The University Of Sheffield.

Centre for Wellbeing in Public Policy.

CWiPP Working Paper Series

No.7

HAPPINESS, SOCIAL COHESION AND INCOME INEQUALITIES IN BRITAIN AND JAPAN

Dimitris Ballas

Department of Geography, University of Sheffield

d.ballas@sheffield.ac.uk

Danny Dorling, University of Oxford

Tomoki Nakaya, Ritsumeikan University

Helena Tunstall, University of Edinburgh

Kazumasa Hanaoka, Tohoku University

Tomoya Hanibuchi, Chukyo University

www.sheffield.ac.uk/cwipp/working-papers

February 2016

Please cite this work as: Ballas, D, Dorling, D, Nakaya, T, Tunstall, H, Hanaoka, K and Hanibuchi, T. (2016) Happiness, Social Cohesion and Income Inequalities in Britain and Japan, *CWiPP Working Paper No.7* Centre for Wellbeing in Public Policy, University of Sheffield

Abstract:

This paper presents on-going research exploring social cohesion and happiness in Japan and Britain, building on recently completed work comparing income inequalities in the two countries. A key aim of this project is to build on recent work entitled 'The Spirit Level' by Professors Pickett and Wilkinson suggesting that Japan is one of the most harmonious of affluent countries in the world, whereas Britain one of the most unequal and hence disharmonious. The paper revisits the 'Spirit Level' evidence according to which Japan is a more equitable and thus socially cohesive society than is any other industrialised country, but especially in contrast with a country such as Britain. It presents a review of relevant literature and a discussion of the key arguments in relation to the links between income inequality, social cohesion and happiness. It also presents a comparison of income inequality measures in Britain and Japan over the past 20 years, followed by comparisons of subjective happiness and well-being measures and their determinants in the two countries. Finally, the paper spells out a research agenda regarding the next steps and on ways of adding a geographical dimension to the study of subjective happiness and well-being in Britain and Japan.

This paper is an early version of a chapter forthcoming in Tachibanaki, T. ed (2016) *Advances in Happiness Research: A Comparative Perspective*, Springer (ISBN-10: 4431557520; ISBN-13: 978-4431557524). The DOI of the chapter is: DOI 10.1007/978-4-431-55753-1_8. The paper has not been subject to the usual internal review for CWiPP Working Papers but has been reviewed by editors of the volume in which the chapter version appears.

1. Introduction

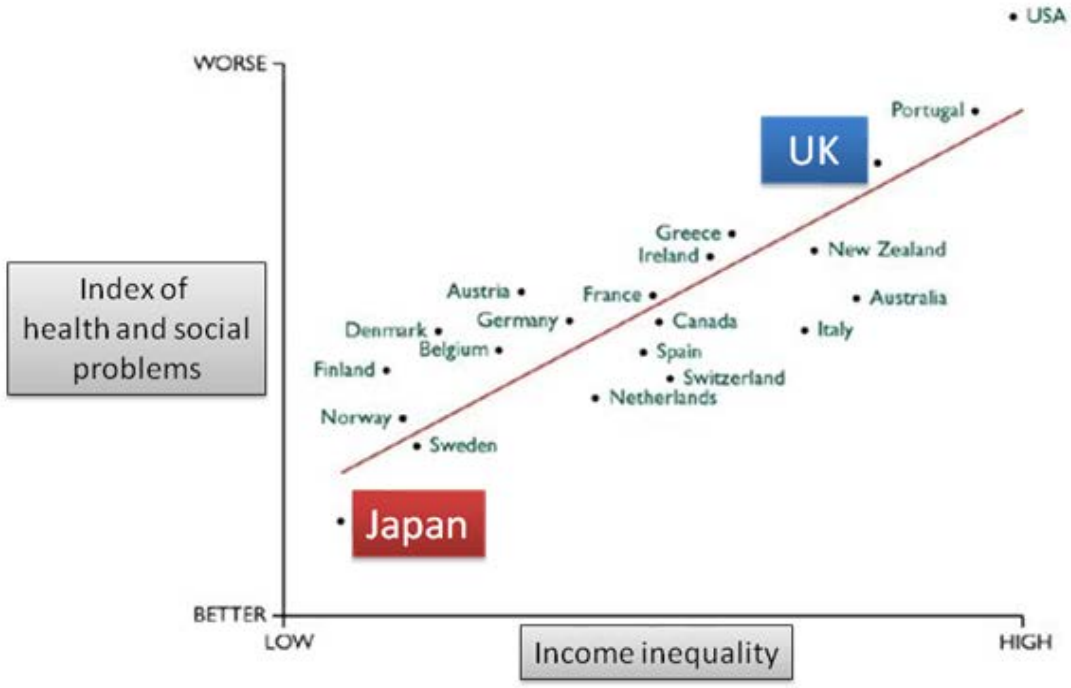
"Politics was once seen as a way of improving people's social and emotional well-being by changing their economic circumstances. But over the last few decades the bigger picture has been lost. People are now more likely to see psychosocial well-being as dependent on what can be done at the individual level, using cognitive behavioural therapy – one person at a time – or on providing support in early childhood, or on the reassertion of religious or family values. However, **it is now clear that income distribution provides policy makers with a way of improving the psychosocial wellbeing of whole populations.** Politicians have an opportunity to do genuine good."

(Wilkinson and Pickett, 2009: 233; our emphasis)

The above quotation is from the popular book entitled "The Spirit Level: Why More Equal Societies Almost Always Do Better". This text describes the relationship between income distribution and well-being in affluent countries suggesting it is mediated through psychosocial pathways shaping the impacts of economic structure upon social relationships. In this model lower income inequality is seen to result in societies with more cohesion, greater trust and cooperation and lower social stress. Wilkinson and Pickett (2009) present evidence suggesting that social and economic policies affecting the income distribution of a society can make a huge difference to the psychosocial well-being of the whole populations of this society. For instance, according to the evidence used in this book if income inequality were halved in the UK then the murder rates in the country and obesity rates would also halve, mental illness could be reduced by two thirds, imprisonment could reduce by 80%, teen births could reduce by 80% and levels of trust could increase by 85% (The Equality Trust, 2011).

According to "The Spirit Level" research evidence Japan is more equitable and hence harmonious than other industrialised affluent countries (see Figure 1), whereas Britain one of the most unequal and so disharmonious. In this chapter we present on-going research, building on "The Spirit Level" work, aimed at exploring issues of income inequality, social cohesion, happiness and well-being in Britain and Japan. In particular, the key aim of our research project is to address the subjects that have been central to recent controversies regarding health, happiness and social wellbeing in Japan and Britain.

Figure 1: Japan and the UK in the Spirit Level (after Wilkinson and Pickett, 2009; http://www.equalitytrust.org.uk).



In this chapter we argue the case for a comparative study of social cohesion between Britain and Japan. We discuss issues pertaining to the relationships between income inequality, health, happiness and well-being and we argue that data on income inequality can be a very good proxy for general happiness, given the overwhelming evidence suggesting that the income distribution of a society affects the psychosocial well-being of the whole populations of this society. In particular, the remainder of this chapter is organised as follows: section 2 discusses the importance of comparative study of social inequality, health, well-being and happiness in Britain and Japan. Section 3 reviews research regarding health, social and spatial inequality in Japan and Britain. Sections 4 and 5 discuss the data and methods that we have at our disposal, and also some of the results of the analysis that we have conducted to date, drawing heavily on and discussing further the evidence and theoretical debates presented in recently published relevant work (Ballas, 2013; Ballas et al., 2014). Section 6 discusses issues pertaining to happiness and well-being in Britain and Japan and presents a research agenda for further work, whereas the final section offers some concluding comments.

