The Middle Opinion. USA 2020.

Chapter 9 (pre-election draft)[1]

# Satisfaction with life



Overview. This chapter's account of satisfaction with life provides some background for the discussion of people's satisfaction with democracy which is given in a later chapter – although it has to be said that politics is not given any reference to in the studies considered in the present chapter.

We judge situations according to their value; and in our choices we pursue value. One aspect of value is subjective well-being – which itself is a multidimensional concept. Recent studies of wellbeing find that on average the average individual has 'halfway positive' wellbeing. Also, most individuals have around 'halfway positive' wellbeing, most of the time. The life of an individual involves a variety of activities and different individuals have different activity mixes. Activities vary in their capacity to generate happiness. In particular intrinsic activities generate more happiness than do instrumental values. Activity situations are multidimensional and a variety of factors affect the impact on happiness. Different groups – defined by a variety of social attributes - have different wellbeing. However variation between groups is very much less than variation between individuals. Changes in social attributes – for example, changes in geographical or relationship location - are associated with changes in wellbeing.

In terms of methodology the scales used are unipolar whereas values such as satisfaction are more appropriately conceptualised as bipolar. Results are reported for the surface scales and not for any underlying scale. Most of the attributes are positive but one attribute is negative, namely anxiety.

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## Wellbeing

> Well-being survey: Fermanagh and Omagh 'happiest in UK'
> Midlife crisis? It's downhill from there until you're 65
> The 33 things that will make you happy ... and the seven that definitely won't.
> Why opposites are really less attractive
> Happy songs really do brighten up a grey day
> Once you hit 70, it's booming marvellous

These news headlines all related to studies on wellbeing by a variety of researchers: the UK Office for National Statistics (ONS); Bryson and MacKerron in *The Economic Journal*, and MacKerron and Mourato in *Global Environmental Change*; Laurence and Bentley in *European Journal of Sociology*; Bahns, Crandall and Preacher in the *Journal of Personality and Social Psychology*; Bhattacharya in *Plos One*; and Stafford and colleagues at the National Survey for Health and Development (1946-2016). [2]

## 1 The variables

Bryson and MacKerron (2016, pp. 1-2) note:

'There are in fact at least three broad categories of subjective well-being measure. The categories are: evaluative (or cognitive), in which people are asked for global assessments of their lives, such as their 'satisfaction with life as a whole nowadays'; hedonic (or affective), in which people rate their moment-to moment levels of pleasant and unpleasant feelings; and eudemonic, capturing people's perceptions of meaning, purpose, reward or 'worthwhileness' (White and Dolan, 2009; Dolan and Metcalfe, 2012).'

The ONS Annual Population Survey Personal Well-being Three-year dataset covers the period April 2012 to March 2015. The sample consisted of those aged 16 and over living in private households. Four of the questions related to wellbeing:

> S "Overall, how satisfied are you with your life nowadays?",
> W "Overall, to what extent do you feel the things you do in your life are worthwhile?",
> H "Overall, how happy did you feel yesterday?",
> A "Overall, how anxious did you feel yesterday?"

The scoring was from 0 to 10 where 0 is "not at all" and 10 is "completely".

I have some reservations about this format. The attributes are essentially bipolar, able to have positive or negative aspects: satisfied/dissatisfied, worthwhile/negative-worth, happy/sad, and anxious/relaxed. This bipolarity is not I feel well expressed by the two labels "not at all" and "completely", nor by the ONS scale of 0 to 10. A score of 5 might be regarded as the neutral point between positive and negative. A score of 7.5 might be thought of as 'halfway positive' – see following section.

[2] BBC, 2015; Bennett, 2016a; Knapton, 2016; Whipple, 2016a; Whipple, 2016b; Bennett, 2016b

The bipolarity might have been better expressed with labels ‘extremely satisfied’ and ‘extremely dissatisfied’; and with a scale from -5 to +5 with 0 as a neutral point.* Possibly it was thought that people would cope better with the labels chosen and if there were no negative numbers …

… the [-5,+5} scale could be standardised to [-1,+1] with eleven intervals of length 0.182. Original scores of 7 and 8 would correspond to the intervals [+0.272,+0.454] and [+0.454,+0.636] with midpoints 0.363 and 0.545 respectively. “A score of 7.5” would be 0.454 and so indeed “might be thought of as ‘halfway positive’.”

