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# VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations

## Volunteering and income inequality: cross-national relationships

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<b>Abstract:</b>	<p>Wilkinson and Pickett, in their 2009 book <i>The Spirit Level</i>, found that, in rich countries, income inequality was associated with a range of indicators of well-being, but they did not consider the relationship with volunteering. This paper seeks to fill that gap. Using existing data sources, it shows that, among European countries, higher levels of volunteering are significantly associated with lower levels of income inequality. The relationship is particularly strong for regular and sport-related volunteering. However, while the <i>Spirit Level</i> thesis involves just one theoretical explanation for the income inequality/well-being relationship, namely status anxiety, in the case of volunteering, other variables are also found to be at play, including government social spending, available leisure time and geo-historical traditions. It is concluded that, while high levels of volunteering, as a form of social capital, can be seen as one of a number of features of more equal societies, disentangling cause and effect may require a more holistic approach to understanding its contribution to the generation and sustaining of social well-being.</p>

## **Volunteering and income inequality: cross-national relationships**

### Response to Reviewer #5

There was an error in the sector-specific volunteering data. In accessing the on-line Eurobarometer data we had used the wrong base for the percentages. Changes resulting from the revised data are in blue. Since cultural/educational volunteering is no longer as distinctive, Figure 9 was not required and has been deleted.

We are most grateful to Reviewer #5 for spotting this error.

## **Volunteering and income inequality: cross-national relationships**

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## **Volunteering and income inequality: cross-national relationships**

### **Abstract**

Wilkinson and Pickett, in their 2009 book *The Spirit Level*, found that, in rich countries, income inequality was negatively associated with a range of indicators of well-being, but they did not consider the relationship with volunteering. This paper seeks to fill that gap. Using existing data sources, it shows that, among European countries, higher levels of volunteering are associated with lower levels of income inequality. The relationship is particularly strong for regular and sport-related volunteering. The basic Spirit Level thesis is therefore confirmed as applicable to volunteering. However, while the thesis involves just one theoretical explanation for the income inequality/well-being relationship, namely status anxiety, in the case of volunteering, other variables are also found to be at play, including government social spending, available leisure time and geo-historical traditions. It is concluded that, while high levels of volunteering, as a form of social capital, can be seen as one of a number of features of more equal societies, disentangling cause and effect may require a more holistic approach to understanding its contribution to the generation and sustaining of social well-being.

Key words: volunteering; income inequality; social capital; trust.

### **Introduction**

In their book, *The Spirit Level: Why More Equal Societies Almost Always do Better*, Wilkinson and Pickett (2009) sought to demonstrate that economically developed countries with more equal income distributions perform better on a range of indicators of social well-being than those with high levels of income inequality. This is a significant finding in an era when increasing attention is being focussed on growing income inequality around the world (OECD, 2011; Pikkety, 2014; Salverda, Nolan & Checchi, 2014; Stiglitz, 2013). Furthermore, income distribution is a variable over which governments have some control, albeit often politically charged. Volunteering was not included among the indicators used in the Spirit Level study, so this paper seeks to fill that gap. The research question asked is: to what extent is the level of volunteering in a country related to its level of income inequality? Before addressing this question empirically, two contextual discussions are presented, concerning: the Spirit Level analysis, its critics and theoretical explanations; and the place of income inequality in the volunteering research literature.

### **The Spirit Level analysis, its critics and theoretical explanations**

The starting point of The Spirit Level analysis was the observation that, when nations reach a level of per capita income of about \$20,000 per annum, additional wealth no longer enhances overall well-being as indicated by such key measures as life-expectancy and subjective happiness (Wilkinson & Pickett, 2009, pp.6-10). Other factors must therefore be called upon to explain differences in well-being among relatively wealthy countries. Wilkinson & Pickett (2009, p.13) argue that even rich countries display significant gradients in well-being indicators right across the income spectrum, suggesting the hypothesis that income differences within countries rather than absolute income are the key determinants of well-being.

Wilkinson and Pickett's (2009) research involved secondary analysis of data from the 25 countries with annual per capita national incomes above \$20,000. The analysis examined the relationship between income inequality (measured by the ratio of the share of total income of the top 20 per cent of households to that of the bottom 20 per cent) and 10 well-being measures, namely: trust (of neighbours etc.); life-expectancy; infant mortality; obesity (adults and children); mental illness; rates of homicide, abortion and incarceration; educational performance; and a composite 'Index of Health and Social Problems'. The main findings are presented in a series of graphics. An example, concerning social trust, which has been found to be related to volunteering (Delhey and Newton, 2005), is reproduced in Figure 1. For all the well-being measures, high levels of income inequality were found to be associated with negative outcomes, so that the cumulative picture is that more equal societies 'do better' in terms of human well-being. Furthermore, it is claimed that the positive relationship extends to all income levels in society; that is, in more equal societies, all income groups tend to benefit.

**INSERT:** Figure 1. Income inequality and trust in the community: international comparisons

Source: Wilkinson & Pickett (2009, p. 52, Fig. 4.1)

The Spirit Level has not been without its critics, notably Goldthorpe (2010), Runciman, (2009), Sanandaji, Malm & Sanandaji (2010), Saunders (2010) and Snowdon (2010). Criticisms have included: 'cherry-picking' of both countries and well-being indicators; ignoring 'outliers' in the data; considering only income inequality when other variables might be at least as significant; and examining relationships only cross-nationally and not over time.

While the criticisms have been rebutted by Wilkinson and Pickett (2010a, 2010b), a study of the application of the Spirit Level mode of analysis to sport and cultural participation (Veal, 2016) suggests that a number of the critics' methodological objections can be overcome with suitable design of empirical work. Furthermore, it can be argued that the key feature of the Spirit Level thesis is not that income inequality is the best predictor of well-being indicators, but that it is significantly related to a wide range of indicators, which might have implications for public policy. If volunteering is one of those indicators, it could be seen as part of that policy debate.

The analysis in *The Spirit Level* is focussed on simple bivariate correlations which, in themselves, do not address the issue of causality in the income inequality/well-being relationship. Causality is explored through consideration of three alternative theoretical explanations, each involving the introduction of a third variable. First, the social status-related explanation, which is favoured by Wilkinson and Pickett (2009, pp. 43-44), is that inequality reflects a competitive culture which results in status anxiety, lack of social and institutional trust and stress, which produce negative social and health outcomes. In *The Spirit Level*, however, this proposition is not subject to direct empirical testing using international data, although some indicative historical information is presented on US college students (Wilkinson & Pickett, 2009, p.34). The second proposition, rejected by Wilkinson and Pickett (2010a, pp.80-81, 184) on empirical grounds, is the resource-related explanation, which suggests that, in more equal societies, characterised by higher levels of taxation and government expenditure, the welfare of poorer sections of society is enhanced without significantly affecting the welfare of the well-off. A further resource-related argument, which is not considered in *The Spirit Level*, but is relevant to leisure (Veal, 2016) and therefore potentially to volunteering, is that a feature of more equal societies is more worker-friendly labour conditions which result in lower working hours and enhancement of the resource of free time. The third type of explanation is cultural: the idea that national culture, values and history can be seen as explaining both income distribution and other institutional practices and welfare outcomes. This is also rejected by Wilkinson and Pickett (2010, pp.282-283) on the grounds that countries with similar cultural traditions (e.g., Spain and Portugal) have different well-being outcomes, while some culturally different countries (e.g., Japan and Sweden) have similar outcomes.

The three types of theoretical explanation and their associated indicator variables are summarised in Table 1. Since the status anxiety proposition is the only explanation supported in *The Spirit Level*, it must be assumed that the bulk of its empirical analysis is deemed to

constitute support for this theory. Furthermore, income distribution is seen as the key causal factor in determining a wide range of social outcomes, resulting in the development of a broad political agenda outlined in the book (Wilkinson & Pickett, 2009, pp. 229-266). The extent to which volunteering fits into this scenario, empirically or theoretically, is the focus of this paper.

