



Well-being

(It really isn't is problematic as some people seem to think)

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(Environmental Psychologist)

European Centre for Environment & Human Health





- 1) Where you (the ecosystem community) are coming from
 - MEA 2004
 - UK NEA 2011
 - UK NEA 2014

- 2) Where I (& the well-being community) am coming from
 - ONS 2011
 - OECD 2013

- 3) Why the two communities should engage more
 - Facilitates comparisons
 - Easier to assign monetary and non-monetary “values”



1) Where you (the ecosystem community) are coming from

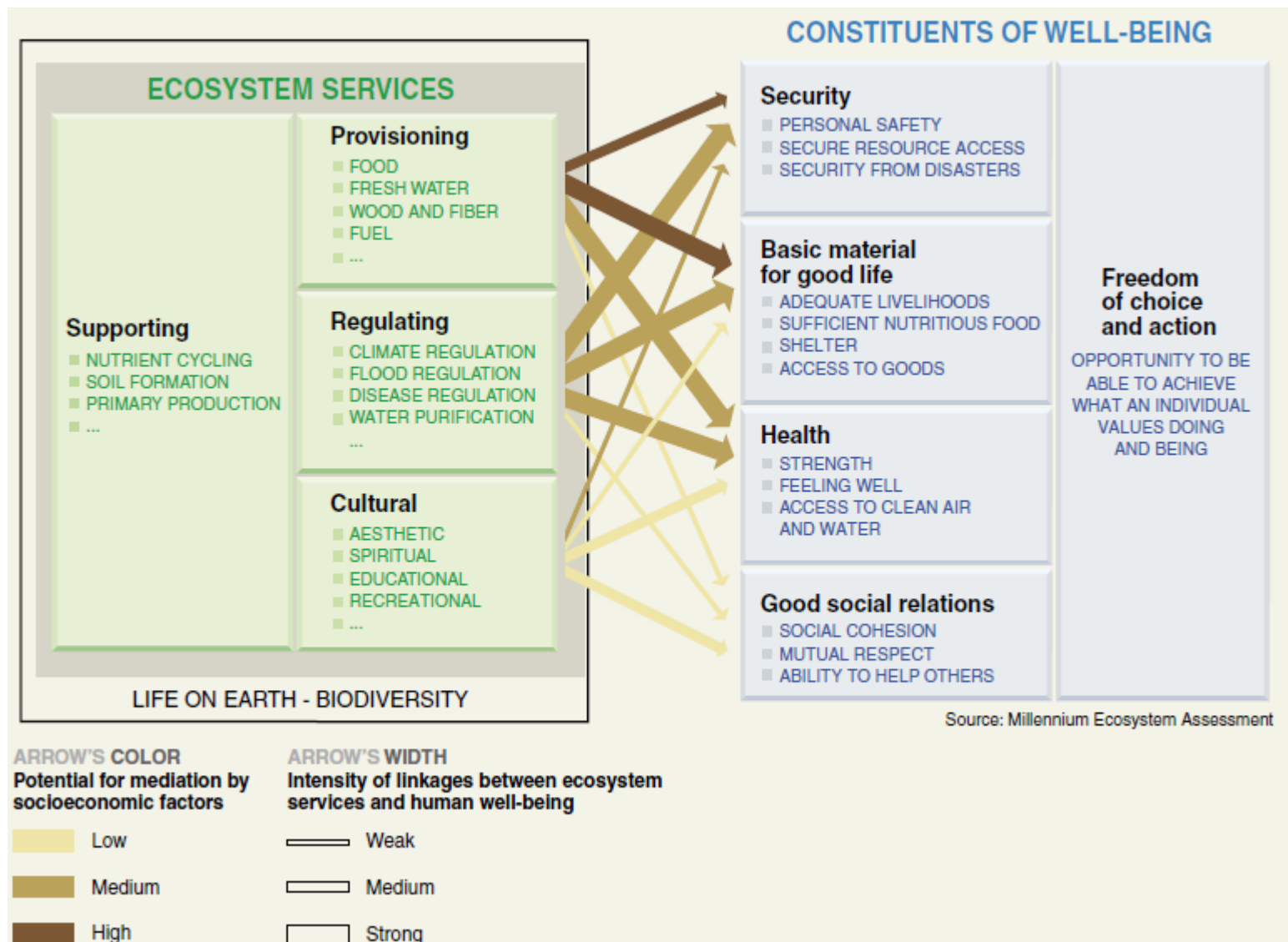
- MEA 2004
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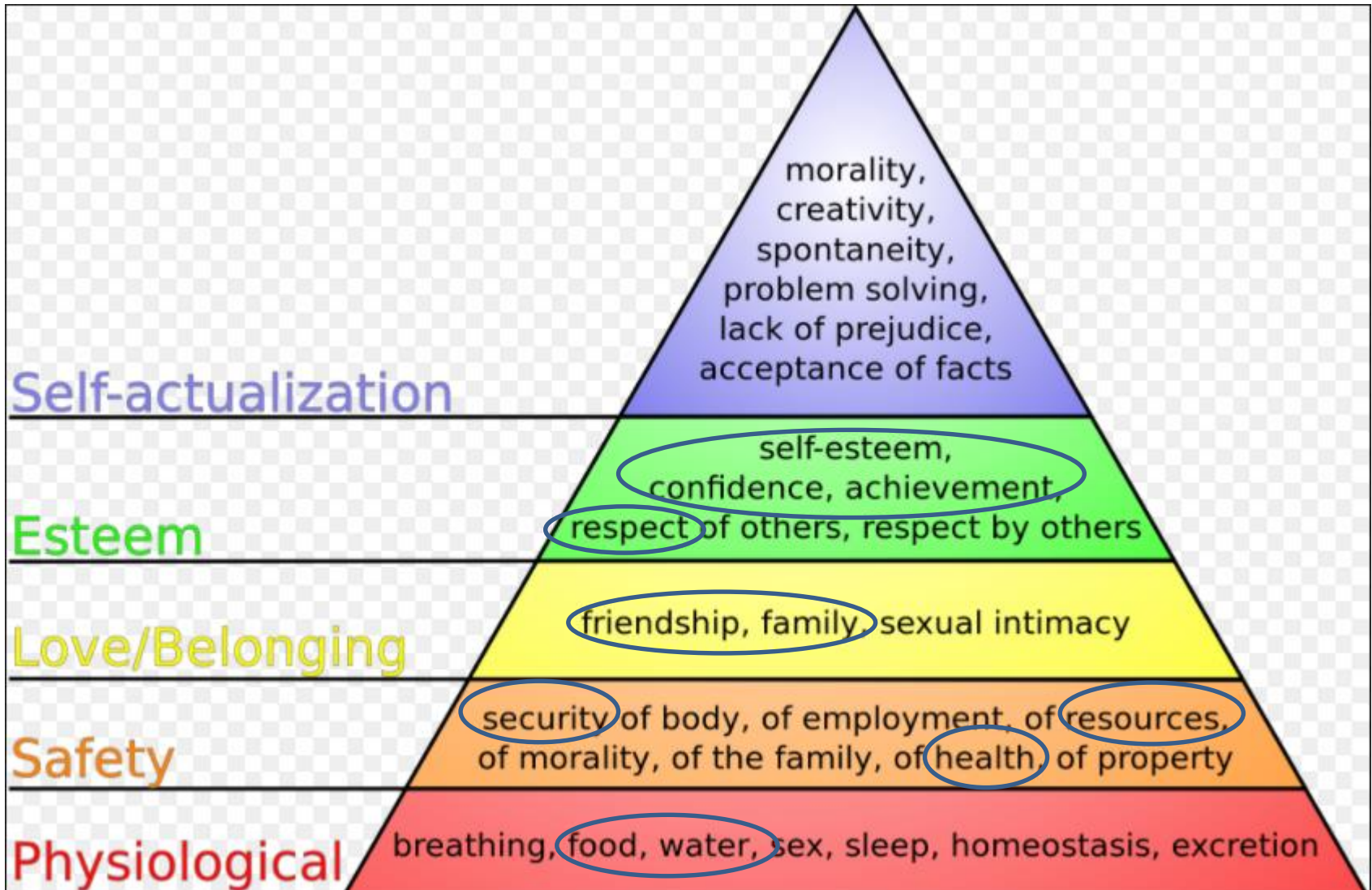
2) Where I (& the well-being community) am coming from