2. Why compare Britain and Japan?

"The Japanese do not die during the first precarious months after birth, enjoying as they do the lowest infant mortality on earth. They do not die on the battlefield because their constitution prevents them from going to war. Thanks to social bonds and neighbourhoods that are relatively intact, they do not die of street crime. Violence, though hardly unknown, is not a major cause of death. They don't kill themselves eating too much junk food or drinking too much alcohol. Fatal traffic accidents have been declining steadily. And medical research is making progress improving the protection from coronary heart disease and cancer, the two leading causes of death in Japan."

(Coulmas, 2011: 1)

"Britain is an unequal country, more so than many other industrial countries and more so than a generation ago. This is manifest in many ways – most obviously in the gap between those who are well off and those who are less well off."

(Hills et al., 2010: 1)

Japan is a world leader in health with currently the highest life expectancy of any country (United Nations, 2011). Life expectancy in Japan first overtook that in other countries in the 1970s and has retained this ranking ever since (Yanagishita and Guralnik, 1988). In addition, according to a recent study comparing self-rated health and socio-economic status in East Asia, Japan has a relatively low level of health inequality (Hanibuchi et al., 2012). Britain, in contrast, has relatively poor health and has established a place near the bottom of the life expectancy rankings in comparison to other industrialised countries (Marmot and Davey Smith, 1989).

A small number of public health and demography research studies since the 1980s have examined the causes of high life expectancy in Japan (Johansson and Mosk, 1987; Marmot and Davey Smith, 1989; Bezruchka et al, 2008; Horiuchi, 2011). These studies have suggested this good health may be related to low rates of poverty and income inequality and a socially collaborative and supportive culture. The remarkable longevity of Japan's population has however only recently begun to attract wider popular interest and debate beyond health and demography academics. This interest has been encouraged by the publication of "The Spirit Level" book discussed in the Introduction. This book, building on several decades of academic research, has popularised the 'income inequality hypothesis', drawing public and political attention to the theory that more equal societies have greater health and social well-being. International comparisons of industrialised countries within the "The Spirit Level" have brought to wide notice the perception that Japan is an exemplar of the value of greater equality with better health and fewer social problems than other industrialised nations. While Britain is highlighted in this book as an example of an industrialised country with relatively poor health, high income inequality and marked social divisions.

Within Japan a self-image of the country as a highly egalitarian '90 percent middle-class society' has been commonly held among the population in the post war era (Tachibanaki, 1998). However, this characterisation of Japan has been challenged significantly following the publication of the ground breaking book "Confronting Income Inequality" in Japan in 1998 by Japanese economist Toshiaki Tachibanaki. Some analysis of income data in Japan has suggested that income inequality in Japan has grown in recent decades and is now relatively high compared to other industrialised countries (Tachibanaki, 2006; Ohtake, 2008). Japanese social researchers have also increasingly focussed upon the problem of poverty in Japan (Abe, 2010 and 2011). Paradoxically therefore, increasing attention in Britain, and internationally, has recently become focussed upon Japan's socio-economic equality following a period in which many Japanese researchers have decisively rejected this characterisation of their countries' social structure.

In Britain, several critics of the "The Spirit Level" have produced publications attacking the income inequality hypothesis and questioning the international comparisons contained in the book (Sanandaji et al, 2010; Saunders, 2010; Snowdon, 2010). They too have focussed upon Japan because of its significance as an exemplar of the income inequality hypothesis and have questioned the role of income inequality in explaining high life expectancy in Japan. These critics have suggested instead that Japan's good health is explained by the genes, diet or the 'racial' and cultural homogeneity of its population.

Japan and Britain therefore not only have marked differences in their health and social equality and well-being but also have, in different ways, been at the centre of recent international academic and political debate regarding these issues in industrialised countries. Differences in health and social inequality in these countries are also of particular interest

because of the characteristics that these countries have in common. Both are high income, island nations, dominated by world cities whose populations benefit from universal health care (Nakaya and Dorling, 2005). These similarities allow comparisons of Japan and Britain to operate as a 'natural experiment' focussed upon the divergent health, well-being, happiness and socioeconomic characteristics of their populations.

Relatively little research has however directly compared well-being, health, happiness and social inequalities in Britain and Japan. One study completed in the 1980s used comparison of Japan and England and Wales to assess why the Japanese were living longer (Marmot and Davey Smith, 1989). An analysis of socioeconomic inequalities in physical functioning and perceived health has also compared government employees in Britain, Japan and Finland (Martikainen et al, 2004). Finally, Nakaya and Dorling (2005) compared the relationship between regional income inequalities and death rates in Japan and Britain. The aim of the research presented in this chapter is to build upon these studies by conducting further analysis of appropriate data sets in Britain and Japan and in particular to estimate the levels of inequality using the best and most suitable available data sets in both countries. Before this analysis is introduced, we briefly review some pertinent research regarding the relationship between socio-economic status, health and happiness.

3. The relationship between individual socio-economic status, health and happiness

Explanations for Japan's record of good health which are based on theories regarding the social and economic structure of the country imply that the relationship between *individual* socio-economic status and health is also distinctive in Japan. Arguments stressing the importance of income equality and social cohesion suggest that individual socio-economic status in Japan is less strongly associated with health than in other industrialised countries. This may be either because Japan has less steep socio-economic gradients or because aspects of the culture protect the health of those at lower social status from the potentially harmful effects of their social position.

The risks to health associated with low socio-economic status in industrialised countries have been established by a large body of research in a range of countries (Marmot and Wilkinson, 2005). Britain has a strong tradition in public health, epidemiology and health inequalities research and has been close to the centre of this research investigating the relationship between socioeconomic status and health for several decades. There are numerous studies in Britain demonstrating the existence of 'social gradients' in health, by income, occupation, socioeconomic class, education level, material living standards and area deprivation, for a broad range of causes of morbidity and mortality in most socio-demographic groups in the population (Marmot and Wilkinson, 2005).

In Japan, in recent decades there has also been a growing research literature investigating the relationship between socioeconomic status and health, encouraged in part by growing concern about increase in income inequality and social disparities. While this research has demonstrated there is an association between individual socioeconomic status and health in Japan it also suggests that this relationship is different from that in other industrialised countries. A narrative review of this literature by Kagamimori et al (2009) identified 45 references on this relationship from research articles published between 1990 and 2007 and other influential research reports published prior to 1990. They conclude that these studies indicate that "… socioeconomic differences in mortality, morbidity and risk factors are not uniformly small in Japan, but occur to a smaller degree than in the US or Europe (2009, p 2159). In a discussion of research assessing socio-economic differential in

mortality and health in Japan Horiuchi also suggests: "…whereas the overall relationship of SES [socio-economic status] to mortality and health in Japan is in the expected direction, the association appears to be weak, inconsistent, and often anomalous" (2011, p165).

