What it is to be well?

Tom Hennell; Department of Health North West

Introduction

Until recently, there had been two rival disciplines claiming predominance in exploring a systematic understanding of 'wellbeing'. Traditionally, Liberal Economics has regarded total wellbeing as definable in terms of the accumulation of economic welfare – potentially measurable by such proxies as Gross Value Added. However, following the 1978 Alma-Ata declaration, the field of Public Health has also stated an interest – in defining 'health' as 'complete physical, mental and social wellbeing'; and in the last 20 years many of the systematic tools of econometrics have been applied to health services data; with the intention of creating a quantifiable assessment of population health and wellbeing as a framework for national health policy.

But both of the claims of liberal economics, and those of public health have recently been subject to serious critiques. The critics come from a range of politico-economic standpoints, but they draw extensively on one another's work; and they share the perspective that both the liberal economic and public health approaches, fail to take systematic account of issues of sustainability and reciprocal obligation. Hence, it is argued that the policy formulations of liberal economists are increasingly failing to function in a social environment of weakened recognition of inter-generational obligations; while it has also been argued that key public health goals – such as reduction in health inequalities – have proved resistant to current policy formulations, specifically due to a weakened recognition of inter-community obligations. The critics have maintained that, if the metrics adopted by the dominant disciplines had indeed provided robust quantifiable indicators of wellbeing, then their policy prescriptions would not have failed; however, alternative quantifications of wellbeing – incorporating the missing elements of sustainability and reciprocal obligation – have yet to command widespread acceptance.

We report on the application of the analytical approach of data reduction to three large-scale surveys of health and wellbeing in general adult populations: the 'Health Survey for England' of 2006 and 2008; and also the North West Mental Wellbeing Survey of 2009. Data reduction – specifically the technique known as Factor Analysis or Principal Component Analysis – has been widely used in behavioural psychology and social marketing as a means to extract underlying common characteristics from within a mass of collected data items. Our intention has bee both to provide a means to compare and visualise social characteristics in different surveys against a consistent dimension of 'being well'; but also more ambitiously, to propose an understanding of how 'being well' functions as a social characteristic; and how it relates to individual, social and reciprocal attributes.

Deficits and Assets

Implicit in the formulation of the Alma-Ata declaration is as understanding of health as an ideal state; with the corollary that the life-course tends to consist of serial exposures to health risks, leading over time to an accumulation of health deficits, to which health systems respond with therapeutic interventions combined with strategies for condition management. Eventually, however, health deficits exceed the technical resources of therapy or management, leading to rapid loss of wellbeing, and death. The function of Public Health in this systematic understanding, has been primarily seen as the 'upsteam' identification and reduction of exposure to health risks. Overall, in this analysis, continued wellbeing is seen as a health outcome; and, though levels of wellbeing may be assessed by aggregating characteristics of wellness, as an ideal state it cannot be consistently measured.

Our visualisations of extracted survey data do not, however, support this way of thinking. In particular, we found that higher quantifications of 'being well' to be associated with some characteristics that are conventionally considered as health risks; so, for example, being 'overweight' (but not obese) we found consistently to be more associated with being well than was being 'normal' weight; while we were also surprised to find that regular drinking of alcohol was associated with much higher levels of 'being well' than was total abstention from alcohol (and this remains the case, even when the data is adjusted for those who have given up alcohol for health reasons). The highest levels of 'being well' are found in those who have acquired the capability of being able to drink regularly, without drinking to excess. Drinking alcohol appears to function both as a health risk, and as a health asset; the balance of effect being related less to how much is drunk, and more to the reasons for drinking. This suggests an alternative understanding of the life course, as an accumulation of the capabilities and confidence for controlling health states; an understanding that is consistent with our observation that 'being well' tends to increase with age up till around 60. Overall, in this analysis, 'being well' is better seen as a health input; such that persons who are relatively well may be enabled to become ill better, and recover from illness (or manage their condition) sooner,

Getting Ill better

Fortunately, the hypothesis that persons who are well tend to get ill better, is empirically testable on the 2006 Health Survey; in that we can see that – standardising for age and condition severity, persons who are relatively unwell appear systematically inhibited from reporting themselves as becoming ill; while those who are unwell and report illness, appear systematically inhibited from reporting themselves as being able to manage their condition. Becoming ill is – in a 21st century culture – a complex, confusing and threatening process. And the same is also true, for recovering from, or managing, illness conditions. For those who are less well, the threats represented by illness tend to be greater, and the potential benefits from access to treatment and support tend to be less apparent. But consistently deferring becoming ill, must necessarily increase the risk of early death or severe disability.