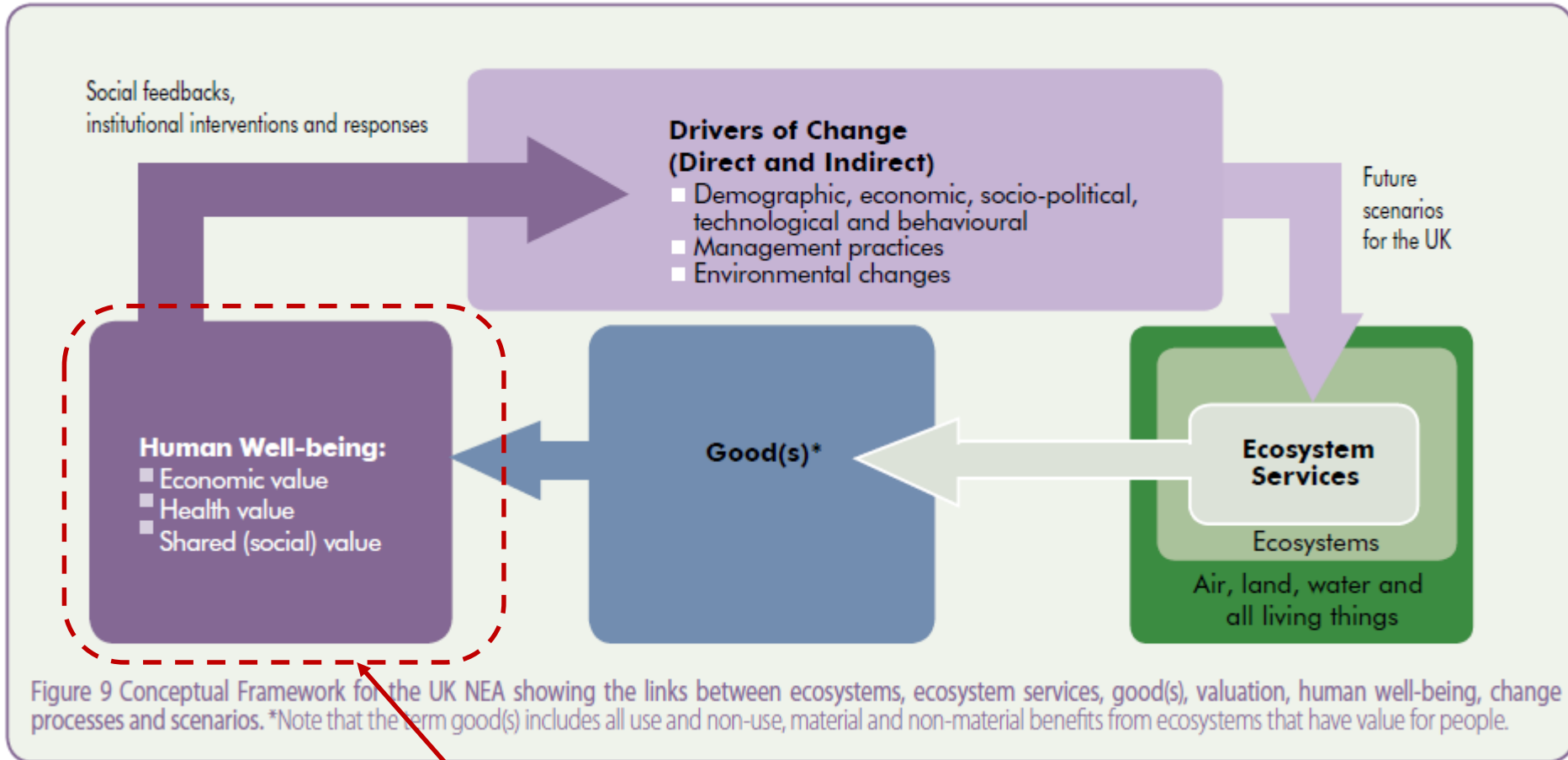
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- OECD 2013

3) Why the two communities should engage more

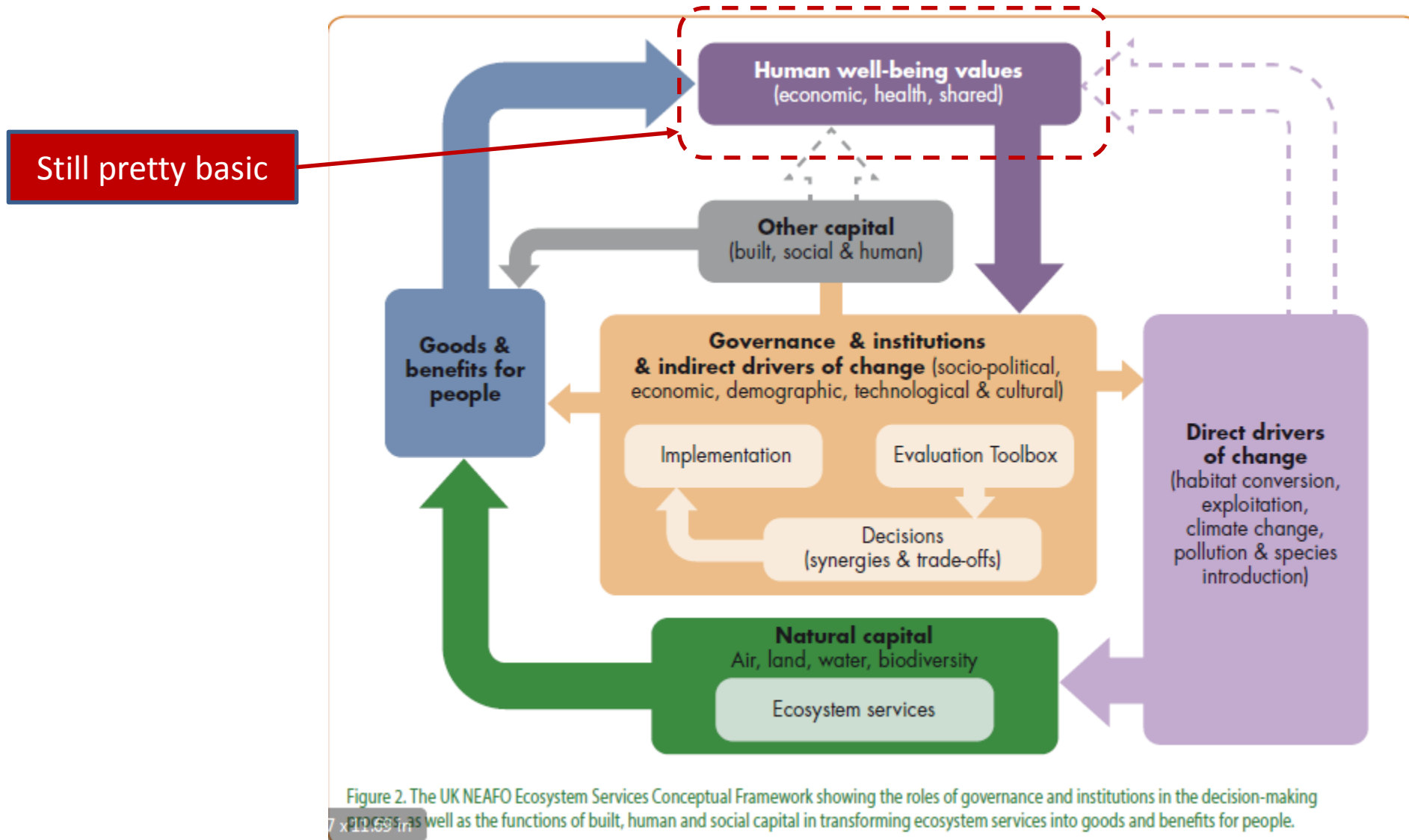
- Facilitates comparisons
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What happened to the theoretically driven complexity of wellbeing in the MEA???