Notable 'anomalous' results in Japan include research that has found ischemic heart disease risk to be lower among less educated Japanese men (Fujino et al, 2002). Some research in Japan also suggests that the relationship between socio-economic status and health varies significantly by age group. In particular, analysis of Japanese men in advanced old age has found that those with less education lived longer than those that were better educated (Liang et al, 2002). These findings regarding age imply that there may be significant variations in the social determinants of health between cohorts in Japan and that the relationship between socio-economic status in Japan and Britain differs in part because the countries have different experience of economic development and the epidemiological transition.

It should also be noted that differences in health status are very likely to be linked to differences in well-being and happiness., Health status and health-related variables consistently stand out as an extremely important factor affecting happiness, with studies consistently reporting a high positive correlation between well-being and physical and psychological health (Ballas and Dorling, 2007; Dolan *et al.*, 2007; Michalos *et al.*, 2000; Frey and Stutzer, 2002).

Among studies that explicitly measure happiness and well-being, of particular relevance to this chapter is the work of Oshio and Kobayashi (2010 and 2011) who investigated the relationship between income inequality and perceived happiness and self-rated health in Japan and found that people living in areas of high inequality tend to report themselves as both unhappy and unhealthy, even after including a number of control variables. In Britain, Clark (2003) used data from the British Household Panel Survey to show that the well-being of unemployed people is strongly positively correlated with reference group unemployment at the regional and household level, suggesting that "unemployment hurts, but it hurts less when there are more unemployed people around" (Clark, 2003: 346). Also, more recent research by Ballas and Tranmer (2012) combined the British Household Survey with census data in order to explore levels of happiness and well-being at the individual, household, district and regional level. Their findings suggested that most of the variation in happiness and well-being is attributable to the individual level, some variation in these measures was also found at the household and area levels. However, this geographical variation in happiness was not found to be statistically significant when controlling for a number of pertinent socio-economic and demographic variables. However, the lack of statistical significance of place at the district level may have been due to the small sample size (Ballas and Tranmer, 2012) and that there is a need for further investigation of the impact of geographical and social context upon happiness.

It should also be noted that the influence of social justice issues, social inequality and context in general has long been identified and discussed in the social sciences:

> "A house may be large or small; as long as the neighboring *(sic)* houses are likewise small, it satisfies all social requirement for a residence. But let there arise next to the little house a palace, and the little house shrinks to a hut. The little house now makes it clear that its inmate has no social position at all to maintain, or but a very insignificant one; and however high it may shoot up in the course of civilization, if the neighboring *(sic)* palace rises in equal of even in greater measure, the occupant of the relatively little house will always find himself more uncomfortable, more dissatisfied, more cramped within his four walls."
>
> (Marx, 1847)

More recently it has been argued that people compare themselves most with their "near equals" (Runciman, 1966) and in particular to their colleagues, friends, neighbours or so called "reference groups" and this in turn has an impact on happiness and health (Layard, 2005). As Clark and Oswald (2002) point out, the group of people to whom we compare our income is thought to be our "peer group", defined as "people like me" (of the same sex, age and education). Most of the empirical studies that examined comparison effects to date have focused on relative income. Research into the impact of income on happiness highlights the importance of relative income and income-rank, given that an individual's position in the income distribution is also an indicator of how they are "valued". Income is a means of communicating their relative status in social hierarchy (Alesina *et al.*, 2004; Ballas, 2013; Ballas et al., 2007; Clark and Oswald, 1998; Frank, 1985, 1999 and 2007; Layard, 2005). This occurs despite incomes not often being explicitly known. In fact it is because income is so important in relation to status that we tend not to let others know our exact incomes, but they can be guessed at roughly from our consumption patterns, job titles and simply residential addresses (for a more detailed discussions of these issues and how they relate to social and spatial inequalities in happiness and well-being see Ballas, 2013).

In addition, as noted above, "The Spirit Level" work (Wilkinson & Pickett, 2009) presented new compelling evidence on the relationship between income inequality and a wide range of different health and social problems. Of particular relevance to our research is the evidence pertaining to the relationship between income inequality and physical and mental health, trust and community life (see Figure 2) and that of income inequality and child well-being (see Figure 3). Even within wealthy Western nations, outcomes in these and other areas are very substantially worse in more unequal societies. These findings highlight clearly the role of social and geographical context with regard to a wide range of factors that are associated with happiness.

It should also be noted that a key relevant argument is that low income inequality leads to higher levels of trust which can be associated with notions of cooperation and 'friendly competition', which in turn helps to improve economic efficiency. Figure 2 illustrates the relationship between a measure of trust and income inequality. Nevertheless, it is difficult to operationalise and quantify measures of 'friendly competition'. Perhaps a good example of a 'friendly' competition that can be quantified and measured using publicly available data is that of getting to work without blocking the roads with a car. Figure 4 uses a different measure of inequality to that of the 'Spirit Level', drawing on recent work on 'Inequality and the 1%' (Dorling, 2014) and provides an example of a possible measure of 'friendly competition' (the proportion of the population in each country that go to work by car or bicycle). As can be seen, there is an apparent relationship between these measures, but it is interesting to note that only 3.5% of the US population walk or cycle. It should also be noted that there may be some measurement issues pertaining to people who combine two or more modes of transport (and which may be particularly relevant for countries like Japan, for which the figure appears higher than what perhaps we should expect), as the proportion would not include people taking the train and walk). In any case, this Figure highlights another important dimension of income inequality and its impacts on trust, well-being, but also efficiency and competitiveness and could be used to form a strong counter-argument to those that believe that inequality may be good for economic efficiency.