**INSERT:** Table 1 Theories/variables potentially explaining the income inequality/volunteering relationship

### **Literature review: income inequality and volunteering**

#### Cross-national research

A certain amount of cross-national research has been conducted on the relationship between income inequality and variables closely related to active participation in volunteering, including membership of voluntary organisations and civic participation. For example, Saunders (2010, p.46) considers voluntary organization membership and found no significant relationship with income inequality. Lancee and Van der Werfhorst (2011, 2012), considered civic participation and found it to be related to absolute income, with this effect magnified in more unequal countries, but their measure of civic participation includes not only voluntary activity in neighbourhood, political and professional organizations, but also club-based recreational activities, and so is considerably broader than the concept of volunteering as focused on here.

Cross-national studies of volunteering and social capital have examined numerous correlates of active volunteering, but only three have been identified which consider income inequality as a key variable. For Delhey and Newton (2005) the focus is on trust as the dependent variable with voluntary activity and income inequality among a number of independent variables in a 60-nation study. However, while income inequality features in their favoured explanatory model, active volunteering is not found to be a significant factor. Uslaner and Brown (2005) present a model with trust as an intervening variable between income inequality and volunteering, which is validated using USA state-based cross-sectional data, but not with cross-national data. In the study of social capital and welfare dependency by Van Oorschot and Arts (2005), volunteering was one indicator of the dependent variable social capital, while income inequality and absolute income were both among the



independent variables with positive relationships, but in a model with very low overall explanatory power ( $R^2 = 0.03$ ).

## Putnam

While the focus of this paper is on cross-national comparisons, Robert Putnam's (2000) single-country study, *Bowling Alone*, is a key source featuring volunteering and income inequality. Rather than cross-national analysis, it adopts a time-series approach, tracking the decline of social capital in the USA during the late twentieth century, a period of increasing income inequality (Putnam, 2000, p.359). While volunteering was included as a component of social capital, it did not follow the downward trend of the other components. There were increases in both the frequency of volunteering, between 1975 and 2000 (Putnam, 2000, p.128)<sup>i</sup>, and in the percentage of the population participating, between 1977 and 1991 (Putnam, 2000, p.128)<sup>ii</sup>. This seems to run counter to both the *Bowling Alone* and the *Spirit Level* theses. However, since increasing volunteering was concentrated among the generation born before 1935 (Putnam, 2000, p.130; see also Einolf, 2015; Goss, 1999; Rotolo & Wilson, 2004), Putnam concludes that this growth was 'not really an exception to the broader generational decline in social capital' (Putnam, 2000, p.132). However, if this were so, the effect would have disappeared over time as the pre-1935 age-cohort died out, but recent Bureau of Labor Statistics (2015) surveys suggest that the relatively high level of volunteering has continued among later generations of seniors. The trajectories of age-specific volunteering rates in the USA in the last 25 years of the twentieth century, and into the current century, have been quite complex, as Figure 2 indicates. During the 1970s and 1980s, the suggestion that the over-65s were an exception to the general pattern is plausible, but this does not explain the dramatic difference between the trajectories of the under-35s and the three 35-64 age-groups at that time. Furthermore, from the 1990s onwards, the age-groups move in unison, upwards during the 1990s and downwards after 2004.

**INSERT:** Figure 2. Age-specific volunteering trends, USA, 1974-2014

Sources: 1974: Action (1975); 1989 via Hayghe (1991); 2002-2014: BLS (2004, 2011, 2015).

Putnam (2000, p.283) attributes the overall decline in social capital to: pressures of time and money; suburbanization, commuting and sprawl; electronic entertainment; and generational change. However, since these factors are intended to explain the decline in social capital, they hardly seem relevant to explaining an increase in volunteering. While

Putnam (2000, p.359) notes the ‘growing inequality’ in the USA during his study period, he does not include it among his suggested causal factors. Nevertheless, he does examine the relationship between income distribution and his composite Social Capital Index (Putnam, 2000, p.291). The latter is made up of 14 items, of which three are concerned with volunteering. Unlike the initial historical trend analysis, his examination of this relationship involves a cross-sectional analysis of American states in a single year, 1990. It was found that increasing social capital was related to increasing income equality which was illustrated by a graphic, similar in format to Figure 1 (Putnam, 2000, p.359). A positive correlation of 0.62 is the result (Putnam, 2000, p.360): social capital increases with increasing income equality.<sup>iii</sup> The question then arises: does this relationship also apply to volunteering specifically or is volunteering, as in the historical analysis, out of step with social capital as a whole? Putnam does not address this question. Figure 3 plots the relationship between USA state volunteering rates and income inequality levels for 1989, the year of the first BLS volunteering survey and the nearest to Putnam’s 1990 data point. This produces a correlation of -0.52<sup>iv</sup>: that is, volunteering falls with income inequality (i.e., increases with increasing income equality): it is not out of step with social capital as a whole.

**INSERT:** Figure 3. Volunteering and income inequality, US states, 1989

Data sources: see Table 2. NB. Omitting the outlier, New Hampshire, improves the fit:  $R^2 = 0.34$ ,  $r = -0.58$ .

Thus Putnam’s historical data appears to show volunteering to be out of step with the rest of social capital, while this cross-sectional data shows it to be in step. This seems intuitively implausible. It is, however, possible. Cross-sectional regression lines for volunteering and income inequality for US states in the years 1989, 2002 and 2010, shown in Figure 4, reflect the Bowling Alone/ Spirit Level thesis. However, the lines shift to the right and upward over time. In a national historical analysis, each of these lines would be represented by a single point, the national average for that year. As can be seen in Figure 5, these national averages trace an upward sloping trend line, indicating an increase in volunteering with increasing income inequality over time. So state-based cross-sectional analysis does not tell the same story as national trend data: the relationships between the states remains relatively constant over time, but all are affected by national trends in income inequality.

## **INSERT:**

Figure 4. Volunteering and income inequality, USA states, 1989, 2002, 2010

Data sources: see Table 2.

Figure 5. Volunteering and income inequality, USA annual average, 1989, 2002, 2009

Data source: see Table 2.

Two questions arise from Putnam's work and our additional analysis. First, was the American historical pattern, of growing income inequality accompanied by increasing volunteering rates, also experienced in other countries? The time-series data on volunteering participation necessary to answer this question is available in very few countries, but similar patterns are discernible in Canada and Australia, although not in the UK. The focus of the analysis below is, however, on the second question arising: is the relationship between high levels of income inequality and low levels of volunteering, as exhibited by the USA cross-state analysis, also found in cross-national analysis?

Income distribution, well-being and volunteering relationships: theoretical explanations  
Regarding the three theoretical explanations for the income inequality/well-being relationship and their associated indicators, as shown in Table 1, the first, status anxiety, favoured in The Spirit Level, might be partially explored in the case of volunteering by using the indicator of social and/or institutional trust, a concept widely discussed in the volunteering literature (e.g., Siisiäinen and Kankainen, 2015; Delhey and Newton, 2005). However, this single explanation may not be appropriate in the case of volunteering; others rejected in The Spirit Level also merit exploration. Resource-related explanations suggest that government support can facilitate voluntary activity. Alternatively, the 'crowding out' thesis suggests that high levels of government welfare expenditure might result in reduced voluntary effort. Van Oorschot and Arts (2005) found no evidence for the latter effect, while Salamon and Sokolowski (2001, 2003) found empirical support using general government social spending, but not using direct government expenditure in support of the voluntary sector. Regarding the personal resource of free time, this has been recognized as relevant to volunteering (e.g., Hallman, 2003, pp.180, 183-184), but empirical exploration in the volunteering research literature is limited. In numerous surveys, however, the most common reason given for not volunteering is lack of time (e.g., Toppe, Kirsch & Mitel, 2002, p.81; Low, Butt, Ellis & Davis Smith, 2007). As regards national culture, Van Oorschot and Arts (2005) found two measures of national culture to be related to volunteering: religious traditions (Catholic/

Protestant, also examined by Prouteau & Sardinha, 2015) and ‘welfare regime type’. The latter was indicated using a five-fold typology: (1) Scandinavian/social democratic; (2) liberal Anglo-Saxon; (3) conservative-corporatist Continental; (4) Mediterranean; and (4) former communist eastern/central European. All three of the theoretical explanations for the relationship between income inequality and volunteering therefore merit examination.