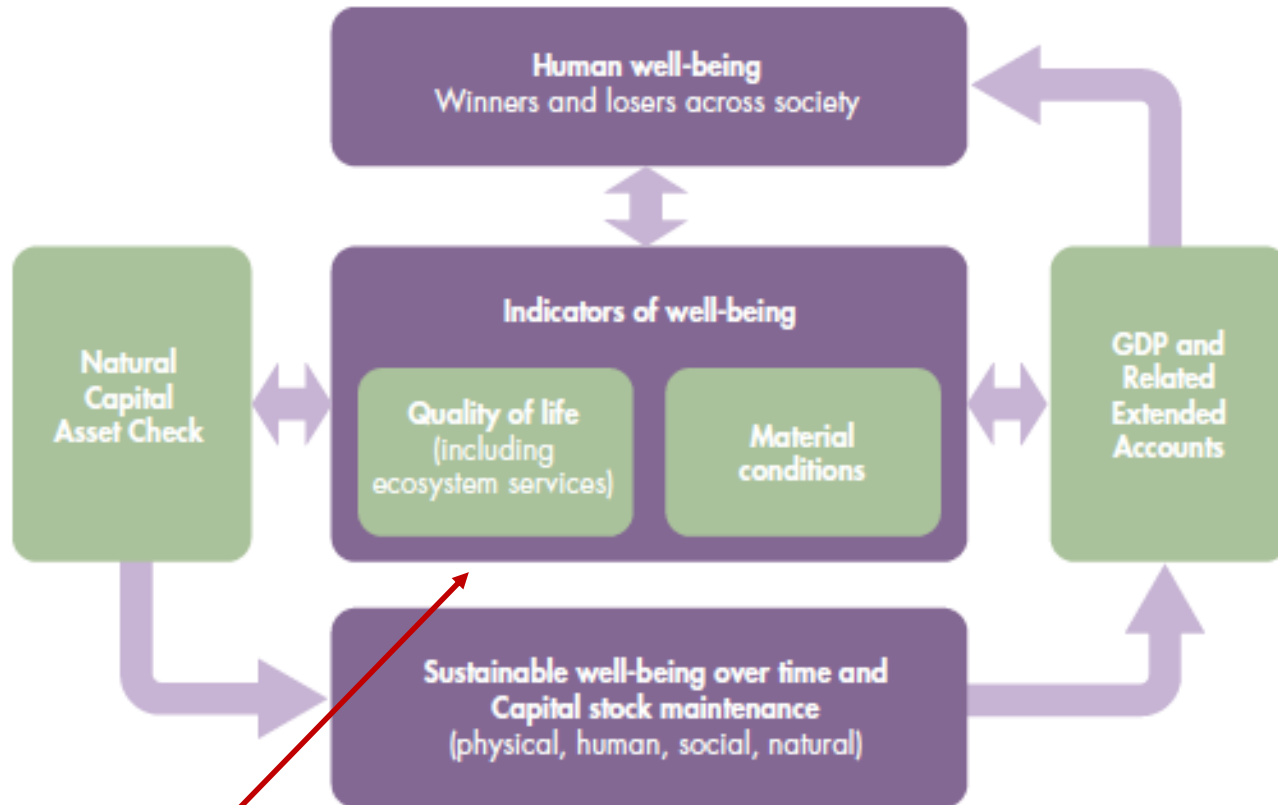
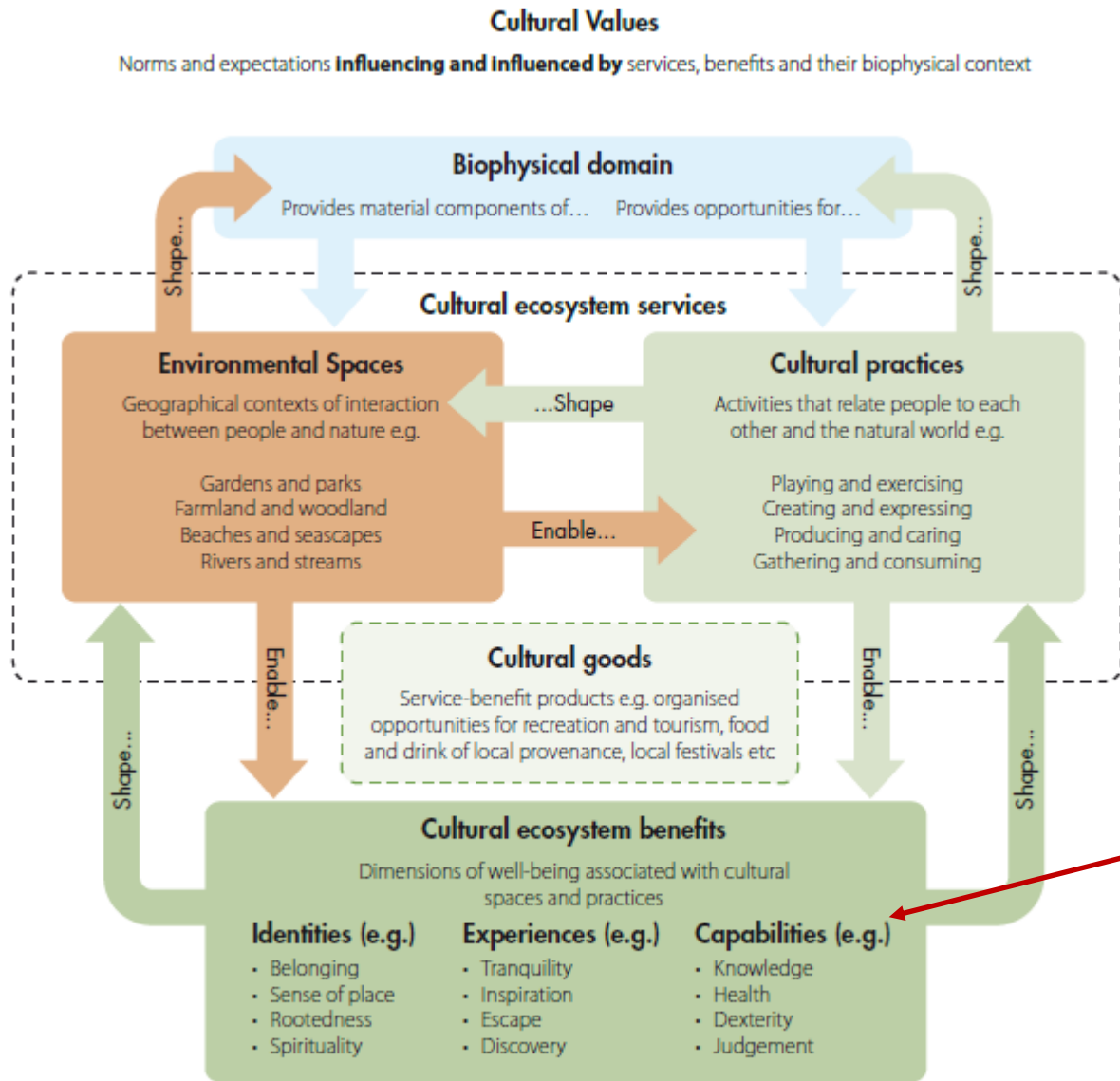


Figure 10. Links between human well-being, natural capital and national accounting.

But if you look closer there are some encouraging signs....



As well as much more nuanced thinking (although precise measures remain illusive)

Fish & Church (2013)

Figure 15. A conceptual framework for the linkages between cultural ecosystem services, values and benefits, emphasising the importance of the interaction between environmental places and cultural practices.



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Tony Blair

"Money isn't everything. Governments have forgotten this... [We should deliver] the best possible quality of life."

"We have to remember what makes people happy, as well as what makes stock markets rise. It's time we focused not just on GDP, but on general wellbeing."



David Cameron



Department of Environment Farming & Rural Affairs (DEFRA)

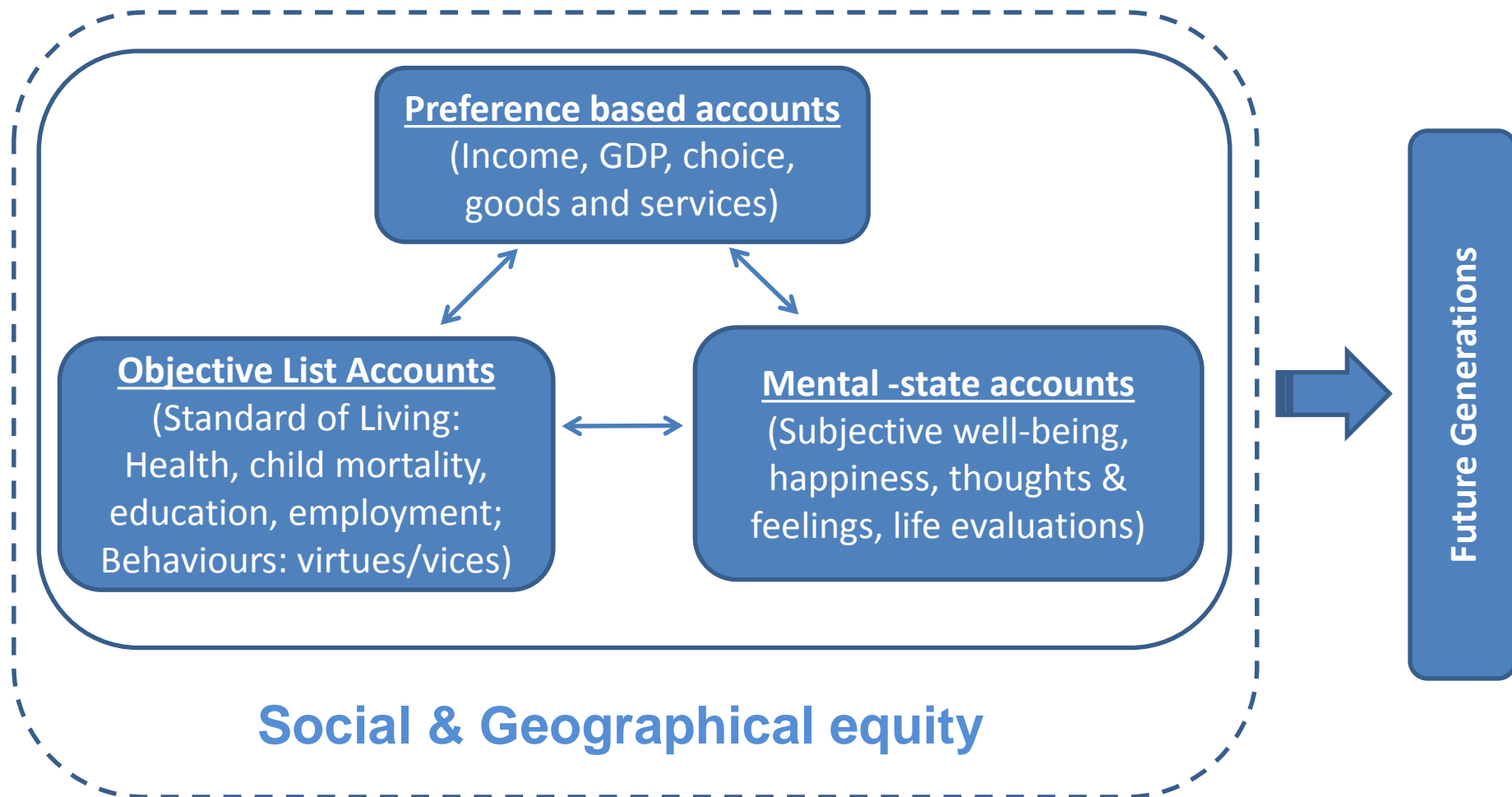
| Indicator number and title | Change since 1990 ¹ | Change since 2003 | Direction in latest year* |
|---|--------------------------------|-------------------|---------------------------|
| 1. Greenhouse gas emissions | ✓ | ✓ | ✓ |
| 13. Resource use | ✓ | ✓ | ✓ |
| 18. Waste arisings | ⋯ | ✓ | ✓ |
| 20. Bird populations | Farmland | ✗ | ✓ |
| | Woodland | ≈ | ✓ |
| | Seabird | ≈ | ≈ |
| 27. Fish stocks sustainability | ✓ | ✓ | ✓ |
| 28. Ecological impacts of air pollution | Acidity | ⋯ | ⋯ |
| | Nitrogen | ⋯ | ⋯ |
| 30. River quality | Biological | ≈ | ≈ |
| | Chemical | ✓ | ✓ |
| 32. Economic output | ✓ | ✓ | ✗ |
| 37. Active community participation | ⋯ | ✗ | ✗ |
| 38. Crime | 1991 ✓ | ✓ | ✓ |
| 40. Employment | ≈ | ≈ | ✗ |
| 41. Workless households | ⋯ | ≈ | ✗ |
| 43. Childhood poverty | Before housing cost | ✓ | ≈ |
| | After housing cost | ≈ | ≈ |
| 45. Pensioner poverty | Before housing cost | ✓ | ≈ |
| | After housing cost | ✓ | ✓ |