Figure 2: "Community Life" and income inequality

Figure 3: "Child well-being" and income inequality

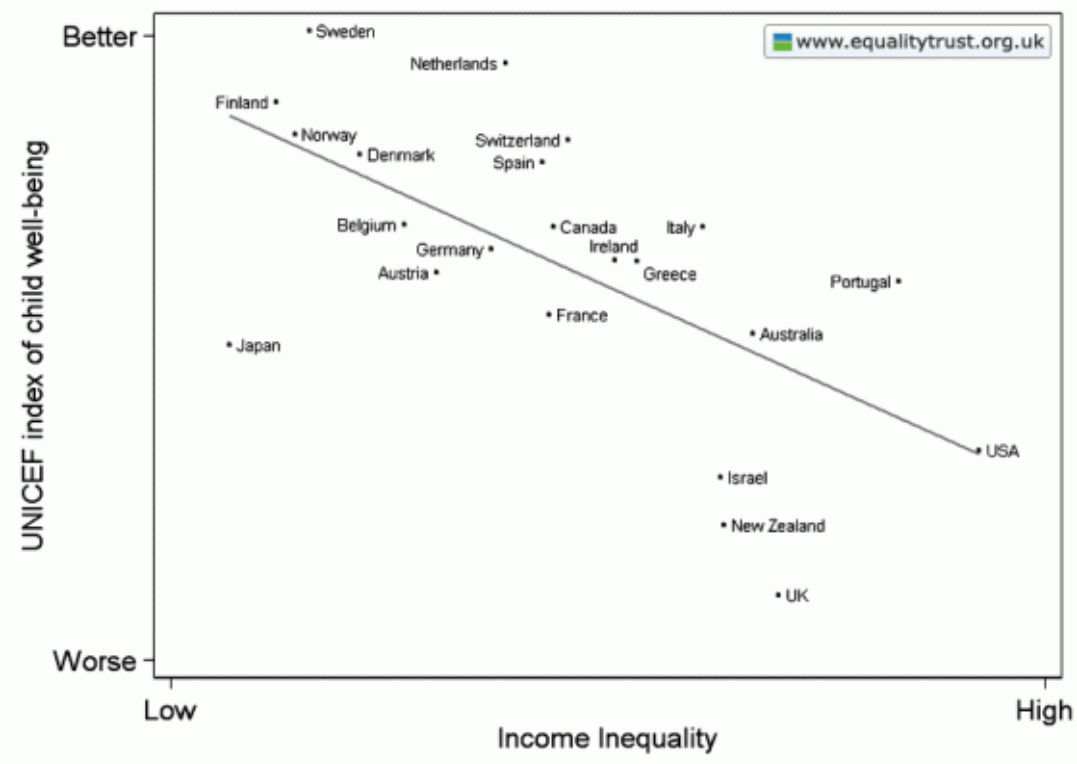
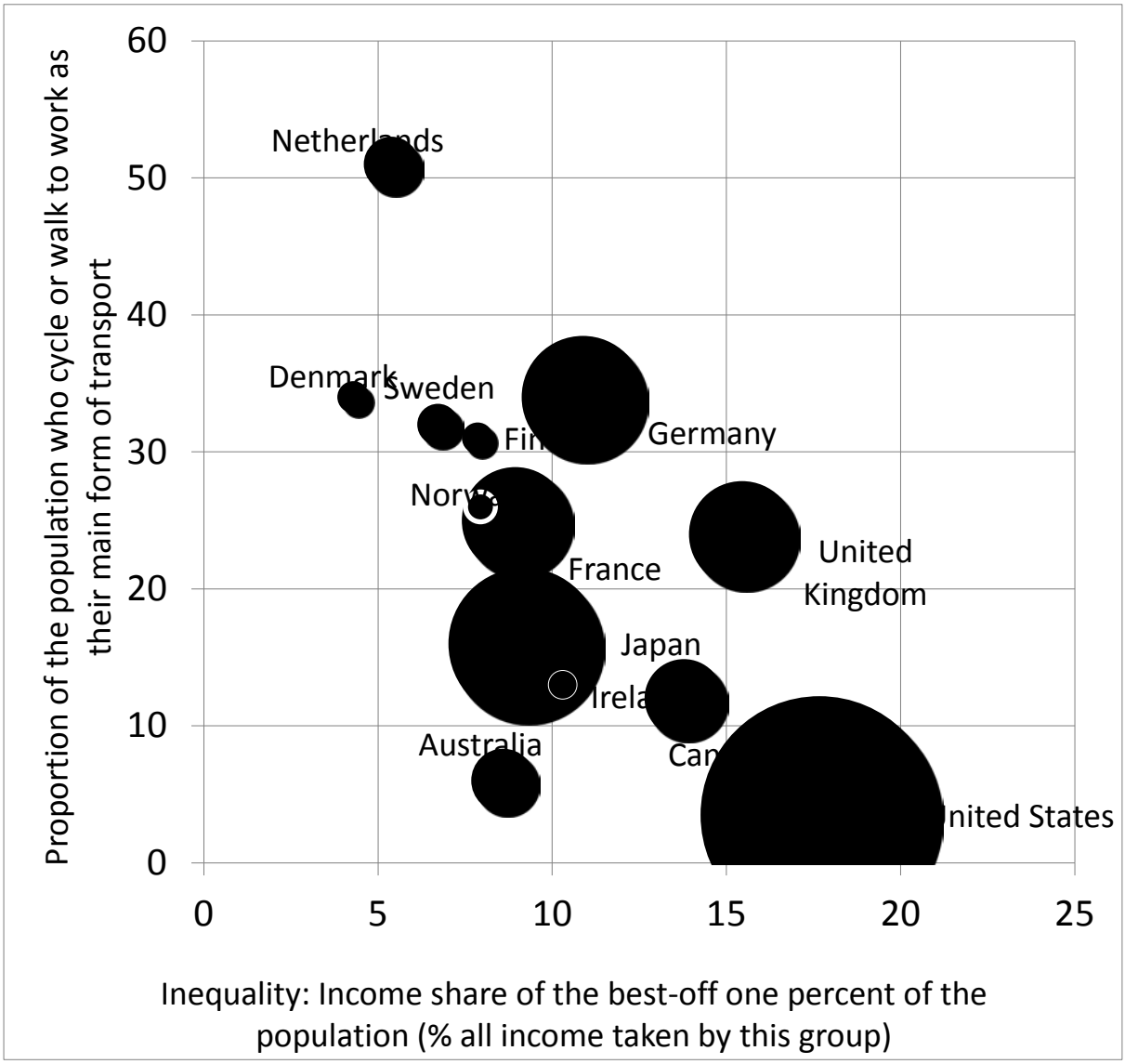


Figure 4: Income inequality and 'friendly competition'. Data sources: Paris Top income dataset and on cycling and walking for Japan 16% of workers and 25% of students from: : http://www.tokyobybike.com/2013/10/how-many-japanese-cycle-to-work.html ; Buehler, R. and Pucher, J. (2012) Walking and Cycling in Western, Europe and the United States, Trends, Policies, and Lessons, TR News 280, May-June,: http://policy.rutgers.edu/faculty/pucher/TRNWesternEurope.pdf



4. Data and Methods

The above discussion highlights the importance of considering income and wealth inequalities when analysing subjective happiness and well-being. In this and the following section we draw on and expand on analysis and evidence presented in recently published relevant work (Ballas et al., 2014) in order to build upon the debate surrounding 'The Spirit Level', focusing on Britain and Japan. In the context of our-ongoing research, we conducted

a thorough review of datasets in both Japan and Britain that include sources of income that could be potentially used to compare inequality between the two countries (for more details see Ballas et al., 2011). We found that there were far less datasets containing individual and household income in Japan than in Britain. In particular, we identified only one dataset in Japan that is available in microdata form and has information on income measured in absolute terms (not banded). This is the *National Survey of Family Income and Expenditure,* which is commissioned by the Ministry of Japanese Internal Affairs and Communications and conducted by the Statistics Bureau. The survey is aimed at providing a picture of aspects of Japanese citizens' lifestyles such "as national and regional household consumption, income and asset levels, composition and distribution through a comprehensive survey of items such as household income and expenditures, savings and liabilities, consumer durables, residences and residential property" (Japanese Statistics Bureau, 2008). The survey was first conducted in 1959 and every five years since then. Until recently these data were only available to government officials, but in the last year the Japanese Statistics Bureau has made it possible to apply for data for use in academic research. In particular, digital survey microdata sets for the years since (and including) 1989 are available subject to successful application to the Bureau. The survey has a sample size of over 50,000 households (excluding student households and non-Japanese households) and it includes information on sources of gross income as well as tax, national social insurance contributions and other deductions. The income recorded is released in absolute values (rather than banded) but incomes of 25 million yen are top coded. The dataset also includes a set of weights that can be used to deal with sample bias by adjusting by known population totals.