### **Data sources and analysis methods**

This study is based on secondary analysis of publicly available pre-existing data. Consequently, the selection of countries and of independent variables is subject to the limitations of the available data. Table 2 lists the sources for cross-national data on volunteering activity and income inequality and the additional potentially explanatory variables discussed above.

**INSERT:** Table 2. Data sources

#### **Inclusion of countries**

The key criterion for inclusion of countries was the availability of suitable data sets. The main analysis of volunteering and income inequality uses published results from the European Commission's 2011 Eurobarometer 75.2 survey, which gathered data on volunteering on a common basis across all 27 EU member states. In The Spirit Level, only countries with annual GDP per capita of US\$20,000 or more and a population of more than three million were included. An income cut-off is used because of the Spirit Level thesis that it is only above a certain level that income relativities rather than absolute income are strongly related to well-being indicators. The population cut-off is used to exclude tax havens, which can result in distorted income distributions (Wilkinson & Pickett, 2009: 267). In our analysis, however, the GDP cut-off is lowered to US\$15,000 and the population cut-off to one million. Bulgaria and Romania are therefore excluded from the analysis on income grounds, Malta on size of population grounds and Luxembourg on both size of population and tax haven grounds, resulting in a sample of 23 European countries.

Regarding time use, just 17 countries were identified which have conducted both time-use and volunteering surveys, with results available in databases or suitable on-line format. Surveys have not been conducted for all European countries, so this analysis includes countries from outside of Europe.

Dependent variable: volunteering

The context of Spirit Level-type analyses is that, while cross-national differences in well-being measures are not explained by absolute national per capita income levels, they do exhibit a within-nation gradient across income groups. Such a gradient between income and volunteering levels is well-established from surveys of volunteering, in for example, the UK (Vézina & Crompton, 2012, p.41) and the USA (Toppe, Kirsch & Micel, 2001, p.38).

The data on volunteering from Eurobarometer 75.2 is based on two questions:

Q15. Do you currently have a voluntary activity on a regular or occasional basis?

Q16. In which type(s) of organisation(s) do you do your voluntary activity?

Question 15 provides information on regular and occasional volunteering, which can be summed to provide an overall figure. Responses to question 16 are divided into 15 categories, the ten most popular being:

- sports club or club for outdoor pursuits (European average participation rate: 24%);
- cultural, educative or artistic association (20%);
- charity organisation or social aid organisation, NGO, a humanitarian association, development aid (16%);
- community or neighbourhood organisation (13%);
- religious or church organisation (12%);
- organisation for protection of the environment, animal rights, etc. (7%);
- leisure association or club for the elderly (7%);
- leisure association or club for young people (7%);
- association defending the interests of patients and/or disabled (6%);
- professional association (5%).

Eurobarometer 75.2 is based on samples of about 1000 in each country, so the data are subject to the usual statistical margins of error. The above figures for Europe as a whole are based on the combined sample of 27,000, so the largest figure, for sport club membership, is subject to a 95% confidence interval of  $\pm 0.5\%$ , while for the smallest figure, for professional associations, the confidence interval is  $\pm 0.3\%$ . Indicative confidence intervals for individual country samples used in the main analysis are, for sport-related volunteering: Netherlands 15.6%  $\pm 2.3$ ; Spain: 0.5%  $\pm 0.4$ .

It should be noted that volunteering related to religious organisations is only fifth on the list, contrasting with typical surveys for the USA, where this category is invariably at the top,

with sport well down the list (BLS, 2015, Table 4). Given the influence of USA-based research in the field, this suggests the need for caution in generalising findings to other parts of the world.

The analysis considers volunteering as a whole; regular and occasional volunteering; and volunteering according to type of organisation or sector.

#### Independent variables

Absolute income can be measured in a variety of ways, but the most common and accessible is Gross Domestic Product (GDP) per head of population.

Income inequality can also be measured in variety of ways (OECD, 2011, p.26). Most measures refer to all households and all income, net of income tax and benefits and adjusted for size of household. Three types of measure are considered here:

- The Gini index is the measure most commonly used in international studies of income inequality, and takes values between zero in a country where all individuals or households have exactly the same income, and 1 (or 100) if one individual or household has all the income.
- The S80/S20 measure is the ratio of the share of total income received by the top 20% of households to the share received by the bottom 20%, as used in The Spirit Level.
- The P90/P50 measure is the ratio of the cut-off income for the top 10% of incomes (P90) to the median income (P50) and was used in the recent study of leisure and income inequality (Veal, 2016).

#### Theoretical explanations: variables

Indicative variables related to the three tentative theoretical explanations, as indicated in Table 1, are measured as follows.

Regarding status anxiety, while no specific variable for this is examined in The Spirit Level, we have included a partial (negative) indicator in the form of trust, measured by:

- Social trust: percentage of respondents to the 2008 European Values Survey (question 7), agreeing that, in general, ‘people can be trusted’.
- Institutional trust: response to question 18.1 in Special Eurobarometer 273 (European Commission, 2007): ‘For each of the following institutions, please tell me if you tend to

trust or tend not to trust it: The national government’.

Resource variables are measured as follows:

- Government expenditure: the percentage of GDP which is classified as ‘social spending’ by Eurostat (2013).
- Available leisure time is derived from national time-use surveys, drawing on summaries provided in Fisher and Robinson (2010), and is measured as the number of hours per week (168), less time spent in paid and unpaid work and sleep and personal maintenance (eating, etc.).

Cultural variables included are:

- Regime type, based on Van Oorschot and Arts’ (2005) five-fold welfare regime typology but, due to sample size limitations, reduced to a three-fold typology: 1. northern/western Europe; 2. Mediterranean; and 3. former communist eastern/central European states.
- Religious tradition, indicated by the percentage of the population identifying as Protestant.

### Analysis

To facilitate comparison with the Spirit Level style of presentation, the analysis is confined to bivariate correlations and graphics in the format of Figure 1. The additional theory-related variables are also examined in this way. Multivariate analysis is not pursued here due to limitations of sample size.

Significance tests are presented for correlations. While these were not included in the first edition of *The Spirit Level*, they were introduced in the revised edition (Wilkinson & Pickett, 2010, pp.310-311) and were used by the critics (e.g. Saunders, 2009) and in Veal (2016). While the countries included constitute the whole population of EU member countries, so that probability-related tests of significance might not be deemed appropriate, they can be seen as a sample from all possible communities which might be studied, including non-European countries and sub-national communities, such as states and provinces (as included in *The Spirit Level* study of US states).

Additional bivariate analyses are conducted excluding outliers, with results recorded in notes to the Figures/Tables.

## Results

### Volunteering and absolute income

The starting point of the Spirit Level thesis is that, above a certain level, absolute income does not explain variations in well-being, hence the move to examine income inequality. We therefore first examine this proposition in relation to volunteering. For total volunteering (regular and occasional) there is a positive correlation with GDP/head of 0.53. The relationship is particularly strong for regular volunteering ( $r = 0.81$ ), as illustrated in Figure 6, and this makes sense, since regular participation is likely to require more material resources (for travel etc.) from participants than occasional involvement, so income is more likely to be a constraint on regular participation.

