Social comparisons, health and well-being

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Comparaisons sociales, santé et bien-être

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Abstract

Health and well-being are socially-determined. One of the ways in which this comes about is via social comparisons with other individuals in the same personal, geographic or social networks, with the comparisons referring either to income or other aspects of economic and social life. The existence of such comparison effects with respect to income may help to explain the social gradient in health.

Résumé

La santé et le bien-être sont déterminés socialement : une des raisons de cette détermination est l'existence des comparaisons sociales avec les autres individus appartenant au même groupe familial, géographique ou social, soit par rapport au revenu, soit par rapport à d'autres aspects de la vie économique et sociale. L'hypothèse présentée dans cet article est que ce phénomène de comparaison peut aider à comprendre le gradient social de santé.

Keywords: Well-being. Comparisons. Income. Unemployment. Divorce. Religion. Social Health Gradient.

Mots-clés: Bien-être. Comparaisons. Revenu. Chômage. Divorce. Religion. Gradient Social de Santé.

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1. Introduction

There are a number of parallels between health and subjective well-being, seen through the lens of someone who carries out micro-econometric research. In particular, both are very often measured on an ordinal scale and are subjective. There is an obvious similarity between the classic self-assessed health question (in the British Household Panel Survey: "*would you say that your health has on the whole been...?*", with the possible responses Excellent, Good, Fair, Poor, and Very Poor) and subjective well-being ("*How dissatisfied or satisfied are you with your life overall*", with seven responses on an ordered scale). That this similarity did not lead to the analysis of well-being being so easily accepted as that of health is a subject potentially worthy of reflection.

Any teething problems involved in the empirical analysis of well-being in the social sciences seem to have died down by now. Here I will take life satisfaction and so on as useful summary measures of how well overall the individual is functioning. Some of the research providing validating evidence for this hypothesis is mentioned in Section 4 of [1].

It is actually rather reassuring that the type of society is correlated with both our health and well-being: surely the big surprise would have been were they not to be so. Which is not to say that we understand perfectly why it is that some societies perform differently from others in this respect. Outcomes may differ due to societies' different characteristics (their health-care systems, environmental quality and so on); or because of the type of people who live there (in the sense that what other people do may affect my health or well-being). In this latter case, there are spillovers or externalities between individuals, and it is this channel that I will reflect on here. I therefore ask: Do you make me sick, or do you make me happy?

Such spillovers are a very interesting area of research. It is however easy to come to the wrong conclusions. Individuals' health/well-being may be correlated, but that does not show that they influence each other. As noted above, individuals within the same society (or the same region, town or even road) very likely share some of the same health environment (prices, health supply, exposure to environmental and health risk factors). Equally, it may be the case that individuals who are similar to each other choose to live in a certain area (birds of a feather flock together).

In both of the latter cases, the causal link is not a direct relationship from my own behaviour to others' behaviour. We want to know whether an exogenous change to one individual's behaviour affects the health and well-being of others in her peer group. This is important to know for policy purposes. Will a policy that affects one individual's behaviour also spill over to the behaviour of another individual (if I am able to make A stop smoking, which might then encourage B to stop, which then leads C to stop, which then…)? Equally, from a social welfare point of view, is there a risk that making *A* better off might also make *B* worse off?

2. Evidence of Social Interactions in Well-Being

Given the importance of the question, how can we show that people are inter-related in this way? A number of different approaches are possible: considering the ways in which individuals are observed to behave; asking people to express preferences over different hypothetical situations [2]; experimental [3]; and neurological [4].

Increasingly over recent years these approaches have been complemented with the direct analysis of subjective well-being data. Most non-Economists wrongly think that Economists are only interested in money. Let me, however, conform to that stereotype and start by considering social interactions with respect to income. Well-being measures are considered here as proxies for what economists call utility. As such we can look at the relationship between subjective well-being and not only the individual's income but also the income of the reference group. As the broad idea is that individuals compare to

each other, we expect that reference-group income will attract a negative estimated coefficient in a well-being regression.

My first question is therefore not only "*Does your money buy you happiness?*", but also "*Does your money make other people unhappy?*" The empirical results here do seem to suggest that money does make me happy, at least as long as I have it and you do not. In other words individuals do compare their incomes to each other, and this comparison indeed affects their subjective well-being.

In order to carry out this kind of empirical analysis, we need both left- and right-hand side variables. I think that we are reasonably well-served with respect to the former by life satisfaction or other psychological functioning variables. But what about the latter? We include as control variables all of the standard demographic controls, and own income. This just leaves reference-group income. In order to have a measure of this, we need to know to whom individuals compare.

Very rarely, surveys ask about such comparisons directly. In Wave 3 of the European Social Survey (ESS)[1] in [5], the two most important reference groups for income were work colleagues (36%) and friends (15%). The Japanese respondents in [6] also cite work colleagues and friends as the two most important reference groups, but with their relative importance inverted (42% and 20%, respectively). Mostly, however, it is the researcher himself who imposes some particular reference group, such as people who are similar to me (same age, education, job, region etc.), my neighbours or my family, when carrying out research.