| Indicator number and title | Change since 1990 ¹ | Change since 2003 ² | Direction in latest year* |
|----------------------------|--------------------------------|--------------------------------|---------------------------|
| 47. Educational attainment | ✓ | 2004 ✓ | ✓ |
| 49. Health inequality | Infant mortality gap 1994 | ✓ | ✓ |
| | Life expectancy gap 1991 | ✗ | ✗ |
| 55. Mobility | Walking / cycling 1995-7 | ✗ | ✓ |
| | Public transport use 1995-7 | ✓ | ≈ |
| 59. Social justice | ⋯ | ⋯ | ⋯ |
| 60. Environmental equality | ⋯ | ⋯ | ⋯ |
| 68. Wellbeing | ⋯ | ⋯ | ⋯ |

Year as shown if not 1990 ² Year as shown if not 2003

- ✓ = clear improvement since base year
- ≈ = little or no change since base year
- ✗ = clear deterioration since base year
- ⋯ = insufficient or no comparable data





Dolan & White (2006). Dynamic well-being: Connecting indicators of what people anticipate with indicators of what they experience. *Social Indicators Research*, 75(2), 303-333.

Dolan & White (2007). How can measures of subjective well-being be used to inform public policy?. *Perspectives Psych Science*, 2(1), 71-85.

Dolan, Peasgood, White (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29(1), 94-122.

White & Dolan (2009). Accounting for the richness of daily activities. *Psychological Science*, 20(8), 1000-1008.



(Objective-list)
Protected areas -
Hectares



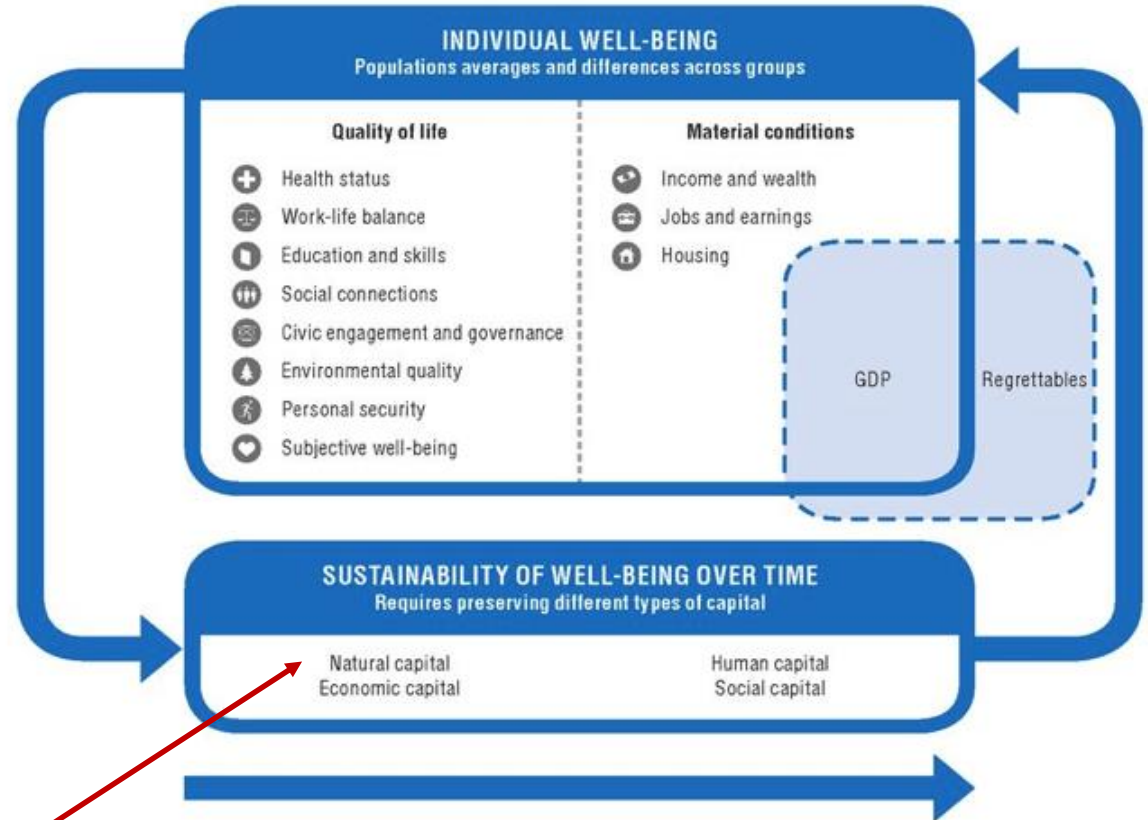
(Preference-based)
Household income
per head

(Objective-list)
% accessed greenspace
in last week

(Mental state)
% Satisfied with
leisure time



Figure 1.2. The OECD well-being conceptual framework



Source: OECD (2011), *How's Life?: Measuring Well-being*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264121164-en>.

Note the reference to natural capital here!!!



Themes Dimension Tool reference # (table.1)

- Absorption - 49
- Acceptance - 79
- Achievement - 31, 49 & 58
- Achievement at work - 15
- Activation - 53
- Affection - 82
- Affective suffering - 19
- Aggression - 49
- Agitation - 59
- Alcohol consumption - 27
- Alienation - 49
- Anhedonic depression - 47
- Anxiety - 30, 37, 50, 64 & 86
- Anxiety/depression - 18
- Anxious arousal - 47
- Attachment - 31 & 32
- Attitude towards ageing - 59
- Autonomy - 8, 13, 31 & 74
- Bad mood - 87
- Behavioural confirmation - 82
- Being at peace - 88
- Breathing - 1
- Cheerfulness - 87
- Civic action - 69
- Cognition - 28
- Comfort - 82
- Community - 33, 48 & 69
- Community well-being - 58, 93 & 94
- Competence - 66 & 8
- Confusion-bewilderment - 64
- Contentment - 15 & 37
- Control - 13 & 32
- Creativity - 63
- Depression - 1, 10, 14, 30, 37, 50, 52, 64 & 99
- Depression/happiness - 16
- Dexterity - 28
- Discomfort and symptoms - 1
- Distress - 1 & 47
- Downward social comparisons - 15
- Eating - 1
- Eco-awareness - 92 & 93
- Elimination - 1
- Emotional reaction - 51
- Emotional well-being - 22, 26, 28, 44 & 56
- Energy level - 51
- Enjoyment - 31 & 32
- Environmental mastery - 74
- Environmental quality of life - 20 & 98
- Existential well-being - 84
- Faith/belief - 36
- Family - 22, 40, 68, 69 & 94