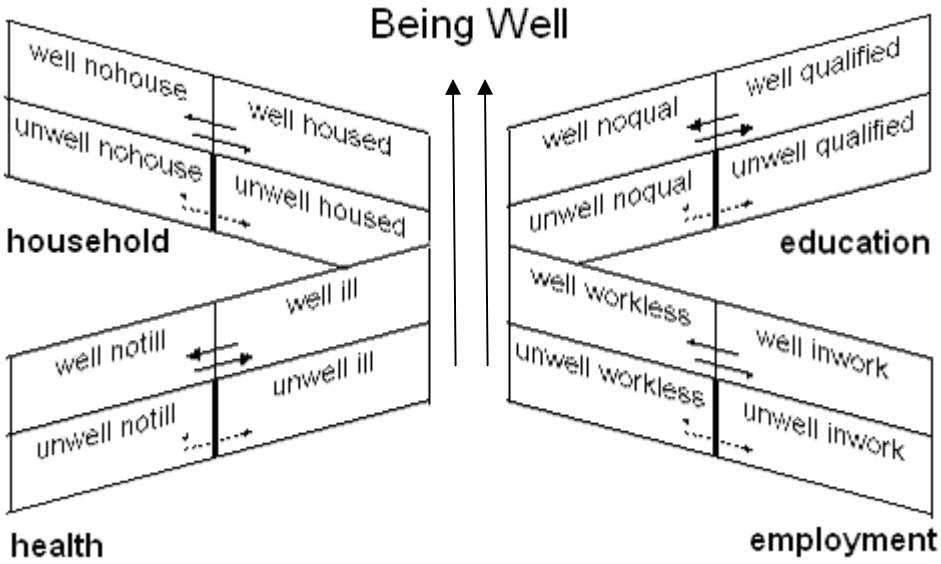
Dimensions of Being Well

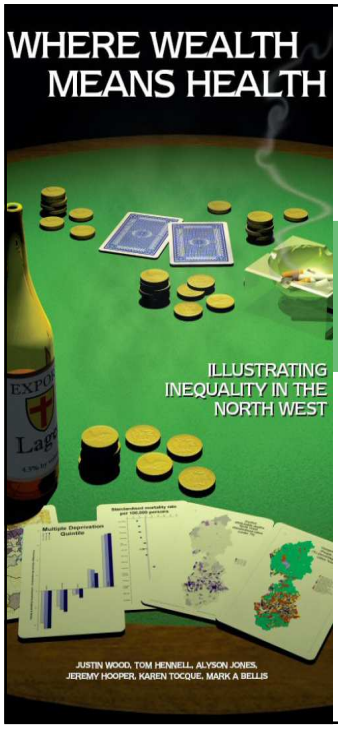
Although our analysis concentrates on health effects, it is clear that the health domain is not the only, or indeed the primary, field in which 'being well' interacts with quality of lilfe. We also see interactions in the domains of 'liveable neighbourhoods', 'workable employment', and 'accessible skills'.

This implies that 'being well' – as we are using the term- has a wider field of application than is provided by established metrics of mental wellbeing; (e.g. the Warwick Edinburgh Mental Wellbeing scale). Being well in the analyses that we have undertaken, relates not only to acquired capability in personal feelings and functions, but also to the accumulation of social and reciprocal capabilities relating each individual in their social context of choice.

We propose that these relationships can be shown diagrammatically as a "carousel", in which "Being Well" forms a common vertical axis while domain specific dimensions of advantage/disadvantage radiate outwards. Within each domain we appear to find a common pattern of differential dynamic potential. Those who are relatively well are those who are most able to perceive how dynamic change may be to their advantage/disadvantage, and who have a higher degree of control over their opportunities for change. For example, those who are well, are most likely to find a job; and if they lose one job, to find another. We also find inter-relationships between domains; having a job is strongly related to reporting good health, which is then strongly related to being well qualified. The core underlying quality that differentiates "being well" appears to be that of acquired individual and social confidence and resilience; those have acquires higher levels of confidence appear able to exercise more control over their changing social opportunities – those who have not acquired such confidence can find themselves constrained within inter-related domains of disadvantage – educational, workplace, health and neighbourhood/household – and systematically inhibited from being able to control their circumstances in fulfilment of their aspirations.

Carousel of Being Well and domains of advantage/disadvantage





NorthWest Public Health Observatory

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What it is to be well?

Health Assets for Young People's Wellbeing

Symposium 1: Seville

29th April 2010

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North West Government Office Region

Total Population

6.9 million

Life expectancy at birth: 18 months less than the England average, for both males and females

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The context: a debate on 'being well'

- Liberal Economics approach: 'being well' is about the accumulation and distribution of economic welfare.
  - Proxied by the aggregated monetary value of traded goods and services
  - Readily quantifiable and modelled by econometric techniques – Gross Domestic Product, Gross Value Added
  - Relating to the market economy; hence a discourse of the 'right'
- Public Health approach: 'being well' is about the accumulation and distribution of good health; WHO definition as 'complete physical, mental and social wellbeing'
  - Proxied by life expectancy, hospitalisation rates, disability rates, self-reported 'health in general'
  - Quantified indicators readily analysable through econometric techniques; modelled in England, Scotland and Wales through successive NHS resource allocation formulae
  - Relating to the actions of public agencies ; hence a discourse of the 'left'
- Social Dynamics approaches : 'being well' is about establishing and sustaining status and reciprocal obligation within the domains of household, neighbourhood, workplace and nation. Two current flavours in current UK discourse (with much cross-fertilisation) :
  - an internal critique of the 'right', to do with changing family structures, time preference and consequent generational inequity;
  - an internal critique of the 'left', focussing on social justice and inequity of economic power
  - So far, instruments are yet to establish recognition as quantifiable at the individual level; and hence not amenable to econometric techniques : 'life satisfaction', 'happiness'