**INSERT:** Figure 6. Regular volunteering and GDP/head

Data sources: see Table 2. With outlier, Netherlands, excluded,  $r = 0.84$

This aspect of the Spirit Level thesis is therefore not supported. However, this does not mean that the income inequality aspect of the thesis will not be supported.

### Volunteering and income inequality

Table 3 presents correlations between three measures of income inequality (S80/S20, Gini index, P90/P50) and total, regular, occasional and sector-related volunteering. Overall, it can be seen that the Gini index produces higher correlation coefficients, with the P90/P50 measure a close second. Since the Gini index is the more commonly used indicator, it is used in subsequent analyses.

**INSERT:** Table 3. Correlations between volunteering and alternative measures of income inequality. Data sources: see Table 2

The top section of the table concerns total, regular and occasional volunteering as a whole, and the negative correlations indicate that, for each measure, the level of volunteering is lower in countries with more unequal income distributions, thus supporting the Spirit Level thesis. The relationship for total volunteering is shown in Figure 7. The correlation coefficient is -0.56, which is close to the mean of 27 correlations (-0.60) for the range of welfare measures obtained by Wilkinson and Pickett (2010, pp. 310-311).



**INSERT:** Figure 7. Income inequality and volunteering, EU countries, 2011

Data sources: see Table 2

The bottom section of Table 3 refers to the sector in which volunteering is undertaken. It shows that the most popular category, sport-related volunteering, has the strongest negative correlation with income inequality, in line with the Spirit Level thesis. For all except one sector, environmental, there is a negative correlation, which offers general support for the Spirit Level thesis. Without more detailed research, it is not possible to be definitive about the reasons for the variation in the strength of the relationship among the sectors. It could, however, be hypothesised that, professional associations and cultural/educational and environmental organisations are more intellectual in nature than other, social and community-orientated, organisations and therefore more likely to attract participants with higher levels of education, and therefore of income. The income inequality relationship for sport, the most popular sector and the one with the strongest relationship with income inequality, is illustrated in Figure 8.

**INSERT:** Figure 8. Income inequality by sports-related volunteering, EU countries, 2011

Data sources: see Table 2

The main research question, whether volunteering conforms to the Spirit Level model, is therefore answered in the affirmative: societies with more equal income distributions tend to have higher levels of volunteering. The qualification to this finding is that, while it clearly applies to volunteering as a whole and to regular volunteering, it only applies more strongly to some sector-specific volunteering categories (e.g. sport-related) than to others (e.g. professional, cultural/educational) and not at all to the environmental category.

Explanatory variables

Bivariate relationships for the variables associated with the alternative theoretical explanations (and the Gini index for comparison) are shown in Table 4 for total, regular and occasional volunteering and for the two most popular sectors, sport and culture/education. It can be seen that quite strong relationships result for total, regular and sporting volunteering, but not for occasional or cultural/educational volunteering. The very nature of occasional volunteering suggests that it might not be consistently related to social variables. As with income inequality, the relationships for cultural/educational volunteering are not strong,

although the stronger relationship with government spending is plausible since both education and the arts are dependent on public funding. The individual variables are discussed in turn below.

**INSERT:** Table 4. Correlations between volunteering and other variables, EU countries, 2011

Social trust, or trust in individuals, is significantly and positively related to total and regular volunteering. A similar pattern is evident for trust in institutions. There is more voluntary activity in countries with higher levels of social and institutional trust. This indirectly supports the status anxiety explanation of the income inequality effect: more trust (less status anxiety) is associated with more volunteering. This finding is consistent with Delhey and Newton's (2005) initial bivariate analysis but not with the indirect model proposed by Uslaner and Brown (2005), as discussed above, since the correlations between inequality and social and institutional trust (0.47 and -0.42 respectively, not shown in the table) are weaker than the direct correlations between inequality and volunteering.

Government social spending, the first resource-related variable, is positively associated with volunteering, with the strongest correlation with regular volunteering. This is consistent with the idea of government support boosting voluntary effort, typically in formal situations which would probably favour regular participation. It does not support the 'crowding out' thesis. This is at variance with the Spirit Level rejection of the resource-related explanation for other well-being indicators.

Leisure time availability, the second resource-related variable, is found to be positively associated with volunteering, reflecting the leisure-related findings in Veal (2016). The strong relationship with regular and sporting involvement makes sense, because of the time commitment required for this type of activity.

Cultural variables present a mixed picture. The geo-historic classification is found to be relevant, with strong positive associations with volunteering in north and west European states for total, regular and sporting involvement and negative associations for Mediterranean and former communist states, although the latter relationships are weaker. Again, this is at variance with the Spirit Level findings. The Protestantism indicator does not appear to be as strong an indicator.

Unlike The Spirit Level, therefore, this analysis in relation to volunteering, suggests that a number of explanatory variables may be at work, not just status anxiety. It is possible that multivariate analysis could model these inter-relationships, but this is beyond the scope of

this exercise, with its limited sample of countries. With a larger sample, Delhey and Newton (2005) undertook such modelling in relation to social trust, but concluded that little could be said about cause and effect on the basis of cross-sectional data. They made the following observation:

It is evident that generalised social trust is tightly integrated into a single syndrome of ethical/cultural, social, economic, and structural conditions which are either theoretically or empirically linked, and usually both . . . . Trust is tangled up as both cause and effect with these conditions, and it is probably both pointless and impossible to try to disentangle its relations with them, even if we had perfect data. (Delhey & Newton, 2005, p. 324)

We believe this is probably also applicable to volunteering.

### **Summary and conclusions**

The aim in this paper has been to examine volunteering in relation to income inequality, following the format of *The Spirit Level* (Wilkinson & Pickett, 2009). The analysis presented indicates that, in the European context, countries with lower levels of income inequality tend to have higher levels of volunteering, thus supporting the Spirit Level thesis. This is particularly the case in regard to regular (as opposed to occasional) volunteering and in regard to the most popular sector, namely sport. The Spirit Level contention that this relationship is explained by status anxiety, is partially supported by the finding that volunteering is positively related to social and institutional trust. This suggests that it is possible for volunteering to be seen as one of the indicators of the social success of more equal societies as claimed in *The Spirit Level*.

However, other aspects of the Spirit Level thesis are not supported by the findings in this paper. Thus, the starting point of the thesis, that per capita income, above a certain level, is not a significant indicator of well-being is not supported in the case of volunteering. Furthermore, resource-related factors, such as government expenditure and leisure time availability, and cultural (geo-historical) explanations for the inequality/well-being relationship, which are rejected in *The Spirit Level*, are supported in the analysis of volunteering presented here. Thus, while we can conclude that volunteering is relevant to the developing debates on income inequality and social well-being, it seems to be a more complex phenomenon than many of the well-being measures analysed in *The Spirit Level*.

One aspect of this complexity is the range of sector-specific forms of volunteering, which merits further investigation. It is possible that further cross-sectional analysis with a larger sample of countries would facilitate multivariate modelling to explore the relationships among the variables we have examined using bivariate methods. However, such analysis, relying on a small number of standardised indicators, has its limitations. Historical time-series data might offer additional insights: indeed, our own analysis based on Putnam's Bowling Alone data suggests that time-series and cross-sectional data and analyses tell different stories. Further insights might also be gained from in-depth case studies of one or more countries, using a range of quantitative and qualitative approaches.