In the UK, the survey dataset with the largest sample size is the *Family Resources Survey (FRS)* and its refined *Households Below Average Income (HBAI)* version. The latter dataset builds on the data produced by the FRS in order to ensure that household income data are properly comparable between households. This involves a process known as "equivalisation" adjusting the raw income figures produced by the FRS to take into account variations both in the size and composition of the household (Adams et al., 2010; Palmer, 2011). The survey includes gross and net income data with the incomes of "very rich" households adjusted to correct for under-reporting of very high incomes in the FRS, which has been identified by comparison of the FRS with data from the Survey of Personal Incomes (Adams et al., 2010). The HBAI is also widely seen as the key dataset for the analysis of income poverty and inequalities in Britain (Palmer, 2011; Hills et al, 2010).

After identifying the most suitable datasets to conduct a comparative study between Britain and Japan the next step was to ensure that the variables in the analysis were appropriate and comparable. As noted above, the HBAI dataset included adjustment to the income values to allow for household size and composition, a process known as "equivilisation" (Atkinson, 1983; Adams, 2009). The HBAI data includes calculated equivalence figures for each household using the McClements and OECD methods (before and after housing costs; for more details see Adams, 2009: 213). For the purposes of the research presented here we used the OECD equivalence scales before housing costs. In particular, we used the existing figures in the HBAI and we calculated the scales for the Japanese National Survey of Family Income and Expenditure data set, using the household size and composition information.

Once we had collected and calculated income data for Japan and Britain that were suitable for comparison, we calculated the following measures of income inequality:

- *The median quintile ratio:* this is the median income of the richest 20 percent of the population divided by the median income of the poorest 20 percent. This ratio is also

known as the ratio of top to bottom quintile medians and is widely used in the analyses of HBAI datasets conducted by the DWP (e.g. see Adams et al., 2010).

- *The mean quintile ratio:* this is the mean income of the richest 20 percent of the population divided by the mean income of the poorest 20 percent. This is also known as the ratio of top quintile share to bottom quintile share and it was the key measure used in 'The Spirit Level'.

5. Comparing income inequality measures in Japan and Britain, 1989 - 2009

Table 1 presents the quintile group household income medians in Japan for all the years for which we had income data from the *National Survey of Family Income and Expenditure*.

Table 1: Quintile group gross annual income medians and median quintile ratios, Japan 1989-2004 (10,000s of Japanese Yen; data source: National Survey of Family Income and Expenditure; * incomes over 2,500 were top-coded)

	Quintile group medians						
Year	**1**	**2**	**3**	**4**	**5***	**Population mean***	Median quintile ratio
2004	219	341	446	584	875	509	**3.99**
1999	231	364	479	627	945	545	**4.08**
1994	235	363	474	610	904	536	**3.85**
1989	201	306	394	507	746	448	**3.70**

As can be seen, the *median quintile ratio* increases throughout the 1990s from 3.7 in 1989 to 4.08 in 1999 before dropping to 3.99 in 2004 (after Ballas et al., 2014).

Table 2 shows the quintile group means (annual income) and mean quintile ratios for Japan from 1989-2004. A similar pattern is observed: an increase from 4.41 in 1989 to 4.74 in 1999 before dropping to 4.67 in 2004. It is also interesting to note that the mean income of the bottom quintile decreased in nominal terms between 1994 and 1999 and dropped even further by 2004. The mean income of all the other quintiles (and the overall population mean) dropped 1999-2004.

Table 2: Quintile group gross annual income means and mean quintile ratios, Japan 1989-2004 (10,000s of Japanese Yen; data source: National Survey of Family Income and Expenditure; * incomes over 2,500 were top-coded) (after Ballas et al., 2014)

	Quintile group means						
Year	**1**	**2**	**3**	**4**	**5***	**Population mean***	Mean quintile ratio
2004	207	340	446	587	965	509	**4.67**
1999	217	365	481	632	1030	545	**4.74**
1994	221	364	475	617	1006	536	**4.56**
1989	190	306	396	511	837	448	**4.41**

Table 3 shows the quintile group gross income medians (household weekly income) and median quintile ratios for the UK in the years for which we had available data from the FRS that matched the respective years for which we also had similar data for Japan as well as the most recent median quintile ratio calculated using the most recently released data (2008/09). As can be seen the ratio is much higher than its Japanese counterpart in all years. Looking at the trends through time, there is an increase in the ratio between 1994/95 and 1990/2000 from 5.09 to 5.23. The ratio then drops to 4.99 in 2004/05 before and rises again to 5.14 in 2008/09. In the most recent year for which we have available data for both countries (2004/05) the UK median quintile ratio is higher by 1, whereas the highest difference is recorded in 1994/05 (1.24).

Table 3: Quintile group gross weekly income (in GBP) medians and median quintile ratios, UK 1994-2009 (after Ballas et al., 2014)

	Quintile group medians						
Year	**1**	**2**	3 (median)	**4**	**5***	**Population mean**	Median quintile ratio
2008/09	232	363	516	730	1192	681	**5.14**
2004/05	202	313	447	626	1008	577	**4.99**
1999/00	160	247	368	524	837	473	**5.23**
1994/95	129	193	289	412	656	363	**5.09**

Table 4: Quintile group gross weekly income (in GBP) means and mean quintile ratios, UK 1994-2009 (after Ballas et al., 2014)

	Quintile group means						
Year	**1**	**2**	**3**	**4**	**5**	**Population mean**	Mean quintile ratio
2008/09	199	365	518	735	1590	681	**7.99**
2004/05	188	314	449	633	1302	577	**6.93**
1999/00	150	248	369	528	1071	473	**7.13**
1994/95	119	195	291	417	794	363	**6.65**

Table 5 shows the quintile group means of gross income and the mean quintile ratios. Comparing it to the respective Japanese figures we can see that the ratios are much higher in Britain (and the gap is even larger than the difference in the quintile group medians). The highest difference in the mean quintile ratio between the two countries is recorded in 1999 (7.13 in Britain and 4.74 in Japan). Table 5 summarises the mean and median quintile ratios and their differences for the years for which we had data for both Britain and Japan.

Table 5: Comparing quintile ratios between Britain and Japan (after Ballas et al., 2014).

Inequality measure/ Year	1994	1999	2004
Median quintile ratio in Japan	3.85	4.08	3.99
Median quintile ratio in the UK	5.09	5.23	4.99
Difference	1.24	1.15	1.00
Mean quintile ratio in Japan	4.56	4.74	4.67
Mean quintile ratio in the UK	6.65	7.13	6.93
Difference	2.09	2.39	2.26

The findings presented above support "The Spirit Level" work, suggesting that income inequality in Japan has consistently been significantly lower than in Britain. Nevertheless, in order to be able to confirm this we need to obtain disposable income data on both countries.

6. Comparing subjective happiness and well-being between Britain and Japan: setting a research agenda

We have argued throughout this chapter that income inequality is a very useful and appropriate proxy for happiness. Therefore, the analysis presented in the previous section is

very important when considering the psychosocial well-being of the whole populations of this society. As noted in section 3, Oshio and Kobayashi (2011) have shown that income inequality in Japan is associated with subjective happiness and self-rated health status. It is worth emphasising that one of the key findings of their analysis is that individuals living in areas of high inequality tend to have lower subjective happiness, even after controlling for various individual and regional factors. This finding is consistent with the 'Spirit Level' hypothesis and the arguments that we have made throughout this chapter. There are no similar studies linking income inequality and happiness in Britain at the regional and local level. Nevertheless, the analysis of Ballas and Tranmer (2012) which was briefly discussed in Section 3 suggested that unemployed people were on average happier in areas of high unemployment, a finding consistent with previous research by Clark (2003).This is also consistent with relevant work by Powdthavee (2007) examining the role of social norms in the relationship between happiness and unemployment and suggesting that unemployment appears to be less detrimental to happiness in regions where the rate of unemployment is high.