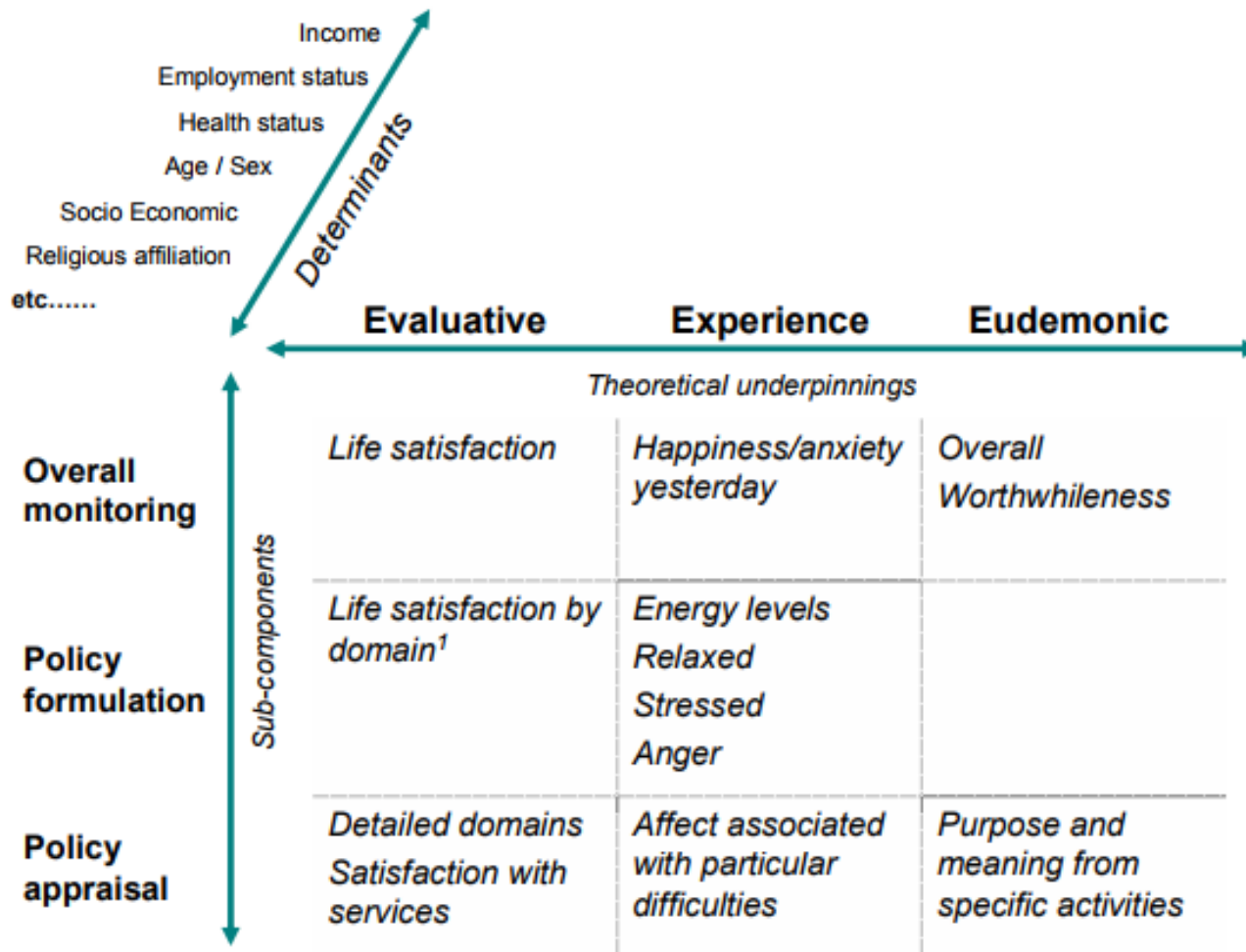
- Fatigue-Inertia - 64
- Financial distress/well-being - 34
- Financial situation - 33, 40, 58 & 69
- Fitness - 15
- Friendliness - 37
- Friendships - 40, 69 & 94
- Fulfilment of needs - 78
- Functional well-being - 11, 22 & 23
- Future life satisfaction - 91
- Future security - 32 & 58
- General coping - 63
- General health - 27, 58, 68, 69, 72 & 80
- Global affect - 63
- Goal congruence - 39
- Happiness - 43, 55, 78 & 89
- Harm avoidance - 49
- Hearing - 1 & 28
- Home - 69
- Home life - 51
- Hope - 29 & 53
- Hostility - 37, 50 & 64
- House keeping - 51
- Illness - 6
- Independent living - 6
- Inner balance/biological order - 78
- Inner haven - 79
- Intellectual wellness - 56
- Interactive function - 75
- Interests/hobbies - 51
- Inter-personal functioning - 48 & 63
- Intrapersonal characteristics - 75
- Learning - 69 & 94
- Leisure situation - 40
- Life engagement - 7 & 54
- Life meaning - 7, 41, 54, 66 & 78
- Life purpose and satisfaction - 35
- Life satisfaction - 12, 40, 66, 72, 76, 78 & 91
- Life satisfaction/self-actualisation - 36
- Life/self-responsibility - 36
- Life-scheme - 85
- Lonely dissatisfaction - 59
- Mental alertness - 15
- Mental functions - 1
- Mental health/symptoms - 11, 24, 25, 45, 60 & 80
- Mobility - 1, 18, 28 & 70
- Mood tone - 39
- Motivation - 19
- Need for relatedness - 8
- Negative affect - 2, 3, 17, 61, 66 & 77
- Neighbourhood - 69
- Nothingness - 53

- Nutritional balance - 27
- Objective factors - 78
- Occupational functioning - 48
- Optimism - 15 & 38
- Pain - 18, 27, 28, 51 & 80
- Parenting - 95
- Partner relations - 40, 69 & 94
- Past life satisfaction - 91
- Peace of mind - 15
- Personal fulfilment - 48
- Personal growth - 57 & 74
- Personal growth and autonomy - 63
- Personal safety - 58
- Philosophy of life - 69
- Physical activity - 27 & 70
- Physical and mental well-being - 25
- Physical functioning - 51 & 80
- Physical senses - 6
- Physical well-being (overall) - 9, 20, 22, 33, 37, 46, 48, 56, 60, 66, 94 & 98
- Pleasure - 7, 13, 54 & 81
- Positive affect - 2, 3, 15, 17, 50, 61, 66 & 77
- Positive readiness and expectancy - 29
- Praise and respect from others - 15
- Psychological and spiritual well-being - 68
- Psychological well-being (eudaimonic) - 44 & 71
- Psychological well-being (other) - 6
- Psychological well-being (overall) - 9, 20, 33, 46, 48, 49, 56, 62, 65, 92, 95, 97 & 98
- Psycho-social flourishing - 21
- Purpose in life - 67 & 74
- Realising life potential - 78
- Recreation - 69 & 94
- Regret - 53
- Relationship with children - 69
- Relationships - 6, 9, 15, 31, 33, 58, 74 & 93
- Relaxation - 37
- Religious well-being - 84
- Resolution and fortitude - 39
- Role - 32
- Role-emotional - 80
- Role-physical - 80
- Satisfaction of material needs - 15
- Search for meaning - 41
- Self-confidence during stress - 35
- Self-discovery - 93
- Self-esteem - 73
- Self-regard - 69
- Self-acceptance - 74

- Self-care - 18, 40, 48 & 70
- Self-control - 49
- Self-efficacy - 85
- Self-realisation - 13
- Self-satisfaction - 15
- Sensation seeking - 50
- Seriousness - 87
- Sex life - 1, 40 & 51
- Sleep - 1, 27 & 51
- Social acceptance - 83
- Social actualisation - 83
- Social and economics - 68
- Social closeness - 49
- Social coherence - 83
- Social commitment - 15
- Social contribution - 83
- Social function - 80
- Social integration - 83
- Social isolation - 51
- Social potency - 49
- Social service - 69
- Social/emotional support - 48 & 63
- Social well-being (overall) - 11, 20, 25, 44, 51, 56, 60, 66 & 98
- Somatic symptoms - 11, 25 & 37
- Speech - 1 & 28
- Spiritual fulfilment - 48
- Spiritual symptoms - 11
- Spiritual well-being (overall) - 46, 56 & 98
- Spirituality - 58, 63 & 94
- Stability - 31
- Status - 82
- Stimulation - 82
- Stress reaction - 49
- Symptoms - 70
- Symptoms of stress - 29
- Temporality and future - 29
- Traditionalism - 49
- Transcendental spiritual - 92
- Trust - 79
- Usual activities - 1 & 18
- Vacations - 51
- Vigour-activity - 64
- Vision - 1 & 28
- Vitality - 1, 80 & 90
- Well-being (overall) - 4, 5, 33, 42, 48, 78 & 96
- Work - 27, 33, 40, 51, 69 & 94
- Zest for life - 39

Theme key:

| | | |
|------------------------|--------------------------|--------------------------|
| ● Global well-being | ● Physical well-being | ● Social well-being |
| ● Mental well-being | ● Activities/functioning | ● Personal circumstances |
| ● Spiritual well-being | | |



1. Domains could include: personal relationships, physical health, mental well-being, work situation, financial situation, area where you live, time you have to do the things you like doing, well-being of your children (if any), societal well-being.



Core measures (0 = 'not at all' and 10 = 'completely')

- 1) Overall, how satisfied are you with your life nowadays?
(Evaluative)
- 2) Overall, to what extent do you feel the things you do in your life are worthwhile?
(Eudaimonic)
- 3) Overall, how happy did you feel yesterday?
(Experiential positive)
- 4) Overall, how anxious did you feel yesterday?
(Experiential negative)

Domain satisfaction: Overall, how satisfied are you with....

- ...your personal relationships?
- ...your physical health?
- ...your work situation?
- ...your financial situation?
- ...the area where you live?
- ...the amount of time you have to do things you like doing?