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## Notes

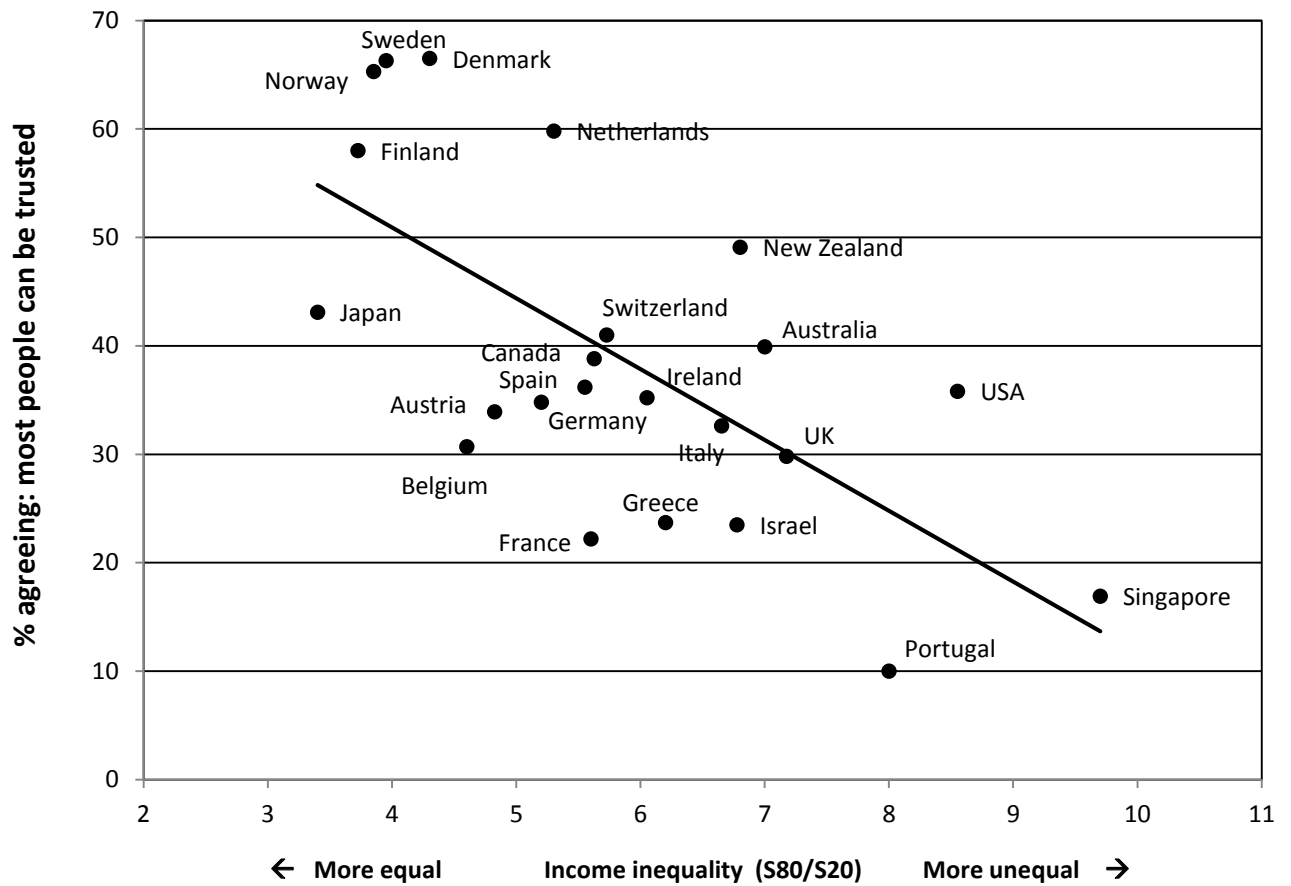
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<sup>i</sup> Of the 14 items included in the Putnam's (2000, p.291) Social Capital Index, 11 showed declines over the 1975-1999 period. The three items showing an increase were: 'Mean number of times did volunteer work in last year'; 'Civic and social organizations per 1000 population'; and 'Number of non-profit (501[c]3) organizations per 1000 population'. The latter two items seem to be very similar, but data on the two separate categories do not appear to be presented by Putnam (2000, p.50).

<sup>ii</sup> Putnam's percentages are from Gallup polls, but Bennett (1998, Fig.3B) presents data from the survey source mostly used by Putnam (the DDB Needham Life Style Surveys), showing virtually no change in the volunteering rate over the 1975-97 period. US Bureau of Labor Statistics surveys indicate a decline between 1974 and 1989, and an increase to 2004 (BLS, 2015; Corporation for National & Community Service, 2007).

<sup>iii</sup> Our estimate of correlation coefficient,  $r$ . NB. Wilkinson & Pickett also use US state-based data, in addition to cross-national data, finding a correlation of 0.59 between income inequality and their Index of Health and Social Problems (2010, p.310).

<sup>iv</sup> NB in Figure 2, the measure of income distribution is a conventional Gini coefficient of income inequality (see Methods section), rather than Putnam's (2000, p.360, Fig.92) own index of income equality. Furthermore, following the practice used in *The Spirit Level* and later in this paper, income inequality is located on the x-axis, following common practice for the independent variable.

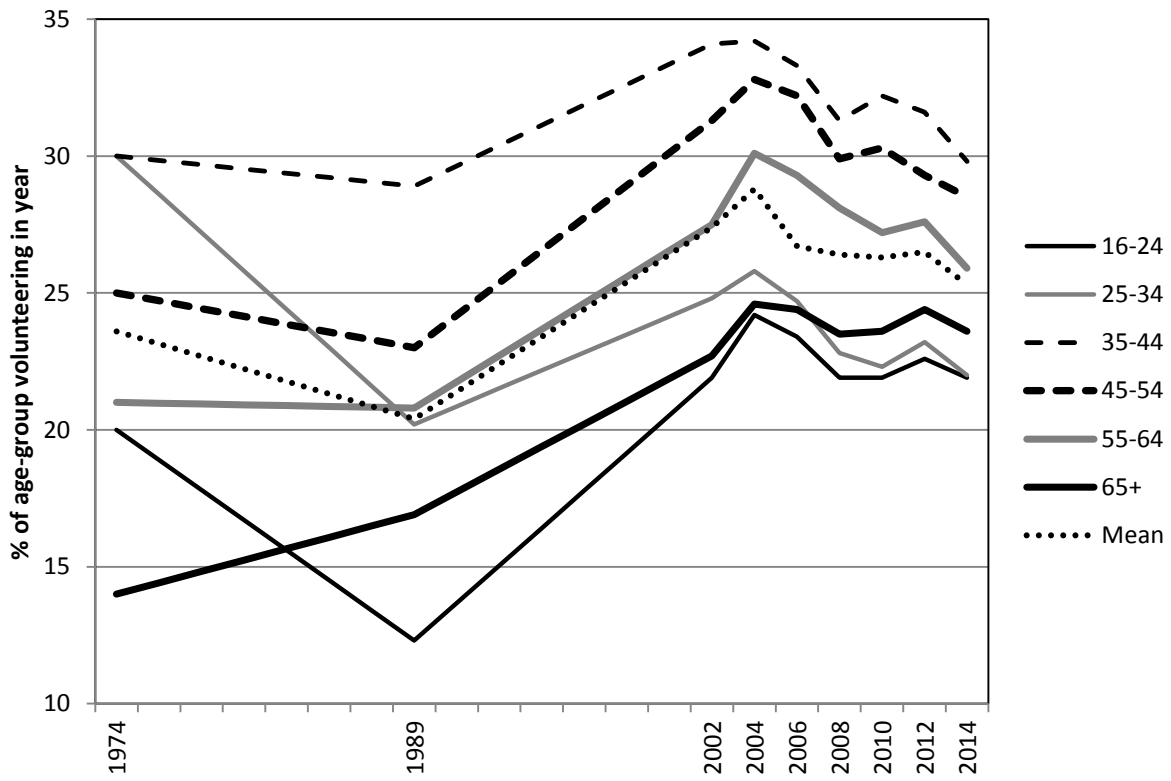


**Figure 1. Income inequality and trust: international comparisons**

Source: Reconstruction of Spirit Level Figure 4.1 (Wilkinson & Pickett, 2009: 52)