Some of my earlier work used the British Household Panel Study (BHPS)[2] to look at the relationship between job satisfaction and labour income. Job satisfaction rises with own income, but falls with others' income. The empirical results in [7], [8] and [9] show that this holds for:

[1] The ESS is a general purpose academic survey. It is biennial and has to date covered over 30 European countries. The first round was fielded in 2002/2003 and the fifth in 2010/2011. As well as a core module, each wave includes two or more rotating modules, The data is freely available for download. More information is available at: http://www.europeansocialsurvey.org/.

[2] [2] A long-running panel dataset for Great Britain and subsequently the UK. The first wave was collected in 1991. See https://www.iser.essex.ac.uk/bhps.

- the income of “people like you”;
- partner’s income;
- the income of other adults in the same household;
- the income that you yourself earned in the same job one year ago.

These early findings have been replicated using different well-being measures, such as life satisfaction, and a variety of reference groups: a survey of some of these findings is provided in [2]. The general conclusion is that the well-being produced by income is dependent on the social context. There is an obvious link between this finding and the Easterlin paradox ([10]), whereby rising GDP in rich countries does not improve average happiness in the general population of these countries.

There is now growing agreement that income is only one of the elements of a "good" life. In this respect, we can wonder whether income is somehow special in being affected by the social context, or whether this is rather a common finding across many aspects of economic and social life, including the well-being derived from a good state of health.

We can start this exercise by looking at the labour market, and considering something that is undoubtedly bad: unemployment. We do indeed find that the unemployed report systematically lower levels of well-being than do the employed, in both cross-section and panel data. With respect to social interactions, we expect the mirror image of the result found for income: others' unemployment should lead an unemployed individual to feel less bad. And this is what the data actually shows. The BHPS evidence in [11] reveals that the well-being gap between employees and the unemployed (with well-being measured by the General Health Questionnaire GHQ-12) is significantly lower in regions with greater unemployment. Equally, within the household, the unemployed report higher levels of well-being if their partner is also unemployed, and in general as there are more unemployed adults in the household. In this sense, unemployment hurts less the more there is of it around.

Now let's consider a second type of market: the marriage market. Marriage is typically found to be associated with higher levels of well-being in cross-section data, although the research in [12] notes that the lion's share of this effect seems to come from people who are already happier being more likely to marry rather than the causal effect itself of marriage on well-being. In BHPS data, the divorced report lower GHQ scores than do the married. However, the well-being of the divorced rises with the percentage of individuals in the same region who are also divorced (see [13]). Just as for unemployment, divorce hurts less in high-divorce regions: divorce is estimated to have no effect on well-being in a region with a 25% divorce rate. It might be countered that this is a "plenty more fish in the sea" effect, rather than reflecting social comparisons. One way of tackling this is to estimate the well-being of men and women separately, and consider a separate effect of the male and female regional divorce rates for each sex. The results show that the regional divorce rates are not significantly correlated with the well-being of female divorcees. For men, the male regional divorce rate is significantly positively correlated with well-being (with the coefficient on the female divorce rate being positive but not significant). Divorced men like having other divorced men around.

Unemployment and divorce are easy to measure. I now turn to something that is rather more nebulous, the social resource of social capital. In the European Social Survey, a proxy of this notion can be approached by the frequency with which the individual meets friends. In a life satisfaction regression, those who meet their friends more often report significantly higher satisfaction scores (although we can of course worry about the direction of causality here). Sticking with the idea of comparing to others in the same region, we can calculate the regional frequency (at the NUTS2 level[3]) of meeting friends. This attracts a negative and significant estimated coefficient in the life satisfaction regression, and somewhat more so for women than for men. This result is consistent with the idea of comparison to others around you.

Recent work on European health data has uncovered a number of findings that are consistent with similar comparison effects to those already mentioned regarding other

[3] NUTS: Nomenclature des unités territoriales statistiques / Nomenclature of Territorial Units for Statistics.

aspects of well-being. In particular, in [14], the individual's own health problems are estimated to have a smaller effect on the individual's own well-being when these problems are shared by others in the same household. Two papers have considered a potential relative relationship between weight and well-being. First, [15] uses data from a number of countries across Europe to show that, at a given level of own Body Mass Index (BMI), individuals report feeling less overweight in regions where the average BMI is higher. Along the same general lines, [16] appeals to data on partners in the German Socio-Economic Panel (SOEP)[4] to show that couples where both are obese have similar life satisfaction levels to couples where neither is obese.

The evidence briefly described so far is consistent with a trouble shared being a trouble halved. This may be thought to reflect solidarity within a group, but it does also mean that your bad news makes me happy, which sounds rather less pleasant. There is, however, one area where this relationship does not seem to hold: religion.