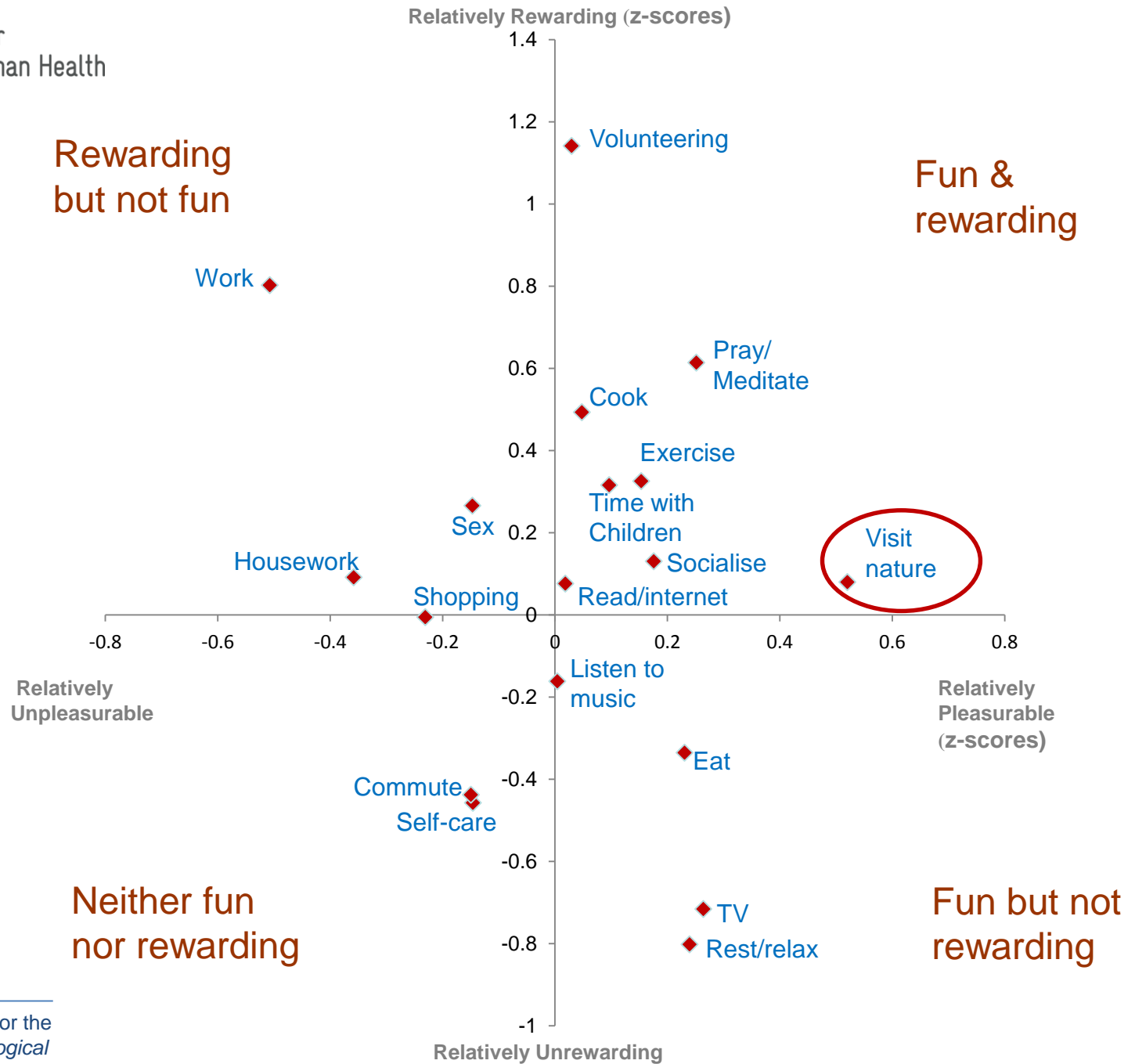
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Comparisons of activities





Different types of nature exposure & different types of wellbeing

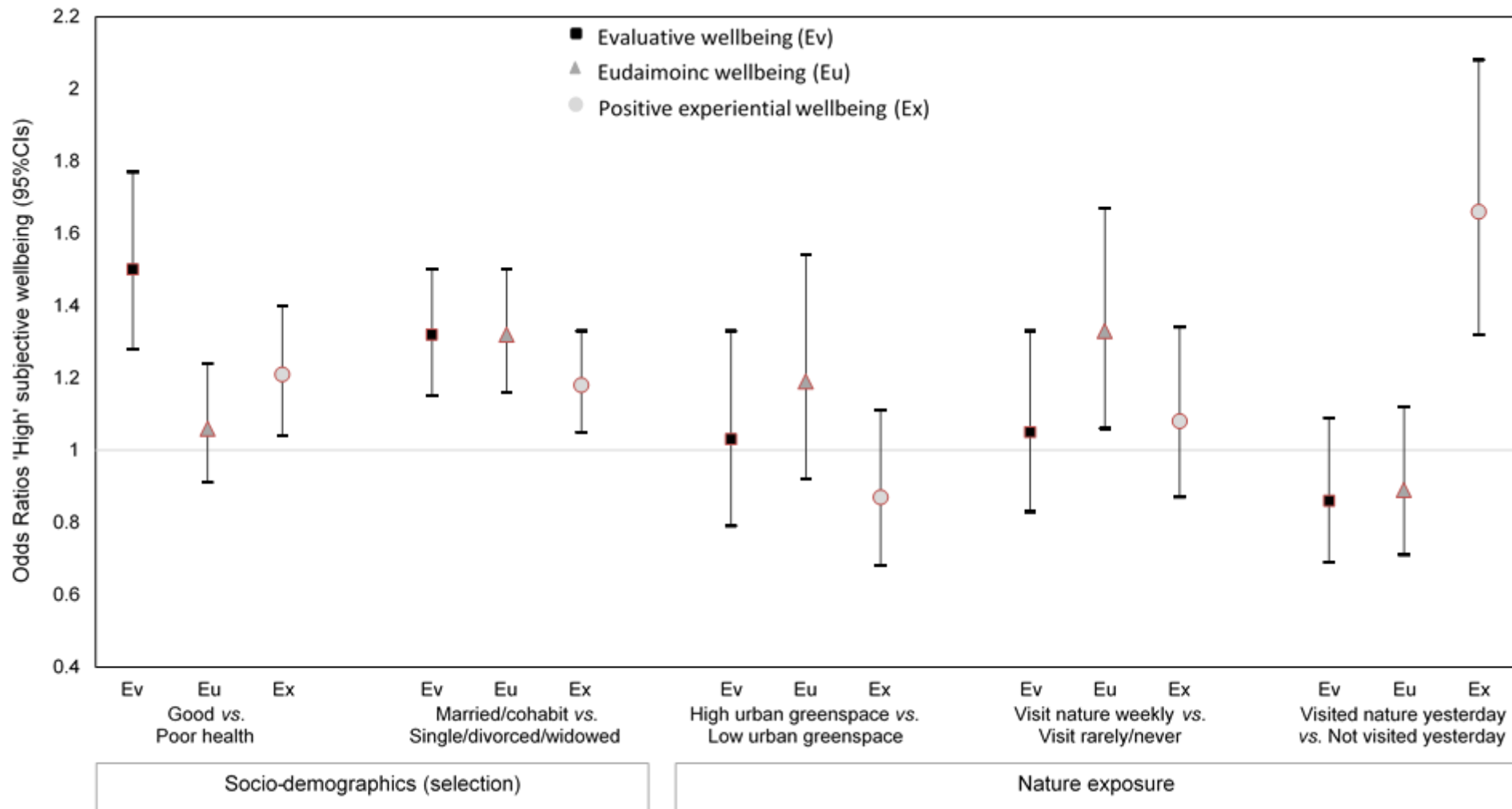


Figure 1: Associations between selected socio-demographics and three types of exposure to natural environments and high levels of evaluative (satisfaction), eudaimonic (worthwhile) and positive experiential (happiness) wellbeing (Odds ratios and 95 CIs).