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Three Population Health Surveys

- Health Survey for England: 2006 and 2008
  - 14,142 adults (16+) in 2006, 15,102 in 2008
  - Approx 1,000 items of information recorded for each respondent
  - Focus on social capital (2006), physical activity and fitness (2008)
  - Structured samples of household population, weighted for non-response
  - (children under 16 were surveyed; but collecting different questions, and according to different protocols)
- North West Mental Wellbeing Survey 2009
  - Questions asked of 18,500 adults
  - Approx 230 items of information recorded for each respondent
  - Focus on questions assessing mental wellbeing (WEMWBS) and quality of life (EQ5D)
  - Structured samples of household population, weighted for non-response
- Concentrating on younger adults: (< 35 HSE, < 40 NWMWBS)

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Issues on 'being well'

- Can 'being well' be quantified?
- Can relationships of wellbeing be visualised?
- What conclusions may be suggested on the nature of 'being well'
- How does 'being well' relate to 'becoming ill'
- How much does it matter?

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Wellbeing and 'being well': three approaches

1. Being well as "not being ill"; the response of the person in the street,
   - if so, not separately quantified at all.
2. Being well as an ideal state of "complete physical, mental and social wellbeing"; analysed in terms of protection against loss, and promotion of recovery,
   - if so, a fluid concept whose quantification may be expected to vary according to the balance of domains within which questions may be framed.
   - 'Wellbeing' metrics typically constructed by aggregation: '**Adding Up'**
3. Being well as an acquired and mutual capacity for being better able to gain from social opportunities, and being able to recover sooner from setbacks; potentially transferable from one social domain to another,
   - if so, the extent of being well may be solid and consistently quantified, if a technique can be found to extract the underlying common factor of improved functioning within any population survey (so long as the topics covered are wide-ranging enough).
   - 'Being well' metric quantified by data reduction: '**Boiling Down'**

- ***I am here using 'Wellbeing' to refer to values calibrated from specific survey instruments; and 'being well' to refer to an extracted underlying factor***

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Data Reduction on Health Surveys

- Lengen, C; Blasius, J (2007) Constructing a Swiss health space model of self-perceived health.
  Social Science and Medicine, 65, 1, 80-94.

- Technique of Categorical Principal Component Analysis (CATPCA)
  - Over 40 input characteristics, 2 extracted summary dimensions
  - About half questions overlap in all three surveys: age, sex, ethnicity, education, marital status, economic activity, household type, alcohol use, smoking, physical activity, general health, Multiple Deprivation quintile, components of EQ5D; but the overlap includes most questions with a high statistical communality (variance accounted for)
  - In all three surveys, the two extracted dimensions account for slightly less than 20% of overall individual level variance
  - Rotated to align with 'ageing' in the horizontal dimension; resulting in a counterpart 'being well' alignment of the vertical dimension

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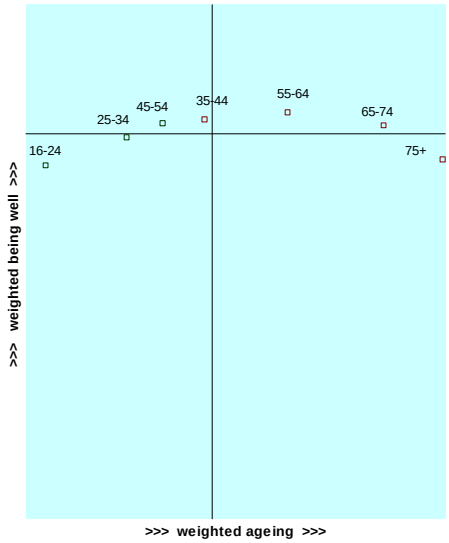
Health Survey for England 2008: summary plot of ageing and being well



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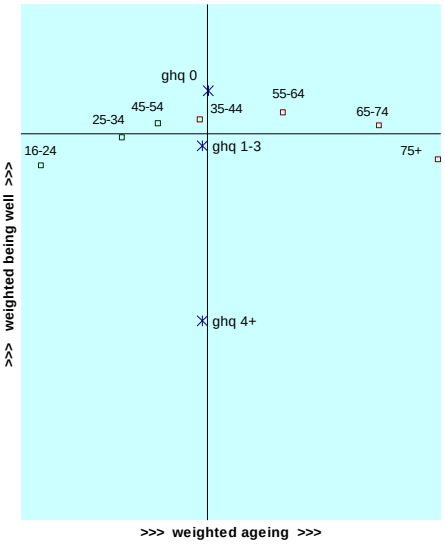
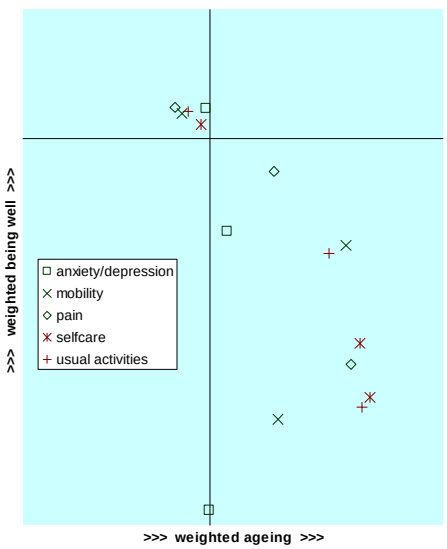
Health Survey for England 2008:
General Health Questionnaire (GHQ12) grouped scores



