you say that young people "defer sexual activity" in more equal countries when there is no evidence for this?

We don't say that people defer sexual activity in more equal countries – we simply discuss Professor Jay Belsky's theory about quality versus quantity reproductive strategies which biologists have identified in many species.

19. If greater equality makes countries less violent and more law-abiding, why does Sweden have the highest rate of rape and theft of any country in your list? Why does Finland have the highest murder rate in Europe?

As we discuss in The Spirit Level, there are multiple influences on health and social problems, and income inequality is only one factor (albeit a strong and robust factor, demonstrated in more than 50 studies) affecting murder rates. Finland has a higher rate of homicides than we would predict, given its level of inequality, probably because of its high level of gun ownership. If we control for gun ownership in US states, the relationship between inequality and homicides actually gets stronger. For crimes other than homicides, comparing crime data among different countries is problematic, due to reporting differences. It seems sensible to assume that rape is more likely to be reported in societies where women's status is higher.

20. Since when has the definition of a tax haven been a country with fewer than 3 million inhabitants? Isn't this just an excuse to leave out Slovenia?

The cut off for a small country has to be defined somehow – countries with populations around our 3 million cut-off point include Slovenia, Namibia, Lesotho, and Botswana. Slovenia is the only rich country with close to 3 million inhabitants excluded from our analyses. What happens if we add it in? Not much – the correlation between income inequality and homicides is $r=0.42$ ($p=0.04$) with Slovenia in, and $r=0.43$ ($p=0.04$) with Slovenia out. For imprisonment, the correlation with Slovenia in is $r=0.66$ ($p<0.001$), with Slovenia out, it is $r=0.65$ ($p<0.001$)....etc

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