Following changes over time

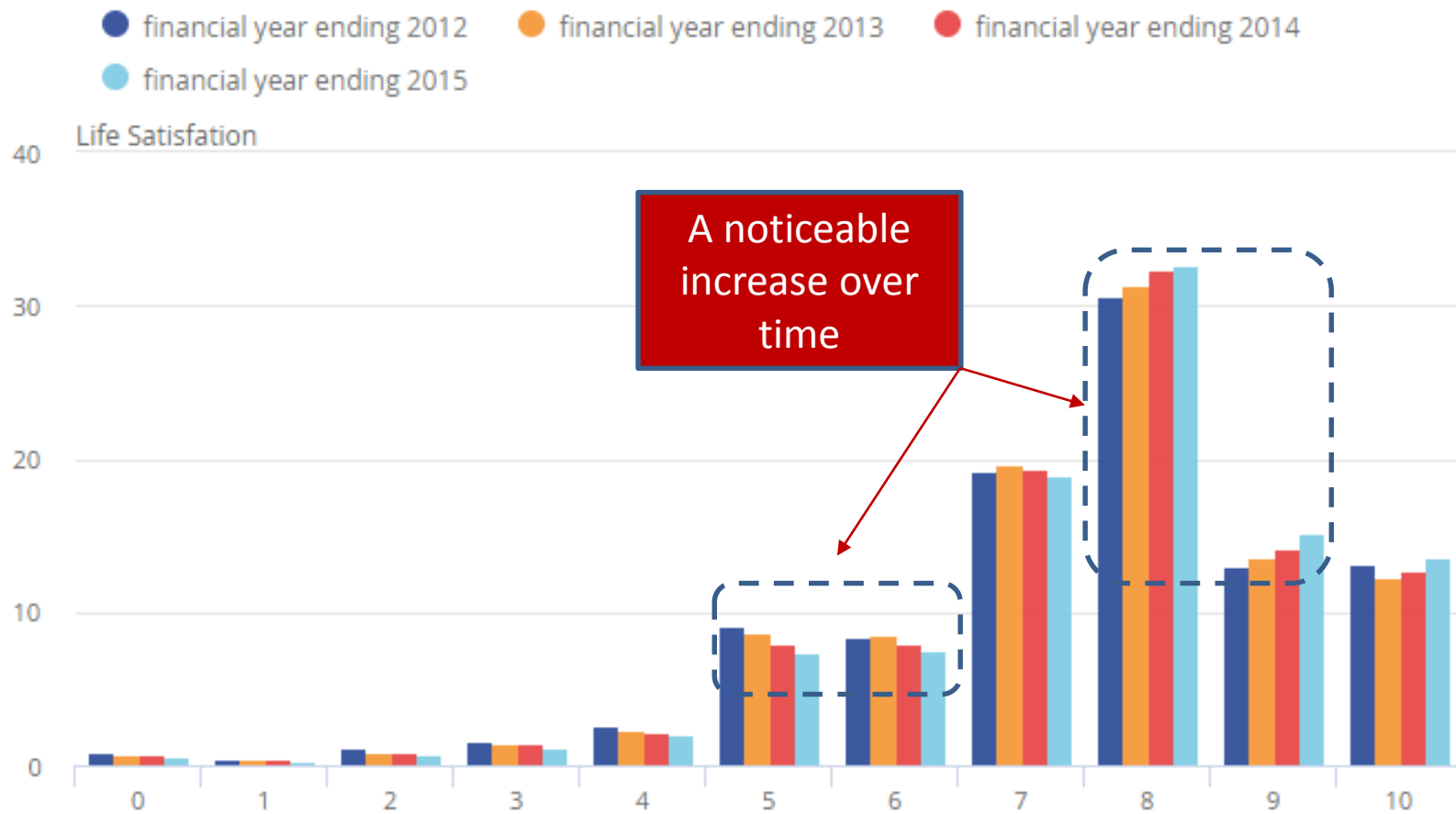


Figure 1: Distribution of personal well-being ratings, financial years ending 2012 to 2015 (1) - Life Satisfaction

United Kingdom



Figure 1: Average rating of life satisfaction, 2015

OECD countries

rating out of 10

8.0

7.5

7.0

6.5

6.0

5.5

5.0

Switzerland, Norway: 7.6
Denmark, Iceland: 7.5

Czech Republic: 6.6
UK, Chile, OECD average: 6.5
France, Spain: 6.4

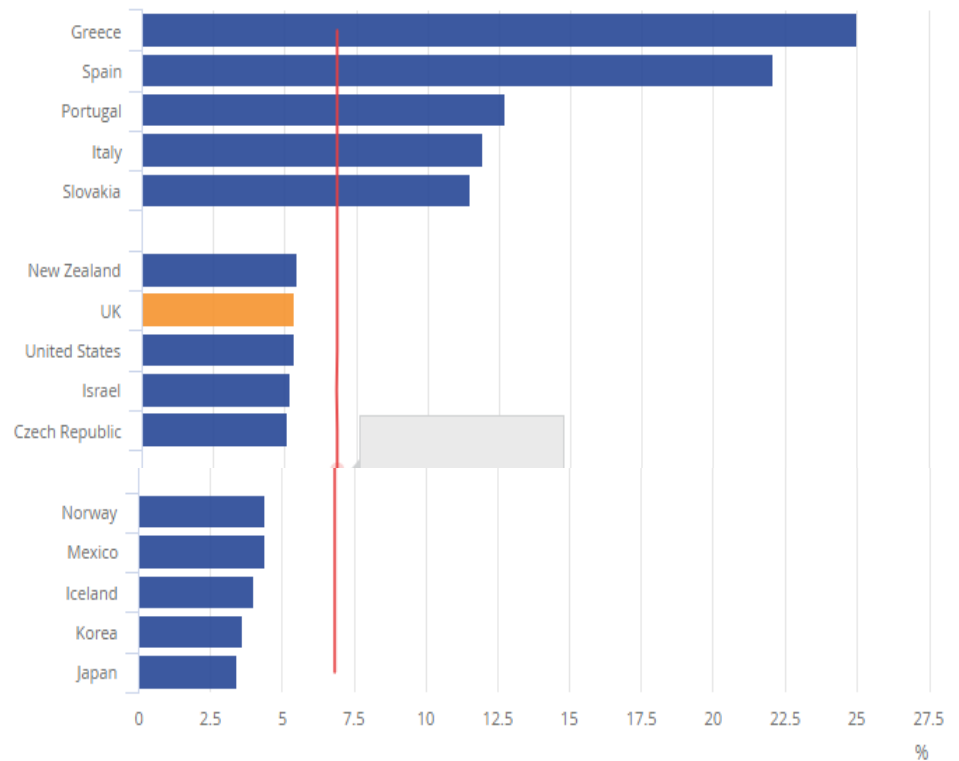
Hungary: 5.3

Portugal: 5.1

Figure 2: Harmonised unemployment rates, 2015

OECD countries

● Unemployment rate ● UK unemployment rate — OECD average



Source: Organisation for Economic Co-operation and Development

Notes:



Home / Annual Review of Resource Economics / Volume 2, 2010 / Frey, pp 139-160

The Life Satisfaction Approach to Environmental Valuation

Annual Review of Resource Economics

Vol. 2:139-160 (Volume publication date October 2010)
First published online as a Review in Advance on April 20, 2010
<https://doi.org/10.1146/annurev.resource.012809.103926>

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Ecological Economics

Volume 58, Issue 4, 1 July 2006, Pages 801-813



Analysis

Environment and happiness: Valuation of air pollution using life satisfaction data

Heinz Welsch

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<https://doi.org/10.1016/j.ecolecon.2005.09.006>

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Abstract

This paper explores the relationship between pollution and reported subjective well-being (happiness) in ten European countries. Using a set of panel data from happiness surveys, jointly with data on income and air pollution, it examines how self-reported well-being varies with prosperity and environmental conditions and calculates the implied valuation of changes in air pollution. The paper finds that air pollution plays a statistically significant role as a predictor of inter-country and inter-temporal differences in subjective well-being. The effect of air pollution on well-being translates



Journal of Public Economics

Volume 93, Issues 3-4, April 2009, Pages 620-633



Valuing flood disasters using the life satisfaction approach ☆

Simon Luechinger^{a,✉}, Paul A. Raschky^{b,1}

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<https://doi.org/10.1016/j.jpubeco.2008.10.003>

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Abstract

This paper argues that life satisfaction data can be used to value natural disasters. We discuss the strengths of this approach, compare it to traditional methods and apply it to estimate and monetize utility losses caused by floods in 16 European countries between 1973 and 1998. Using combined cross-section and time-series data, we find a negative impact of floods on life satisfaction that is sizeable, robust and significant. The estimates are comparable to price discounts found in housing markets. In an exploratory analysis, we find that risk transfer mechanisms such as mandatory insurance have large mitigating effects.

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Valuing Air Quality Using the Life Satisfaction Approach*

Simon Luechinger

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- 1) The ecosystem community started out pretty well in its attempts to explore well-being...
 - 2) But (I believe) the UK NEA lost its way
 - 3) There were some beacons of hope in the followup...
 - 4) But why oh why are you trying to reinvent the wheel (or possibly the flat tyre)?????
 - 5) Why not start to integrate the (inter)-nationally recognised measures of well-being into your work instead?
-to discuss 😊