>>> weighted ageing >>>

Health Survey for England 2008:
Components of EQ5D: none, moderate, extreme



>>> weighted ageing >>>

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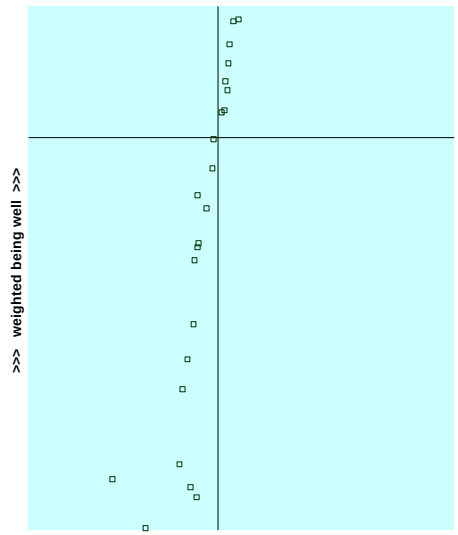
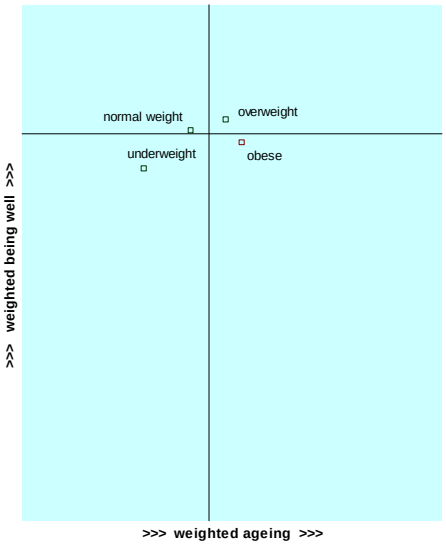
North West Mental Wellbeing Survey 2009:
Warwick Edinburgh Mental Wellbeing Scale; age < 40



>>> weighted ageing >>>

Health Survey for England 2008:
Body Mass Index, for persons under 35



>>> weighted ageing >>>

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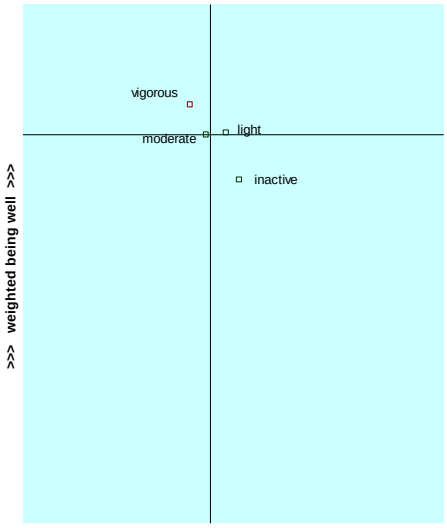
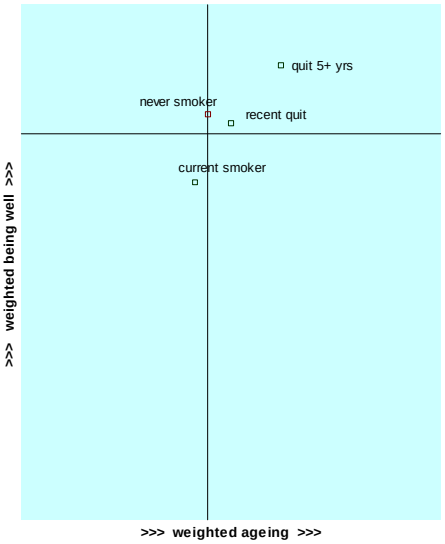
Health Survey for England 2008:
Recreational activity level; age < 35