The data that we had at our disposal to explore income inequalities in Britain and Japan did not include any variables pertaining to subjective happiness and well-being. The next step in our research project will be to explore social and spatial inequalities in subjective happiness attainment using the datasets used by Oshio and Kobayashi (2011) and Ballas and Tranmer (2012) in Japan and Britain respectively. In particular, our research agenda involves addressing within each country as well as between the two island countries questions such as:

1. What are the factors that influence different types of individuals' happiness?
2. Is the source of happiness or unhappiness purely personal or do contextual factors matter? (and if they do, to what extent?)
3. If social comparisons are important, what is the spatial scale at which people make their social comparisons?

The first question has already been addressed to a great extent by researchers in both Britain (e.g. see Ballas and Dorling, 2007 and 2013; Clark and Oswald, 2002; Oswald, 1997; Dolan *et al.*, 2007; Peasgood, 2008) and to some extent in Japan (Oshio and Obayashi, 2011; Uchida et al., 2004). The second question, regarding context, has addressed to some extent in Britain (Ballas and Tranmer, 2012; Clark, 2003) and to a greater extent in Japan (Oshio and Obayashi, 2011). The third question remains largely unanswered mainly due to data availability issues, although the income inequality and analysis of 'unemployment as a social norm' discussed above have provided some clues.

It should also be noted that the inequality in income distribution in both Britain and Japan have important geographical manifestations which need to be considered when looking at the spatial dimension of subjective happiness and well-being. For instance, Dorling et al. (2007) have shown that Britain has been experiencing increasing levels of socio-economic spatial polarisation and that the country is moving back towards levels of inequality in wealth and poverty last seen more than 40 years ago. In addition, a more recent report (Dorling *et al.*, 2008) shows how British society has been moving towards demographic segregation and economic polarisation, social fragmentation and political disengagement since at least the late 1960s. It has also been argued that these processes of socio-economic polarisation also operate at smaller area levels within British cities (Thomas *et al.*, 2009). On the other hand, it has often been argued that such spatial disparities are much less common in Japan (e.g. see Fujita and Hill, 1997). Nevertheless, there have also been studies suggesting that this is not always the case (e.g. see Fielding, 2004) and to that end there have also been efforts to highlight differences in lifestyle and socio-economic status using commercial geodemographic classification techniques such as that of Mosaic:

"Mosaic Japan is a geodemographic segmentation. It classifies consumers according to the type of neighborhood in which they live, and is based upon the well-established principle that when people are deciding where to live they naturally prefer to live amongst people with similar demographics, lifestyles and aspirations to their own"

(Mosaic Japan, 2011)

It is interesting to note that one of the authors of this chapter (Nakaya, 2011) have recently successfully linked the Mosaic Japan small area residential classification data to the *Japanese General Social Survey* (which contains subjective happiness data and which is the dataset used by Oshio and Kobayashi, 2011, as discussed above). There also similar geodemographic classification attempts in Britain by the same commercial group that created the Japanese data (see Mosaic UK, 2009) but also non-commercial 'open' geodemographic attempts (Vickers and Rees, 2007; Vickers, 2010; Vickers and Rees, 2008; Vickers and Pritchard, 2010) which could potentially be linked to British survey data containing subjective happiness and well-being variables (such as the British Household Panel Survey, which was used by Ballas and Tranmer, 2012 as discussed above). Such combinations of national survey data with geographical small area data can help us explore further possible answers to the second and third research question listed above. In particular, the geodemographic classification description can be seen as another proxy for social and geographical context. Also, by analysing the relationship between 'type of place' and 'subjective happiness' we could have more information on what might matter in terms of social comparisons. Table 7 shows the major Mosaic gemodemographic classification groups in Japan (Mosaic Japan, 2011) and UK National Geodemographic classification in Britain (Vickers, and Rees, 2007), giving a flavour of what kind of information is included.

Table 7: Geodemohraphic classification groups in Japan and Britain

Mosaic group Japan	**UK National Geodemographics**
A Metropolitan Careerists	1: Blue Collar Communities
B Graduate Newcomers	2: City Living
C Campus Lifestyles	3: Countryside
D Older Communities	4: Prospering Suburbs
E Middle Japan	5: Constrained by Circumstances
F Corporate Success Story	6: Typical Traits
G Burdened Optimists	7: Multicultural
H Social Housing Tentants	
I Blue Collar Owners	
J Rural Fringe	
K Deeply Rural	

Source: http://www.mosaicjapan.com/; http://www.sasi.group.shef.ac.uk/area_classification/

Our on-going research in the context of the project presented in this chapter will aim to explore the relationship between 'type of place' and 'subjective happiness' attainment, building on the work that we reviewed above.

7. Concluding comments

The research presented here aims at advancing our knowledge about well-being, happiness and social cohesion in Britain and Japan. It can be argued that the findings so far support the Spirit Level work. Nevertheless, in order to be able to confirm this we need to enhance the analysis with the use of disposable income data on both countries. We have such data for Britain but not for Japan. One of the next steps in our analysis will be to estimate disposable income for Japan by applying appropriate income tax rates on the gross figures that we have. Also, we will explore the possibility of requesting from the Japanese Statistics Bureau individual earner data for each household that will enable us to carry out a more accurate estimation of disposable income.

Another key aim of the project presented here is to examine the geography of subjective happiness and well-being in Japan and to explore links with social cohesion and social capital. Unfortunately there has been limited progress in relation to this aim due to data limitations. Nevertheless, as discussed in this chapter there are a number of interesting possibilities of adding a geographical dimension to happiness research.

Overall, the arguments and analysis presented in this chapter suggest that income inequality at the national level can be seen as a proxy to the psycho-social well-being of whole populations, which is also a key thesis of the Spirit Level work. These arguments are also extremely relevant to cross-country comparisons of happiness, which are widely believed to be affected by cultural differences in expressing happiness. The discussion presented in this chapter suggests that having good quality income data and estimates of income inequality measures is very important when comparing subjective measures of happiness and well-being between countries, especially given the cultural (Dorling and Barford, 2009; Tiberius, 2004; Lu and Gilmour, 2004; Uchida et al, 2004), as well as possible linguistic issues (Veenhoven, 1993), that affect the responses to happiness questions in surveys in different countries. In addition, the degree to which people's responses to such a question may or may not reflect their true feelings is affected by geographical and cultural context. People living in societies where personal modesty is valued over individualism (and it could be argued that this may be the case in Japan) may understate their levels of happiness, whereas happiness may be overstated by those living in societies that encourage individuals to "stand out from the crowd" (Abdallah *et al.*, 2007; Frey and Stutzer, 2002).