Note that there are three positive attributes and one negative attribute. Whereas satisfaction, worthwhileness and happiness are positive, anxiety is negative. Prompted by its use in the MacKerron studies ‘relaxedness’ (R) can be used as the opposite of [ONS] anxiety, defined in terms of the following equation:

. relaxedness = 10 – anxiety

Note that H and A/R are time-specific, focusing on a single (previous) day (ONS) or at the present moment (MacKerron) whereas S and W are less specific and possible taking in a broader period of time: ‘your life nowadays’. Perhaps it is some sort of average over a number of days, possibly a recency-weighted average. Bryson and MacKerron (2016, p. 2) refer to ‘an earlier strand of economic thought, identifying the integral of momentary sensations as the idealised measure of utility’.

The four variables are different but related. W is a component of S; and H and A(R) are also components of S.

The MacKerron studies use a similar format, albeit using a scale of 0 to 100 rather than 0 to 10. They ask individuals how happy, relaxed and awake they are:

‘The survey asks individuals to rate themselves on three dimensions of momentary well-being, stating how happy, how relaxed, and how awake they feel. Each score is elicited by means of a continuous slider (a form of visual analogue scale – see Couper et al., 2006). The ends of each scale are labelled ‘Not at all’ and ‘Extremely’, and an individual positions him or herself on the scale by drawing a fingertip across the screen. [The ends of the scale are scored 0 and 100.]’
(Bryson and MacKerron, 2016, pp. 5-6.)

## 2 The average individual

The average individual has ‘halfway positive’ wellbeing.

Table 2 presents the means for relaxedness, happiness, worthwhileness and life satisfaction. All means are in the 7 to 8 range. With 0 as "not at all" and 10 as "completely", a score of 5 might be regarded as the neutral point between positive and negative; and a score of 7.5 might be thought of as ‘halfway positive’ – see preceding section.

The mean does not tell us what the whole distribution looks like. One possibility is a Beta - for example a Beta (5,2) function (on a 0 to 10 scale) would give a mean of 7.14.

**Table 2** The average individual: mean score on the four ONS wellbeing variables (scale 0 to 10); and mean for the Beta (5,2) distribution

| . | mean | |
|---|---|---|
| relaxedness | 7.07 | |
| happiness | 7.38 | [6.56 in the MacKerron studies] |
| worthwhileness | 7.76 | |
| life satisfaction | 7.53 | |
| Beta(5,2) | 7.14 | |
| . | 7.50 | 'halfway positive' |

## 3 Differences between individuals

Different individuals experience different levels of wellbeing. Most people are around halfway positive, some people are more positive and a few are less positive.

The distributions for happiness, worthwhileness and life satisfaction are similar – as is that for the Beta (5,2) function – see Figure 1. About half the people are halfway positive – see the peak for scores 7 and 8. Another third are highly positive – scores of 9 and 10. About a sixth are fairly neutral – scores of 5 and 6. Less than a tenth of the people are negative – scores of between 0 and 4. Relaxedness exhibits a flatter spread without a peak but rising steadily throughout the range.
[Note that the range 0 to 4 covers five scale points and so has been scaled down to two fifths of its value to be comparable to the other ranges which have two scale points.]

Bryson and MacKerron (2016, Figure 1, p. 8) present the distribution of happy responses and inspection suggests that this also might be a Beta distribution, with Beta (5,2) being a reasonable approximation.

See Figure 1.

## 4 Variation within individuals

The previous section showed that different individuals have different levels of wellbeing. It is also the case that each individual experiences different levels of well-being at different times.