Health Survey for England 2008:
Smoking and Quitting, for persons under 35



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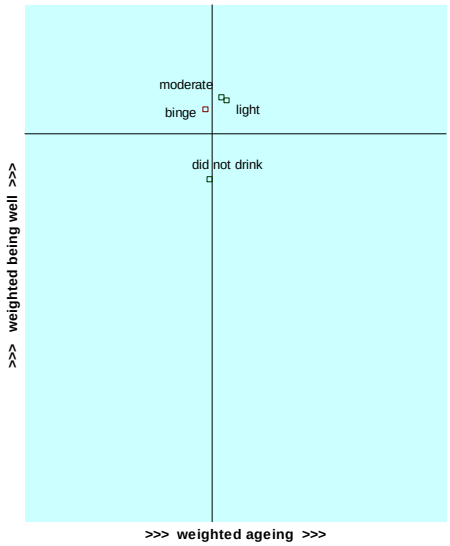
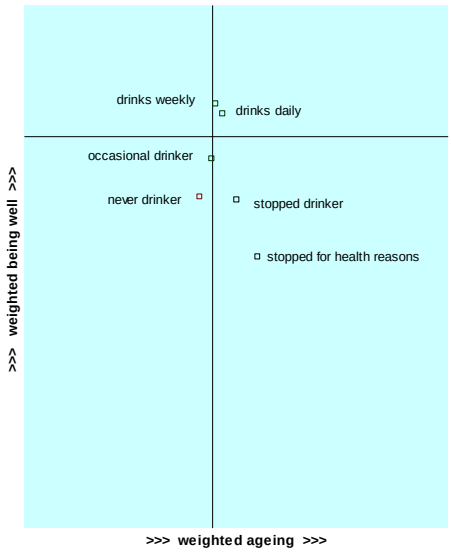
Health Survey for England 2008:
Alcohol consumed on heaviest day; age < 35



Health Survey for England 2008:
Frequency of alcohol consumption; age < 35



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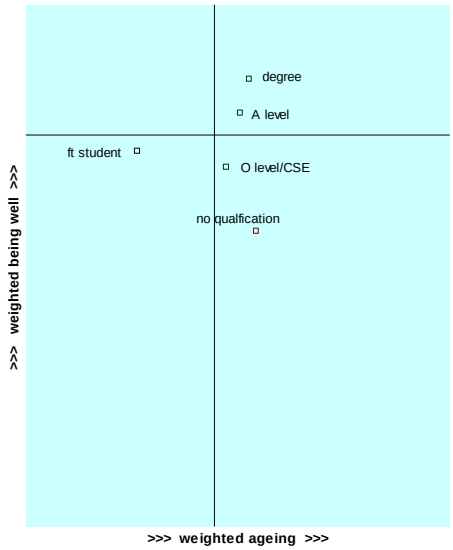
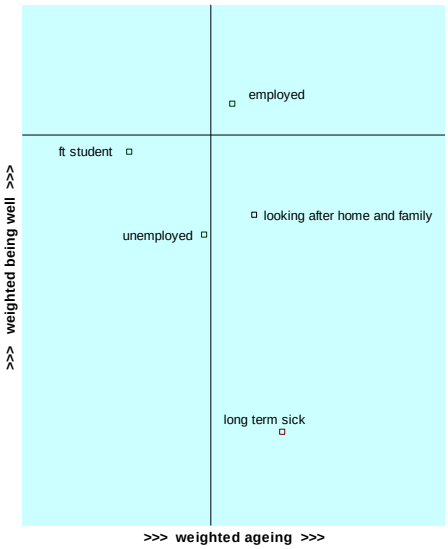
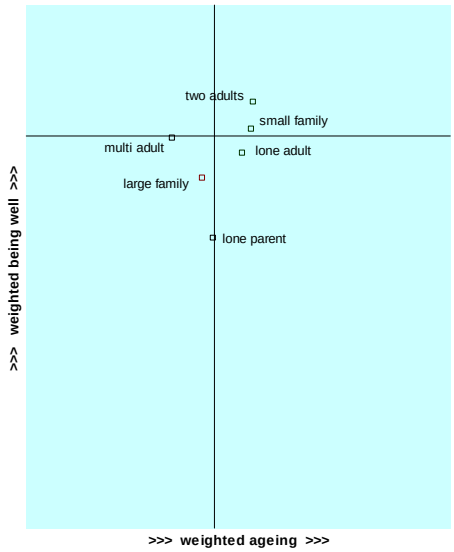
Health Survey for England 2008:
Highest qualification attained; age < 35



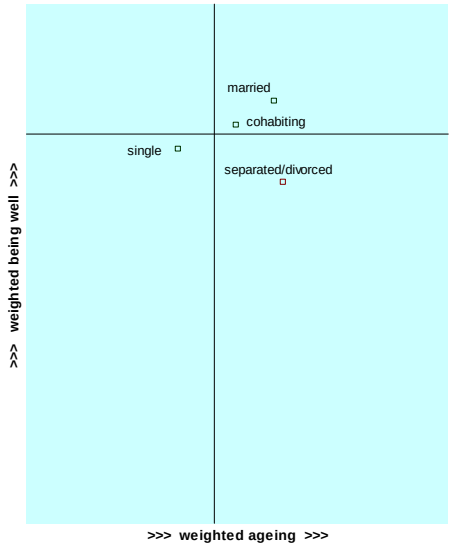
Health Survey for England 2008:
Individual economic status; age < 35