The empirical evidence presented above has suggested that the unemployed are happier when they live close to others are unemployed, and that the divorced or the individuals with bad health like to be with other divorcees or other people with health problems. With respect to religion, do people of a certain religion then also prefer to live with others who are like them?

We can use data at the NUTS2 regional level from the ESS to investigate (see [17]). We estimate life satisfaction separately for four main religious groups, as shown in Table 1: Roman Catholics, Protestants, Other Religions, and No Religion. The top left panel of Table 1 shows that the life satisfaction of Catholics increases with the percentage of Catholics living in the same region, but falls with the percentage professing no religion. The top right panel carries out the same exercise for Protestants: their satisfaction rises with both the percentage of Catholics and the percentage of Protestants, but also falls with the percentage with no religion.

So far the results do indeed suggest that individuals like living with those who are like them. The surprise comes in the bottom right panel, where the life satisfaction of the

[4] A long-running panel dataset for Germany, starting in 1984: see http://www.diw.de/en/soep.

non-religious is estimated. This is found to be increased with the percentage of Catholics or Protestants, but to fall with the percentage with no religion. So the non-religious are just like the religious: both dislike living in non-religious areas. We carry out a number of tests in [17] to try to understand why living in religious areas leads to higher satisfaction, but conclude that none of social capital, crime and trust can explain this correlation. Whereas it often seems to be the case that the effect of others on my own health or well-being depends on whether I am in some way similar to them, here the religious seem to increase the well-being of all, whether religious or not. It would be of interest to understand how this operates: do the religious make fewer demands on others, leading to better outcomes, or do they rather provide social resources (either at the individual level or via religious institutions)?

It is last of interest to consider a potential relationship between the kind of social comparisons described above and the social gradient of health, One idea is that the slope of this social gradient between income and health might be sensitive to the intensity of income comparisons: the more individuals compare their income to each other, the greater is the well-being return to having higher income (as you both have more dollars, and more dollars than others).

Separate estimates of the social gradient by country, using data from the 1996 World Values Survey are found in [18]. Appendix 2 of this paper provides estimated odds ratios of the effect of high relative income on self-assessed Health separately for 38 WVS countries. I can match these to figures on comparison intensity from the ESS as found in Table 5 of [5]. Unfortunately, only nine countries overlapped between these two (Bulgaria, Finland, Germany, Norway, Poland, Russia, Spain, Sweden and Switzerland), which does not provide much statistical power. We suspect that greater comparison intensity might yield a steeper health gradient. With only nine observations, the results of this analysis are unlikely to be contractually-binding. But even so, it is worth noting that the two are indeed positively linked in the above exercise, with a correlation coefficient of around 0.4. A more serious attempt to look at this question could not only find a better match, in terms of countries and years, to the ESS comparison intensity data, but could also perhaps estimate social gradients for different

groups within a country (by sex and age, for example, or region), providing far more observations.

3. Conclusions

It is likely banal to say that health and well-being are correlated. It is actually more difficult to think what it would mean were they not to be. In this short note, I have suggested that the empirical analysis of health and well-being could perhaps be bought closer together (both are typically measured ordinally and subjectively). In addition, one of the key themes in the Economics of Happiness literature, that of comparisons, may help us to better understand the social gradient in health. More interaction and collaboration between the different fields may well shortly tell us whether this hypothesis turns out to be true.

Conflit d'intérêt : aucun

Table 1. The spillover effects of specific religious denominations: Life satisfaction regressions. European Social Survey data, Waves 1-3.

	Roman Catholics				*Protestants*			
% Roman Catholics in Region	0.806**			1.068**	0.815*			0.951**
	(0.188)			(0.247)	(0.359)			(0.333)
% Protestants in Region		-0.586		0.500		0.385*		0.501**
		(0.323)		(0.360)		(0.184)		(0.193)
% Other Religion in Region				1.095				-0.021
				(0.570)				(0.628)
% No Religion in Region			-1.042**				-1.307**	
			(0.256)				(0.191)	
Observations	26712	26712	26712	26712	14183	14183	14183	14183

	Other Religion				*No Religion*			
% Roman Catholics in Region	0.222			0.606	0.520**			0.627**
	(0.215)			(0.309)	(0.178)			(0.181)
% Protestants in Region		1.028**		1.247**		0.418*		0.593**
		(0.365)		(0.424)		(0.196)		(0.207)
% Other Religion in Region				0.625				-0.389
				(0.472)				(0.445)
% No Religion in Region			-0.771*				-0.668**	
			(0.358)				(0.166)	
Observations	11301	11301	11301	11301	34505	34505	34505	34505

Notes. Ordered logit estimates. The models include individual controls and country and year dummies. Robust standard errors in parentheses. * significant at 5%; ** significant at 1%. Source: [17].

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