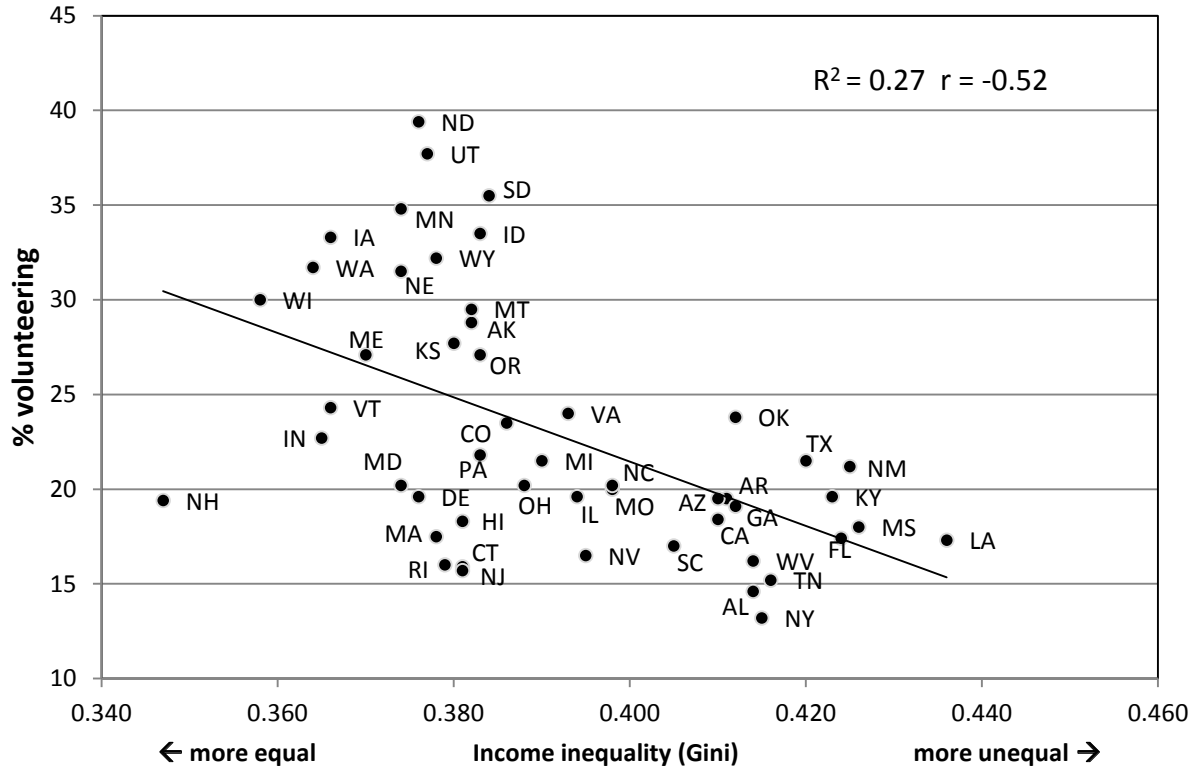
( $R^2 = 0.44$ ,  $r = -.66$  not shown in the original, but see Wilkinson & Pickett, 2010a, p. 310).





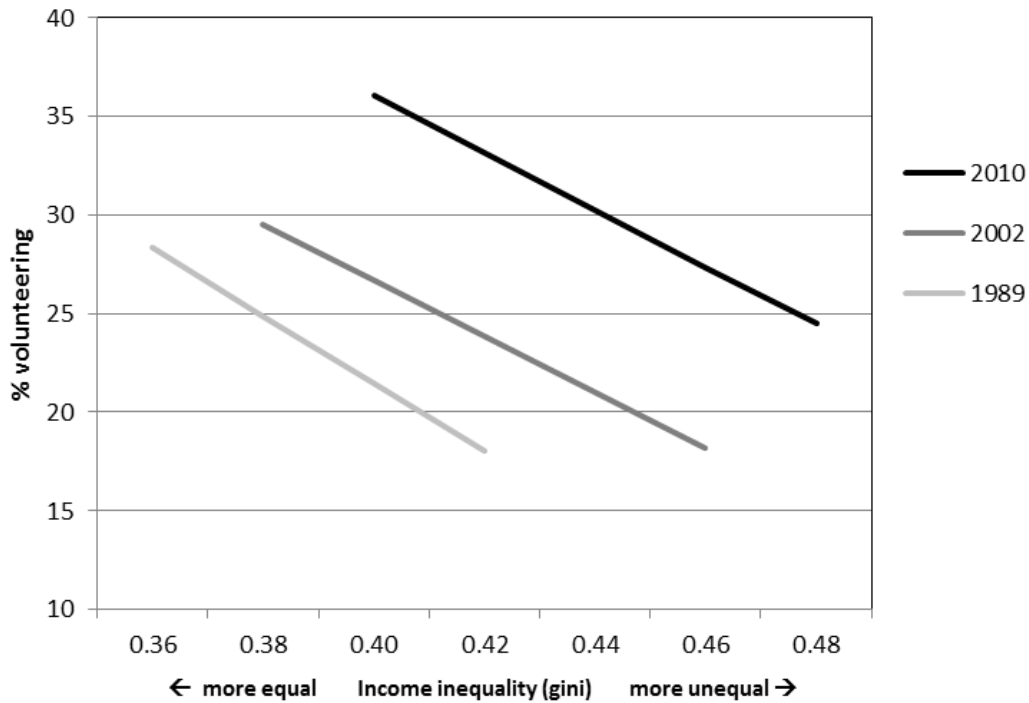
**Figure 2. Age-specific volunteering trends, USA, 1974-2014**

Sources: BLS surveys via: 1974: Action (1975); 1989: Hayghe (1991); 2002-2014: BLS (2004,2011, 2015).



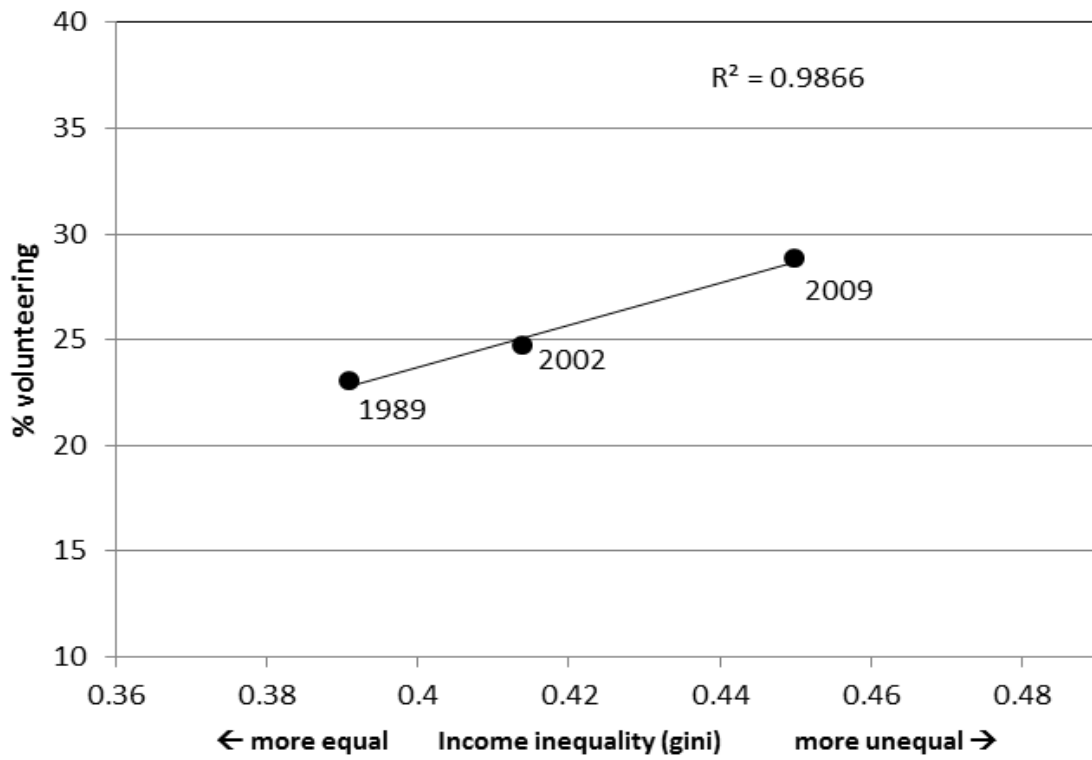
**Figure 3. Volunteering and income inequality, USA states, 1989**