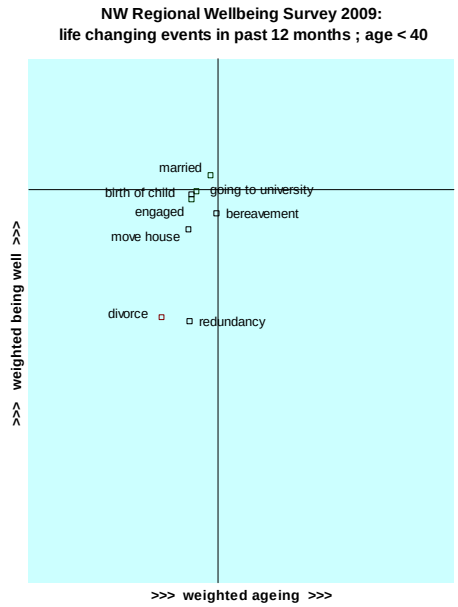


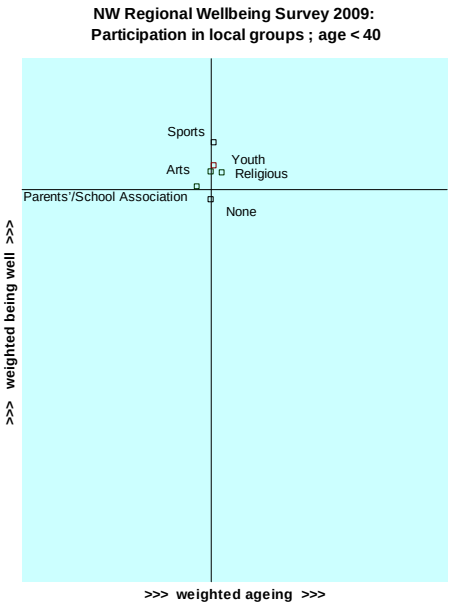
Health Survey for England 2008:
Household type; age < 35



Health Survey for England 2008:
Marital Status; age < 35







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The nature of 'being well"

- 'Being well' increases with age up to mid 60s.
  - Suggests it functions as an acquired social capacity, rather than as an ideal state
  - Different populations acquire 'being well' at different rates
- Indicators of positive mental health and social resilience align more closely with 'being well' than do indicators of physical health
- Through acquiring and maintaining the capacity to manage health behaviours, health risks can also function as health assets (e.g. alcohol)
- 'Being well' has a wider field of application than conventional indicators of positive mental wellbeing; and appears to function in three domains:
  - **Personal:** individual feeling and functioning (how confident can I be, that I can do a job?)
  - **Social:** functioning of individual in their social environment (how confident can I be that there a job that I can do?)
  - **Reciprocal**: the quality of response within a social environment to the functioning of the individual (how confident will others be that I can do the job?)

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Proportion of adults in each category

>> being well >>

well notill 64%	well ill 16%
unwell notill 10%	unwell ill 10%

>>>> becoming ill >>>>

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Proportion of adults in each category aged under 35

>> being well >>

well notill 72%	well ill 5%
unwell notill 17%	unwell ill 6%

>>>> becoming ill >>>>

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Conundrums from the Health Survey for England

- If respondents have been diagnosed with a clinical condition, do they differ in their ability and propensity to construct illness; and is any difference socially patterned?
- If respondents report a chronic illness, do they differ in their ability and propensity to construct effective management of their condition; and is any difference socially patterned?

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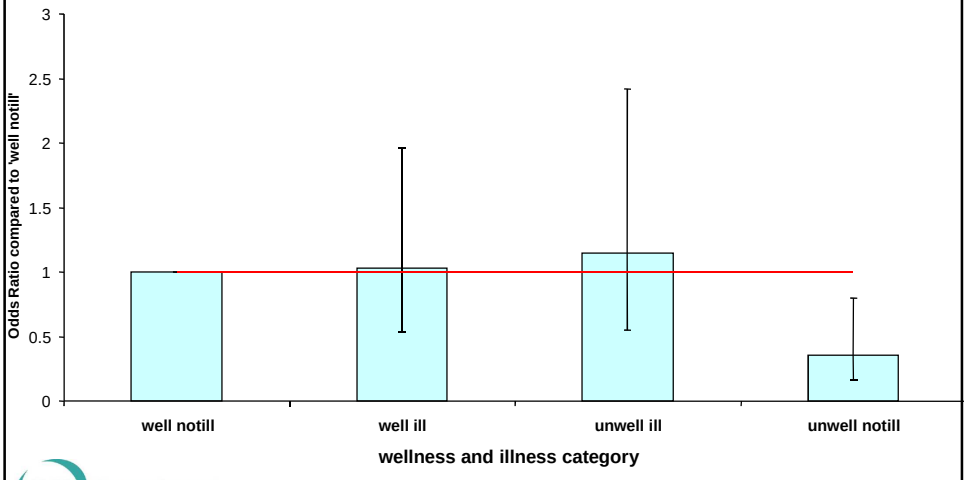
Becoming ill better

Odds of reporting diabetic illness, for those with a doctor diagnosis of diabetes; adjusted for age, gender and general health. Adults in the Health Survey for England 2006