Acknowledgements: We are grateful to the Daiwa Anglo-Japanese Foundation, the University of Sheffield and Ritsumeikan University for funding, supporting and hosting the research visits of the authors between Japan and Britain, which made the research reported in this chapter possible. We would also like to thank Dr Aya Abe for arranging and hosting seminar talks by Danny Dorling, Dimitris Ballas and Helena Tunstall at the Japanese National Institute of Population and Social Security Research in Tokyo and for her constructive comments on our research plans and ideas. We would also like to thank the attendants of research seminars in the Department of Geography at Sheffield University (on 27 January 2011), the Research Center for Disaster Mitigation of Cultural Heritage and Historic Cities at Ritsumeikan University (on 9 May 2011) and at the Japanese National Institute of Population and Social Security Research in Tokyo (on 10 May 2011) for their constructive comments and helpful suggestions and ideas. We would also like to

acknowledge that the *Family Resources Survey* and *Household Below Average Income* microdata were made available through the UK Data Archive. The *National Survey of Family Income and Expenditure* microdata were made available through the Japanese Statistics Bureau.

References

Abdallah, S, Thompson, S., Marks, N (2007), Estimating worldwide life satisfaction, *Ecological Economics*, vol. 65, pp. 35-47.

Abe, A K (2010), Social Exclusion and Earlier Disadvantages: An Empirical Study of Poverty and Social Exclusion in Japan, *Social Science Japan Journal*, 13(1), 5-30.

Abe, A K (2011), *Measurement of Poverty and Social Exclusion in Japan*, paper presented at the Second Townsend Memorial Conference, Measuring Poverty : The State of Art, London 22-23 January 2011.

Adams, N, Barton, A, Bray, S, Johnson, G, Matejic, P (2010), *Households Below Average Income: An analysis of the income distribution 1994-95 – 2008-09*, Department for Work and Pensions, National Statistics.

Alesina, A., Di Tella, R & MacCulloch, R. (2004) Inequality and happiness: are Europeans and Americans different? *Journal of Public Economics*, 88, 2009–42.

Atkinson, A.B. (1983), *The Economics of Inequality*, Clarendon Press, Oxford.

Ballas, D, (2013), What makes a 'happy city'?, *Cities*, volume 32, s39–s50.

Ballas, D, Dorling, D (2007), Measuring the impact of major life events upon happiness, *International Journal of Epidemiology*, 36, 1244-1252.

Ballas, D. and Dorling, D. (2013), The Geography of Happiness, in: Thompson, S. and Marks, N. (eds.) *The Oxford Handbook of Happiness*, Oxford University Press, pp. 465-481

Ballas, D, Dorling, D., Nakaya, T, Tunstall, H, Hanaoka, K (2011), *Social cohesion in Britain and Japan: a comparative study of two island economies*, Daiwa Anglo-Japanese Foundation end of award report, Project ref: 8006/8599, London

Ballas, D., Dorling, D. and Shaw, M. (2007). Social inequality, health, and well-being. In: Haworth, J. and Hart, G. (eds.) *Well-Being: individual, community, and social perspectives.* Palgrave, Basingstoke, pp. 163-186.

Ballas, D. and Tranmer, M. (2012), Happy People or Happy Places? A Multilevel Modelling Approach to the Analysis of Happiness and Well-Being, *International Regional Science Review*, 35(1), 70-102.

Ballas, D, Dorling, D, Nakaya, T, Tunstall, H, Hanaoka, K (2014), Income inequalities in Japan and the UK: a comparative study of two island economies, *Social Policy and Society*, vol. 13, pp. 103-117.

Bezruchka S, Namekata T and Sisitrom M G (2008) Improving economic equality and health: The care of Postwar Japan, *American Journal of Public Health*, 98 (4), pp589-594.

Clark, A (2003), Unemployment as a Social Norm: Psychological Evidence from Panel Data, *Journal of Labor Economics*, 21: 324-351.

Clark, A.E. and Oswald, A.J. (1998), Comparison-concave utility and following behaviour in social and economic settings, *Journal of Public Economics* 70, 133-155.

Clark, A, Oswald, A (2002), A Simple Statistical Method for Measuring How Life Events affect Happiness, *International Journal of Epidemiology*, 2002, 31(6), 1139-1144.

Coulmas, F., (2011), The Quest for Happiness in Japan, *Annual Review of the Institute for Advanced Social Research*, vol.2, available form: http://kgur.kwansei.ac.jp/dspace/bitstream/10236/4052/1/20100524-2-10.pdf

Dolan, P., Peasgood, T., White, M. (2007), Do we really know what makes us happy? A review of the literature on the factors associated with subjective well-being, *Journal of Economic Psychology*, 29, pp. 94-122.

Dorling, D (2014), *Inequality and the 1%*, Verso.

Dorling, D., Barford, A. (2009), The inequality hypothesis: Thesis, antithesis, and a synthesis?. *Health & Place*, Vol. 15, Issue 4, December 2009, Pages 1166-1169

Dorling, D, Rigby, J, Wheeler, B, Ballas, D, Thomas, B, Fahmy, E, Gordon, D and Lupton, R (2007), Poverty, wealth and place in Britain, 1968 to 2005, Policy Press, Bristol

Dorling, D, Vickers, D, Thomas, B, Pritchard, J, Ballas, D (2008), *Changing UK: the way we live now*, report commissioned for the BBC, available on-line from: http://news.bbc.co.uk/1/shared/bsp/hi/pdfs/01_12_08_changinguk.pdf

DWP, 2011, Family Resources Survey, on-line document, accessed on 15 April 2011, available from: available from: http://research.dwp.gov.uk/asd/frs/

DWP, 2011, Family Resources Survey, on-line document, accessed on 15 April 2011, available from: available from: http://research.dwp.gov.uk/asd/frs/

Frank, R.H. (1985). The demand for unobservable and other nonpositional goods. *American Economic Review*, 75(1), 101-116.

Frank, R, (1999) L*uxury Fever: Money and Happiness in an era of excess*, Princeton University Press, New York.

Frank, R (2007), *Falling Behind: How Rising Inequality Harms the Middle Class*, Wildavsky Forum Series, 4, University of California Press, Oakland, California

Frey, B., Stutzer, A. (2002), *Happiness and Economic*s, Princeton University Press, Princeton.

Fielding, A. (2004): Class and space: social segregation in Japanese cities. *Transactions of the Institute of British Geographers*, 29, 64-84.

Fujino Y, Tamakoshi A, Ohno Y, Mizoue T, Tokui N and Yoshimura T (2002) Prospective study of educational background and stomach cancer in Japan, *Preventive Medicine*, 35, pp121-127.

Fujita, K., and R.C. Hill. (1997). 'Together and equal: place stratification in Osaka.' In P.P. Karan and K. Stapleton, eds. *The Japanese City*. Lexington: University of Kentucky Press, pp. 106-128.

Hanibuchi, T, Nakaya, T, Murata, C, (2012), Socio-economic status and self-rated health in East Asia: a comparison of China, Japan, South Korea and Taiwan, *The European Journal of Public Health*, 22(1): 47-52

Hills, J, Brewer, M, Jenkins, S, Lister, R, Lupton, R, Machin, S, Mills, C, Modood, T, Rees, T, Riddell, S (2010), *An anatomy of economic inequality in the UK: Report of the National Equality Panel*, UK Government Equalities Office & London School of Economics Centre for Analysis of Social Exclusion, London, also available online from: http://eprints.lse.ac.uk/28344/1/CASEreport60.pdf

Horiuchi S (2011) Major causes of the rapid longevity extension in Postwar Japan, *The Japanese Journal of Population*, 9 (1), pp162-171.