Data sources: see Table 2



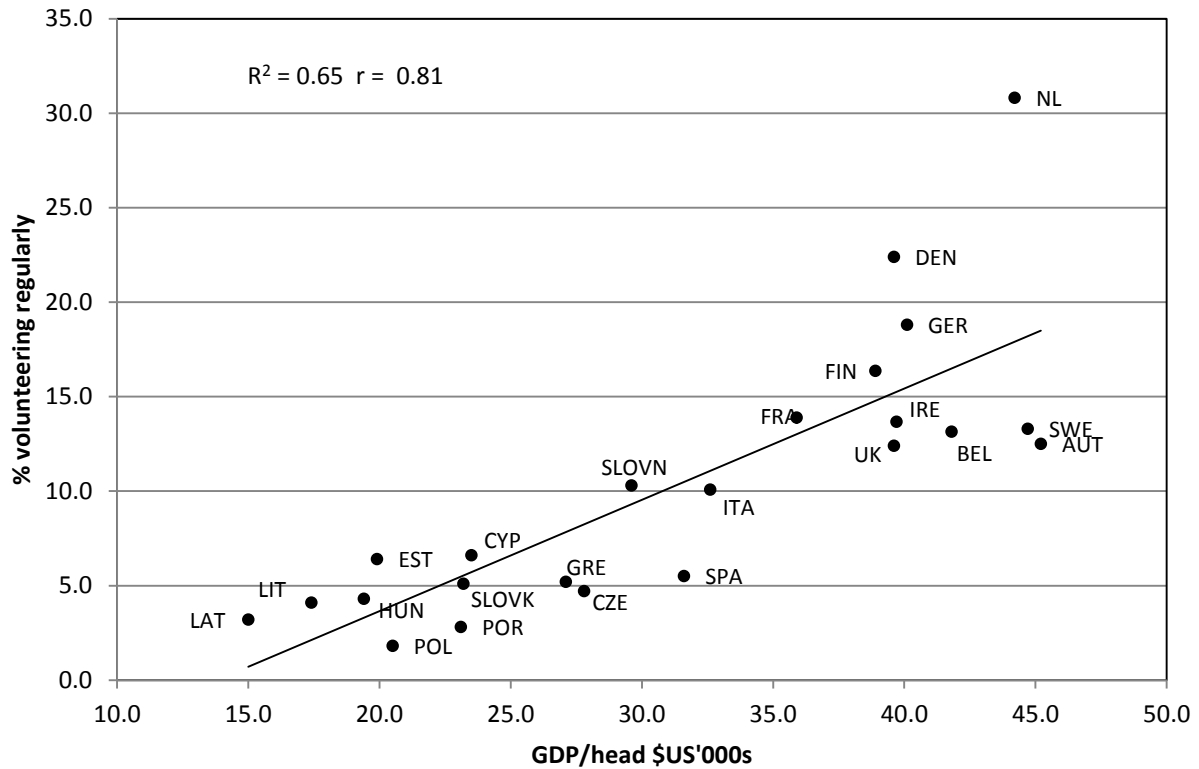
**Figure 4. Volunteering and income inequality, USA states: 1989, 2002, 2010**

Data sources: see Table 2.



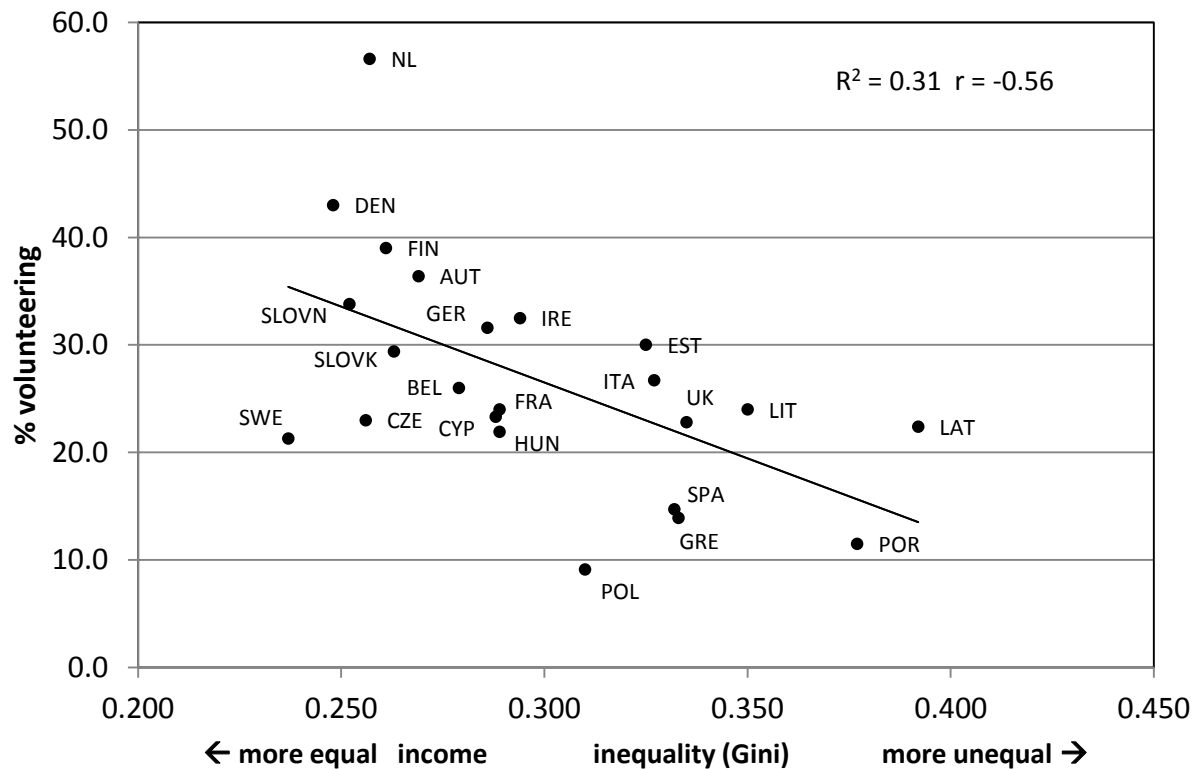
**Figure 5. Volunteering and income inequality, USA annual average, 1989, 2002, 2009**

Data source: see Table 2.