Well-being

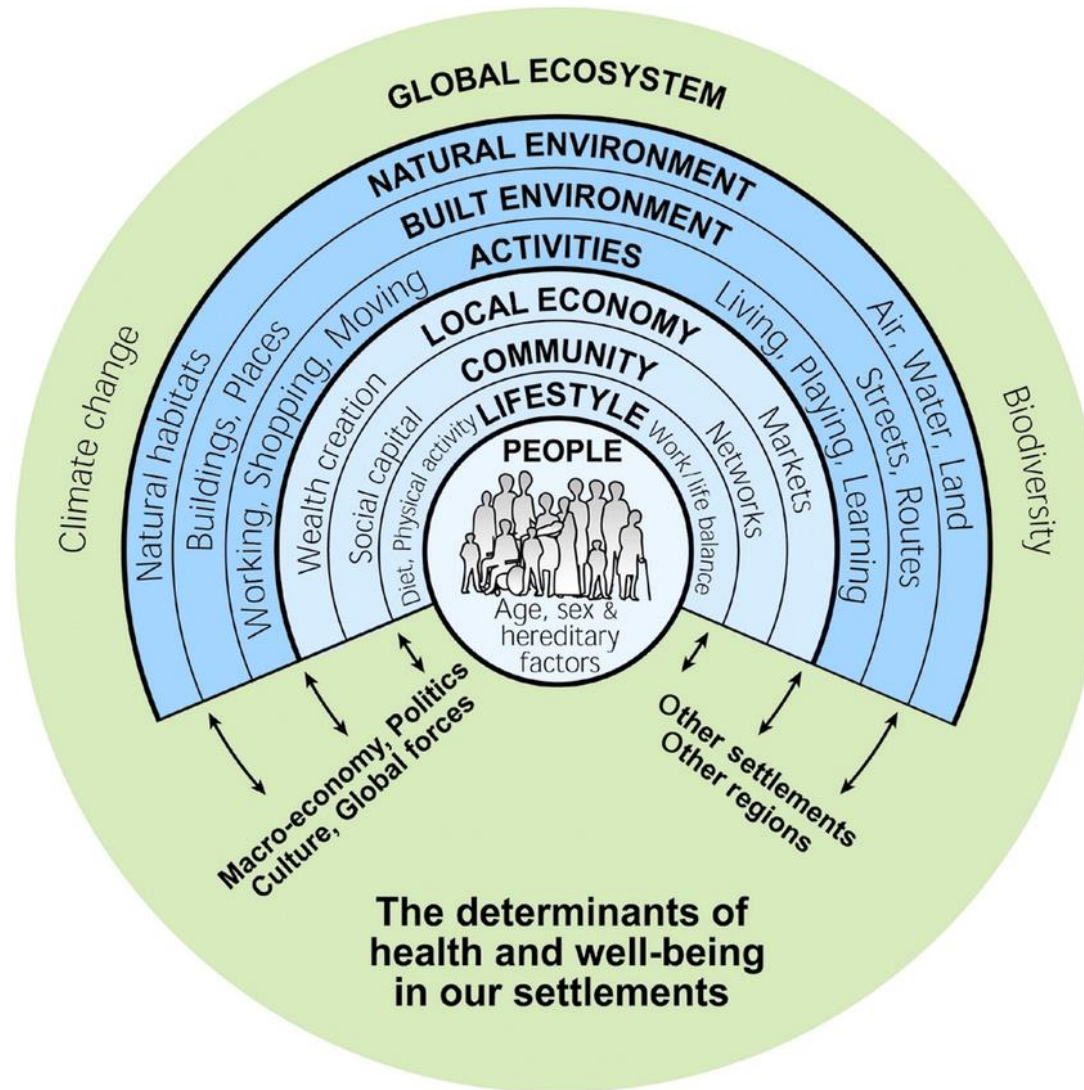
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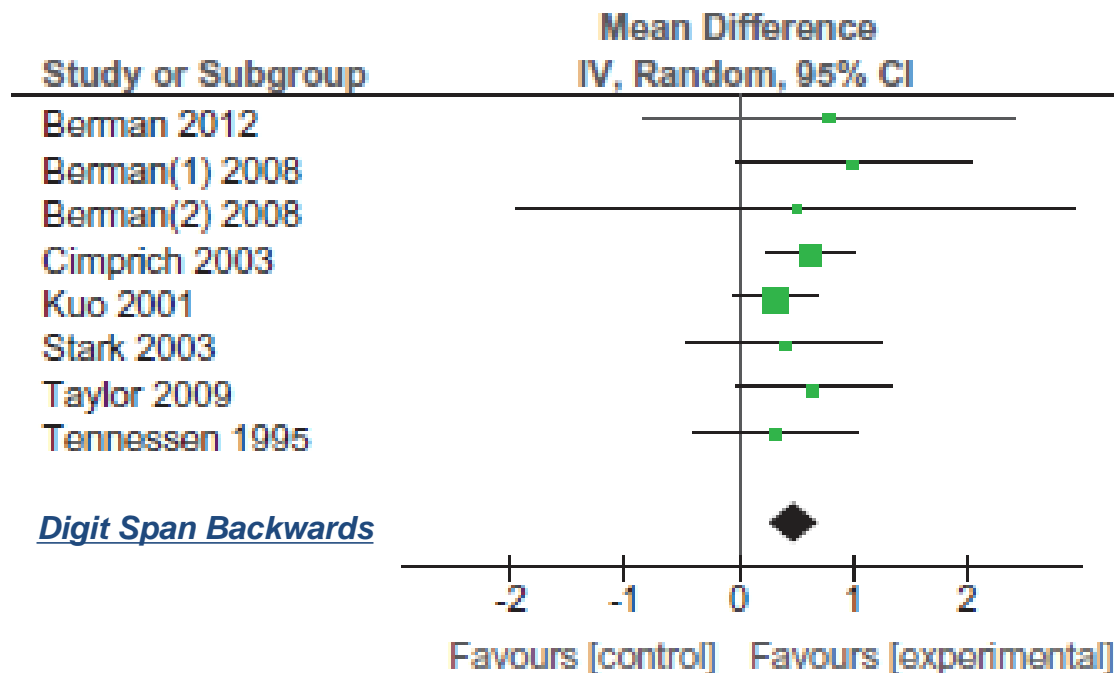


Attention measures (n = 25):

- Digit-span forward
- Digit-span backwards
- Necker cube pattern control
- Trail making tests A
- Trail making test B
- Search & memory task
- Proof reading task
- Memory loaded search task
- Logical memory
- Category matching
- Errors scale
- SART
- Coloured number picture
- Attention Oreintation
- Vigilance task
- Stroop task
- D2 task
- ANT
- Symbol digit modalities test
- Symbol substitution test
- Chu's attention test
- Alphabet backwards
- Category matching
- Delayed gratification task

Participants: 33 study meta-analysis

Outcomes: 25 different attention measures



Unclear what going on because lack of theoretical clarity

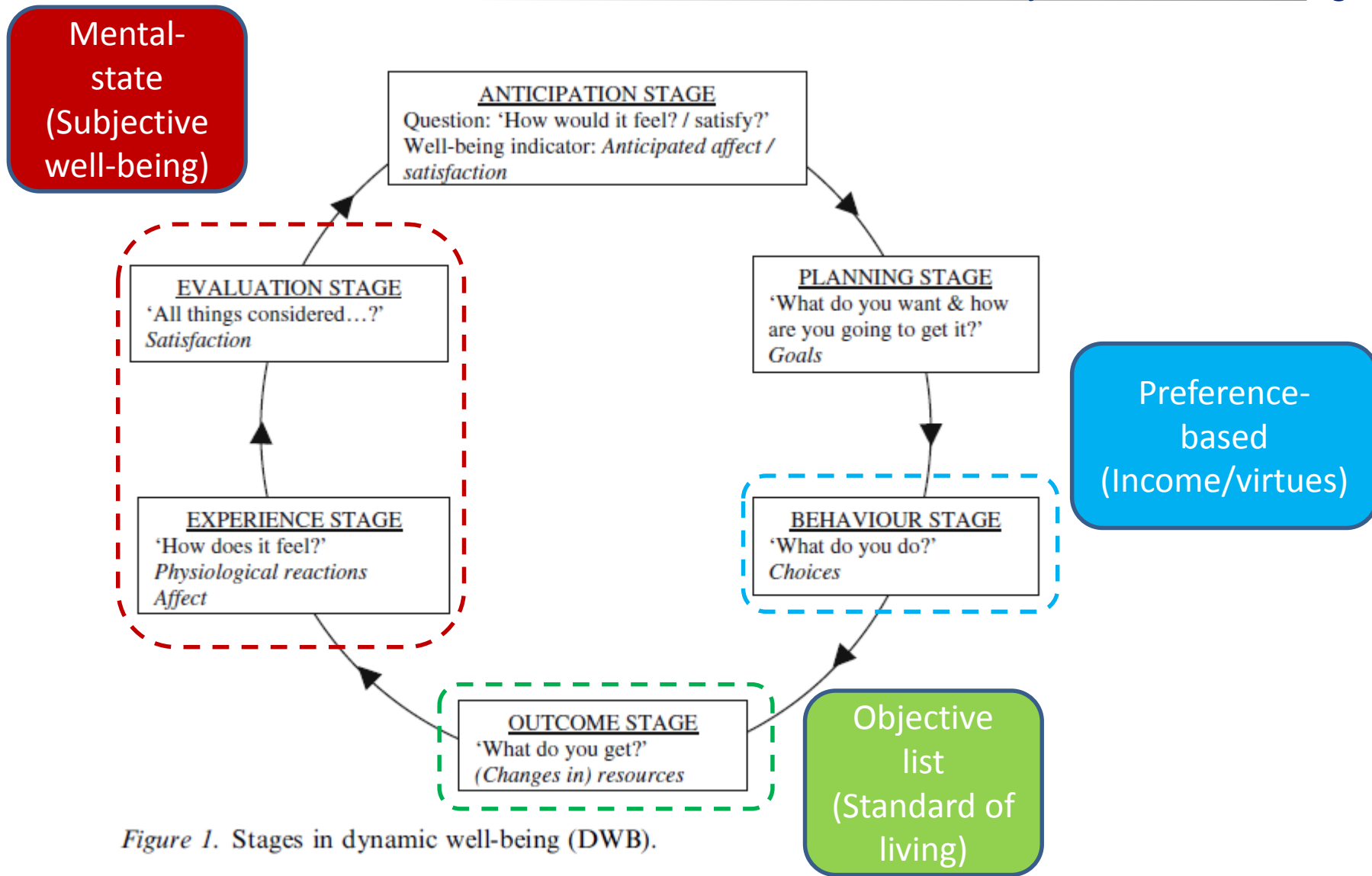


Figure 1. Stages in dynamic well-being (DWB).



British Household Panel Survey (1991-2008)

Living in an urban area with a lot (80%) vs little (48%) green space

Mental distress (GHQ 0-12)
(N = 12,818; Obs = 87,573)

Life Satisfaction (1-7)
(N = 10,168; Obs = 56,574)