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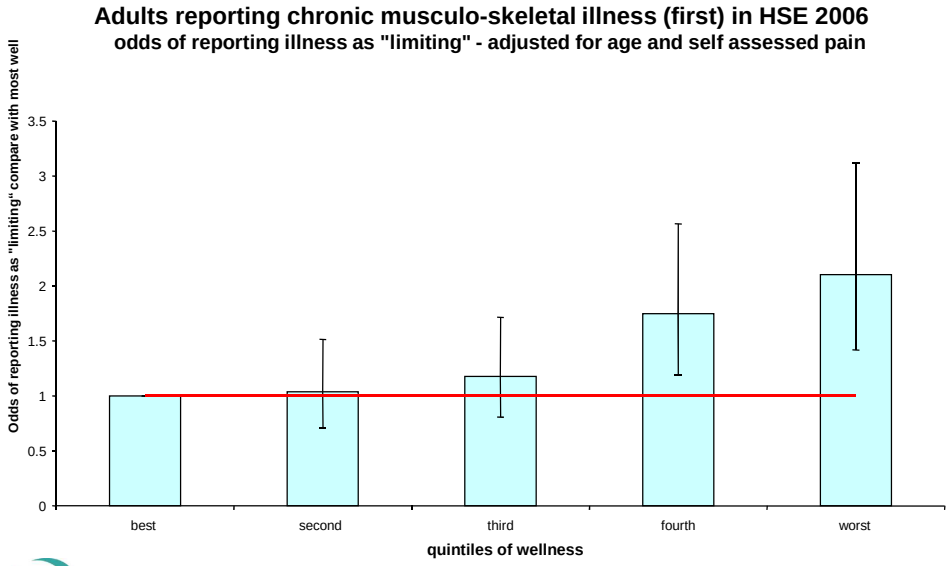
Recover from, and manage, illness sooner



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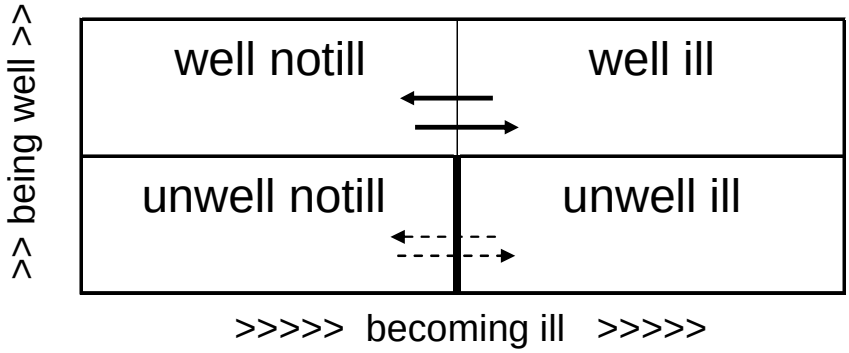
Poor wellbeing and inhibitions against becoming 'ill' and 'not ill'



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Dimensions of Being Well

- "Being well" is not the same as simply "not becoming ill". We propose a common underlying dimension of wellbeing; related to dimensions of: employment status, education, health and household/neighbourhood characteristics.
- These characteristics interact with one another; overall "being well" is both an aggregate of these interactions, and a determinant in each separate dimension or 'domain'.
- Within each dimension, being "unwell" is strongly associated with inhibition against benefiting from the social opportunities associated with that dimension; with a consequent lower degree of perceived control, and lower levels of social confidence.
  - Consequently, those who are "unwell" and "notill" tend to be systematically inhibited against recognising their unwellness as relating to a long-term illness or clinical condition; and hence may be unable to access resources for managing that condition.
  - But; those who are "unwell" and "ill" tend to be systematically inhibited against attaining control over the management of their condition, such as to overcome or transcend consequent limitations.

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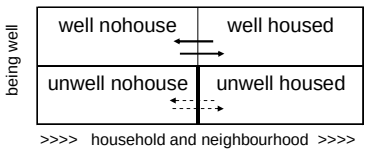
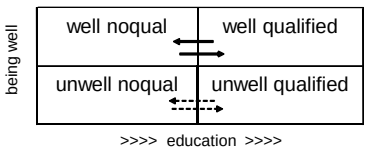
Four domains of Being Well