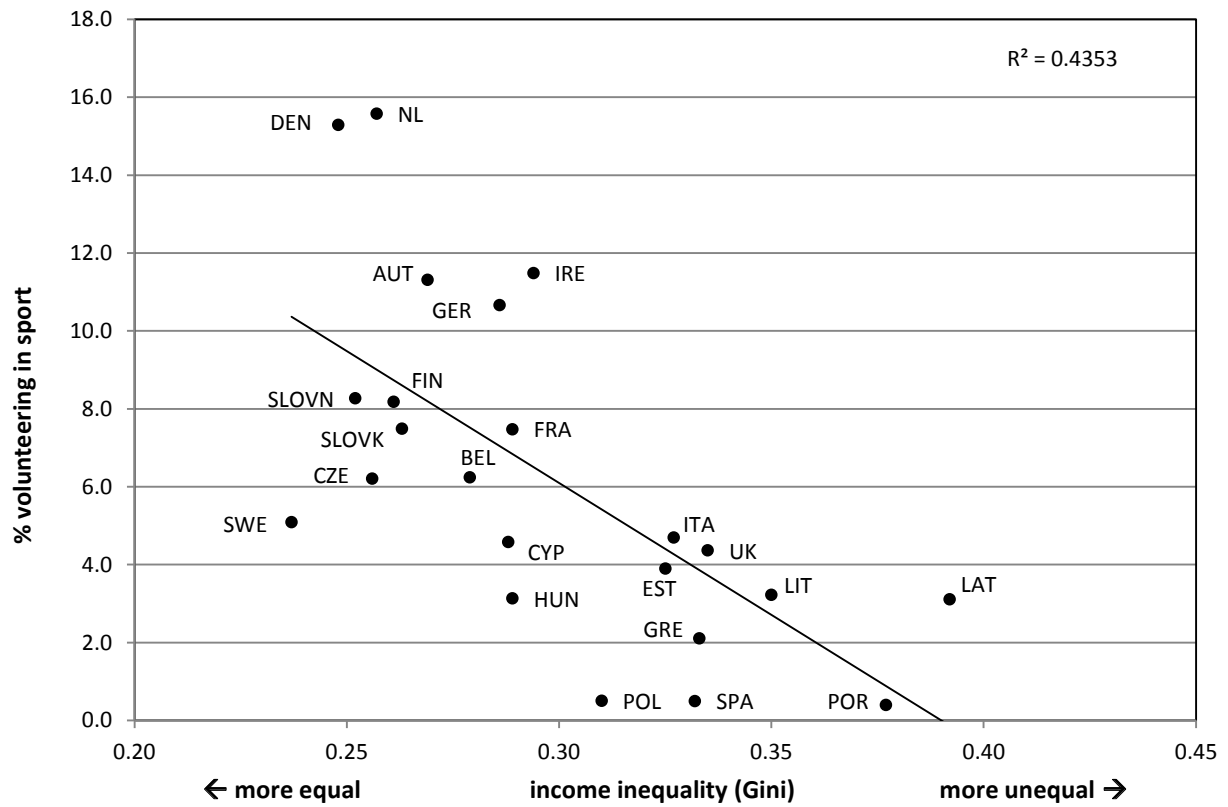
**Figure 6. Regular volunteering and GDP/head, EU countries, 2011**

Data sources: see Table 2. With outlier, Netherlands, excluded,  $r = 0.84$



**Figure 7. Income inequality and total volunteering, EU countries, 2011**

Data sources: see Table 2. With outlier, Netherlands, excluded,  $r = -0.556$



**Figure 8. Income inequality by sports-related volunteering, EU countries, 2011**

Data sources: see Table 2.

**Table 1 Theories and associated variables potentially explaining the income inequality/volunteering relationship**

Theory	Indicator variable
Status anxiety	Trust (lack of: social and institutional)
Resource-related	Government general/specific social spending Time availability
Culture	Regime type Religious tradition

**Table 2. Data sources**

Data item	Countries/ states	Measures	Sources
Time use	With surveys of time-use & volunteering	Leisure time, hours/ week	Compilation by Fisher & Robinson. (2010)
Income inequality	USA states & International	Gini coeff. (1 complete inequality, 0 complete equality).	US states: Galbraith & Hale (2006) International: Luxembourg Income Study: <a href="http://www.lisdatacenter.org/data-access/key-figures/download-key-figures/">www.lisdatacenter.org/data-access/key-figures/download-key-figures/</a> ;
	International	S80/S20: top 20% income share to bottom 20% ratio. P90/P50: ratio of top 10% income cut-off to median.	Eurostat: <a href="http://appsso.eurostat.ec.europa.eu/nui/show.do">http://appsso.eurostat.ec.europa.eu/nui/show.do</a> Luxembourg Income Study (as above)
Volunteering	US states	% volunteering in year	BLS (2015); Corporation for National & Community Service (CNCS) (2007).
	EU countries	% volunteering in year	Eurobarometer 75.2. (EC, 2011) + online analysis via <a href="http://zacadat.gesis.org">http://zacadat.gesis.org</a>
GDP/head	All countries	GDP/head, US\$'000s	Groningen Univ. Conference Board (Annual).
Trust	EU countries	% trusting institutions % agreeing: 'most people can be trusted'.	Eurobarometer 273 (EC, 2007) European Values Survey, 2008, at: <a href="http://zacadat.gesis.org/webview/index.jsp">http://zacadat.gesis.org/webview/index.jsp</a>
Social spending	EU countries	% of GDP on government social spending	Eurostat (2013) <a href="http://europa.eu/rapid/press-release_STAT-13-174_en.pdf">http://europa.eu/rapid/press-release_STAT-13-174_en.pdf</a> .
Protestantism	All countries	% of population Protestant	Pew centre at: <a href="http://www.pewforum.org/2011/12/19/table-christian-population-as-percentages-of-total-population-by-country/">www.pewforum.org/2011/12/19/table-christian-population-as-percentages-of-total-population-by-country/</a>

**Table 3. Correlations between volunteering and income inequality, European countries, 2011**

Volunteering activity	Measures of income inequality		
	S80/S20	Gini coefficient	P90/P50
Total volunteering	-.35	-.56**	-.51*
Regular	-.07	-.55**	-.54**
Occasional	-.52*	-.35*	-.28
By type of organisation			
Sports/outdoor pursuits	-.25	-.66**	-.63**
Elderly	-.29	-.52*	-.51*
Community	-.23	-.51*	-.44*
Charitable	-.23	-.48*	-.46*
Religious	-.24	-.46*	-.38*
Patients/disabled	-.05	-.38*	-.39*
Youth	-.27	-.31	-.24
Professional associations	-.24	-.25	-.24
Cultural/educational	.06	-.21	-.18
Environmental	-.29	.10	-.03

Data sources: see Table 3. \*\* = sig. at 1% level, \* = sig. at 5% level.

**Table 4. Correlations between volunteering and Gini index and other variables, EU countries, 2011**

Independent variables	Type of volunteering				
	Total	Regular	Occasional	Sporting	Cultural/ educational
Gini index	-.56**	-.55**	-.35	<b>-.66**</b>	<b>-0.21</b>
Trust:					
Social	.57**	.75**	.15	<b>.57**</b>	<b>.18</b>
Institutional	.56**	.55**	.33	<b>.57**</b>	<b>.39*</b>
Resources:					
Government social spending	.37*	.73**	-.16	<b>.53*</b>	<b>.44*</b>
Time availability§	.58**	.73**	.19	<b>.70**</b>	<b>.33</b>
Culture/regional:					
North and west Europe	.55**	.81**	.04	<b>.69**</b>	<b>.39*</b>
Mediterranean	-.44*	-.32	-.40*	<b>-.47*</b>	<b>-.13</b>
Former communist states	-.18	-.56**	.30	<b>-.30</b>	<b>-.29</b>
Culture/religion: Protestantism	.40*	.51*	.13	<b>.37*</b>	<b>-.08</b>

Data sources: see Table 2. \*\* = sig. at 1% level, \* = sig. at 5% level. § 17 countries only, various dates. Items in bold: r is higher than for Gini income inequality measure.