Japanese Statistics Bureau (2008), 2004, *National Survey of Family Income and Expenditure Overview*, http://www.stat.go.jp/english/data/zensho/2004/cgaiyo.htm

Johansson S R and Mosk C (1987) Exposure, resistance and life expectancy: Disease and death during the economic development of Japan, 1900, 1960, *Population Studies*, 41, pp207-235.

Kagamimori S, Gaina A and Nasermoaddeli A (2009) Socioeconomic status and health in Japanese populations, *Social Science and Medicine*, 68, pp2152-2160.

Layard, R. (2005) *Happiness. Lessons from a new science*, Allen Lane, Penguin Books.

Liang J, Bennett J, Krause N, Kobayishi E, Kim H, Brown et al, (2002) Old age mortality in Japan: does the socio-economic gradient interact with gender and age?, *Journal of Gerontology*, 57B, ppS294-S307.

Lu, L., Gilmour, R (2004), Culture and conceptions of happiness: Individual oriented and social oriented SWB, *Journal of Happiness Studies*, Volume 5, Number 3, pp. 269-291.

Martikainen P, Lahelma E, Marmot M, Sekine M, Nishi H and Kagamimori S (2004) A comparison of socioeconomic differences in physical functioning and perceived health among male and female employees in Britain, Finland and Japan, *Social Science and Medicine*, 59, pp1287-1295.

Marmot M G and Davey Smith G (1989) Why are the Japanese living longer?, *British Medical Journal* , 299, pp1547-1551.

Marmot M G and Wilkinson R G (EDs.) (2005) *Social determinants of Health*, London: Oxford University Press.

Marx, K (1847) [on-line version], *Wage, Labour and Capital*, [on-line document], Marx/Engels Internet Archive (www.marxists.org) 1993, 1999, Available from: http://www.marxists.org/archive/marx/works/1847/wage-labour/index.htm, Accessed 15 September 2006.

Michalos, A.C., Zumbo, B.D., Hubley, A. (2000) Health and the Quality of Life. *Social Indicators Research*, 51, 245-286.

Mosaic Japan (2011), *The Consumer Classification for Japan*, available from: http://japanmosaic.com/overview.htm

Mosaic UK (2009), *Consumer and Demographic Data*, Experian Ltd, http://www.experian.co.uk/marketing-services/products/mosaic-uk.html

Nakaya T and Dorling D (2005), Geographical inequalities of mortality by income in two developed island countries: a cross-national comparison of Britain and Japan, *Social Science and Medicine*, 60, pp. 2865-2875.

Nakaya, T. (2011), Mapping healthy/unhealthy towns: GIS-based geo-visualisation of health inequalities at small areal levels. *Japanese Journal of Cardiovascular Disease Prevention*, 46(1), 38-55.

Oswald A.J. (1997), Happiness and economic performance. *Economic Journal* 107: 1815–1831

OECD, 2011a, *Social Justice in the OECD–How Do the Member States Compare? Sustainable Governance Indicators 2011*, Bertelsmann Stiftung, Gütersloh, Germany

OECD, 2011b, *Society at a Glance 2011 - OECD Social Indicators* (www.oecd.org/els/social/indicators/SAG)

OECD, 2011c, *Divided We Stand: Why Inequality Keeps Rising*, OECD Publishing. http://dx.doi.org/10.1787/9789

OECD, 2011d, *Metadata on OECD database on income distribution and poverty*, http://www.oecd.org/dataoecd/52/30/49147697.pdf

OECD, 2011e, Power Purchasing Parities, on-line document, available from: http://www.oecd.org/department/0,3355,en_2649_34357_1_1_1_1_1,00.html

Ohtake F (2008) Inequality in Japan, *Asian Economic Policy Review*, 3 (1), pp87-109.

Oshio, T, and Kobayashi, M. 2010. “Income inequality, perceived happiness, and self-rated health: evidence from nationwide surveys in Japan.” Social science & medicine (1982) 70(9):1358-66.

Oshio, T, Kobayashi, M (2011), Area-Level Income Inequality and Individual Happiness: Evidence from Japan, Journal of Happiness Studies, Volume 12, Number 4 (2011), 633-649

Palmer, G (2011), The Poverty Site: The UK site for statistics on poverty and social exclusion, on-line document, http://www.poverty.org.uk/

Peasgood, T (2008), *Measuring well-being for public policy*, unpublished PhD thesis, Imperial College London.

Powdthavee, N (2007), Are There Geographical Variations In The Psychological Cost of Unemployment In South Africa?, *Social Indicators Research*, vol. 80, no. 3, pp. 629-652

Runciman, W.G., 1966, *Relative Deprivation and Social Justice* (Routledge and Kegan Paul,Henley).

Sanandaji N, Malm A and Sanandaji T (2010) *The Spirit Illusion: A critical Analysis of How "The Spirit Level" Compares Countries*, London: The Tax Payers Alliance.

Saunders P (2010) *Beware False Prophets: Equality, the Good Society and The Spirit Level*, London: Policy Exchange.

Snowdon C J (2010) *The Spirit Level Delusion: Fact-checking the Left's New Theory of Everything*, Democracy Institute/Little Dice.

Tachibanaki T (2009 [Japanese edition 1998]) Confronting Income Inequality in Japan, MIT Press.

Tachibanaki T (2006) Inequality and poverty in Japan, *The Japanese Economic Review*, 57 (1), pp1-27.

The Equality Trust (2011), *Why more equality?*, The Equality Trust, London, on-line document available from: http://www.equalitytrust.org.uk/why (last accessed 30 September 2011)

Thomas, B, Pritchard, J, Ballas, D, Vickers, D, Dorling, D (2009), *A Tale of Two Cities: The Sheffield Project*, Report, commissioned by David Blunkett MP, November 2009, available on-line from: http://www.sasi.group.shef.ac.uk/research/sheffield/index.html

Tiberius, V.(2004), Cultural differences and philosophical accounts of wellbeing, *Journal of Happiness Studies*, Volume 5, Number 3, pp. 293-314

Uchida, Y., Norasakkunkit, V , Kitayama S, (2004), Cultural constructions of happiness: Theory and empirical evidence, *Journal of Happiness Studies*, Volume 5, Number 3, pp. 223-239

United Nations, Department of Economic and Social Affairs, Population Division (2011). World Population Prospects: The 2010 Revision, CD-ROM Edition

Veenhoven, R. (1993), *Happiness in Nations: Subjective Appreciation of Life in 56 Nations 1946-1992*. Rotterdam: Erasmus University Press.

Vickers, D.W. (2010), England's Changing Social Geology. In: Stillwell, J. and Norman, P. (eds.) Spatial and Social Inequality, Springer.

Vickers, D.W. and Pritchard, J. (2010). Visualising the Output Area Classification. *Journal of Maps*, vol. 6, 410-416

Vickers, D.W. and Rees, P.H. (2007), Creating the National Statistics 2001 Output Area Classification. *Journal of the Royal Statistical Society: Series A*, 170(2), 379-403.

Wilkinson R and Pickett K (2009) *The Spirit Level: Why equality is better for everyone*, Allen Lane.

Yanagishita M and Guralnik J M (1988) Changing mortality patterns that led life expectancy in Japan to surpass Sweden's: 1972-1982, *Demography*, 25 (4), pp. 611-624.