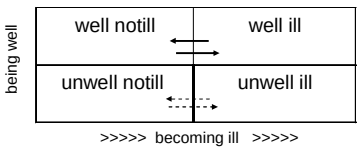
household & housing



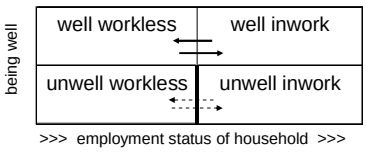
education & training



health and illness



work & participation



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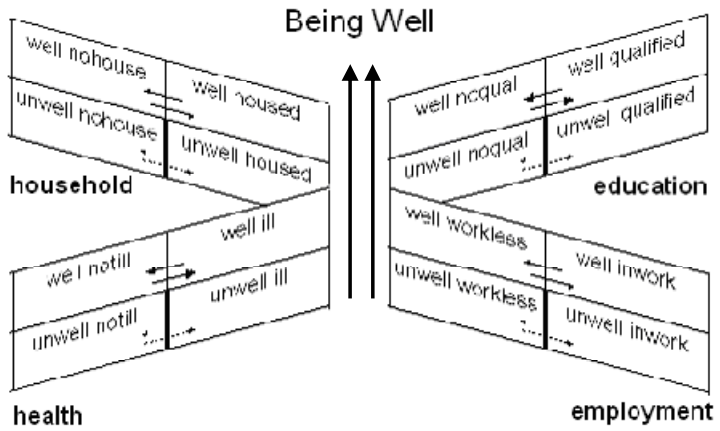
Carousel of Being Well and domains of advantage/disadvantage



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Components of 'not good' health

Quantified explanation of individual ratings of health as 'not good' for adults (16+) in the Health Survey for England, using multi-stage logistic regression:

- Individual factors = 76%
  - Prior morbidity and individual variation = 65%
  - Age (10 year intervals) and Sex = 9%
- Systematic factors = 24%
  - Health deficit risk factors = 8%
  - Cohorts of birth and residence = 8%
  - Health and wellbeing asset factors = 8%

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A third, a third, a third

Systematic differences in the health of populations appear to be perpetuated through three mechanisms (which seem to have roughly equal degrees of effect; although inter-relationships make quantification uncertain)

- Differences in biomedical health risk factors: (e.g. obesity, smoking, excess alcohol, poor diet, low levels of education)
  - Policy response in prevention strategies
  - Deficit approach: ' how not to do the things that are bad for you'
- Differences in cohort risk factors: (where and when born, where and how lived since)
  - Policy response in screening and early diagnosis
- Differences in positive wellbeing; individual, social and reciprocal: (Everyone may expect to become ill at some time; but those with high levels of wellbeing, have the capacity to recognise their illness better, access services easier, recover sooner, and manage their condition fuller.)
  - Policy response in promotion of ways to wellbeing, healthy workplaces and social environments, community development
  - Asset approach: 'what will enable you to do what you aspire to do'

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Nine varieties of savings: as user experiences

1. Reduce the range of spells covered for treatment: (rationing)
2. Impose a time/money cost penalty to user presentation (waiting times)
3. Reduce proportion of each illness spell covered (early discharge)
4. Reduce duplication and increase cross-boundary working
5. Reduce non-treatment overhead costs
6. Reconfigure treatment delivery to reduce resource intensity
7. Reduce representation with the same condition
8. Reduce inappropriate presentation/non-presentation
9. Reduce primary illness generation

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Nine varieties of savings: as user experiences

Cost shifting

1. Reduce the range of spells covered for treatment: (rationing)
2. Impose a time/money cost penalty to user presentation (waiting times)
3. Reduce proportion of each illness spell covered (early discharge)

Efficiency saving

4. Reduce duplication and increase cross-boundary working
5. Reduce non-treatment overhead costs
6. Reconfigure treatment delivery to reduce resource intensity

Getting ill better

7. Reduce representation with the same condition
8. Reduce inappropriate presentation/non-presentation
9. Reduce primary illness generation

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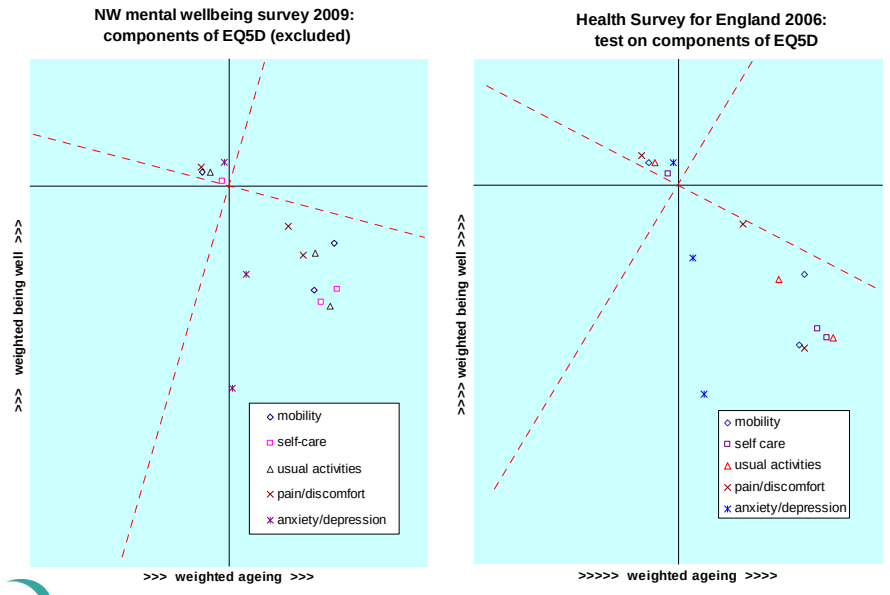

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