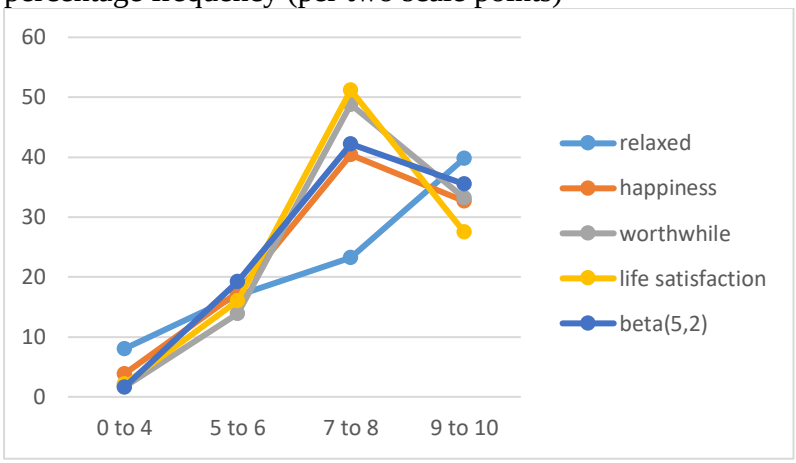
Unfortunately, data are not to hand on this. Figure 2 above presents a conjecture for how an individual's wellbeing might vary. Three different individuals are considered: a person with halfway negative well-being, a person with neutral well-being and a person with halfway positive well-being. The means are 0.25, 0.5 and 0.75

respectively based on Beta distributions (3,1), (2,2) and (1,3) respectively. The last of these, the halfway positive person, has the same mean, 0.75, as reported above for the average person.

See Figure 2.

**Figure 1** Differences between individuals: the probability distribution for the four wellbeing variables and for the Beta (5,2) function

percentage frequency (per two scale points)



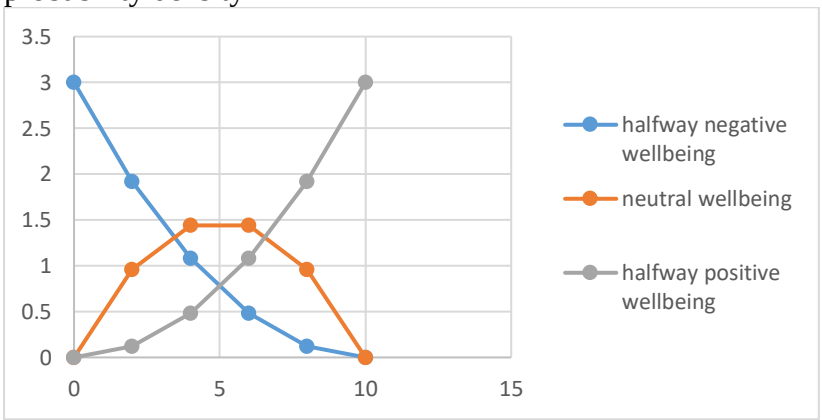

. scale points

Source: reference tables, http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-429189

Beta distribution chart calculator: http://keisan.casio.com/exec/system/1180573226; https://en.wikipedia.org/wiki/Beta_distribution

**Figure 2** Variation in wellbeing within individuals (conjectural: constructed numbers)

probability density




. scale points

## 5 Do activity differences explain variation within individuals?

The previous section suggested that the level of wellbeing experienced by an individual exhibits substantial variation. How are we to explain this variation?

One possibility is that different activities have different levels of wellbeing. The average individual engages in a wide variety of activities in a wide variety of locations with a variety of social associates. The location can be indoors, outdoors or in a vehicle; and at home or at work or elsewhere. The individual may be alone or with their partner, colleagues, children, friends, family etc. Activities may have instrumental or intrinsic value.

The studies by MacKerron and others look at a wide variety of activities and these are listed in Table 3. MacKerron estimated a person fixed effects model. The level of happiness indicated by the constant term in the model is 65.6 (=6.56x10, somewhat lower than the mean happiness of 7.38 in the ONS studies; somewhat lower than halfway positive). The effects of different activities were estimated relative to that constant term and the coefficients are given in the table – and the activities are ordered according to these coefficients, from highest to lowest effect on happiness.

The activities are grouped according to level of happiness and according to whether the activity is of intrinsic or instrumental value. The average individual is happier when doing an intrinsic activity (A1, A2 and A3) than they are when doing an instrumental activity (B2). There is some overlap however in the happiness scores for intrinsic value groups A4 and A5 and instrumental value group B1.

The effect of 'working, studying' is negative: -5.43 relative to the constant of 65.6. This effect can be decomposed further with additional effects of -4.24, 2.63, -2.59, -0.05, -2.37 for working outside the normal working hours starting (before 6am, before 8am, after 6pm, after 8pm and at weekends or on bank holidays). There are also interaction effects for the happiness of work - interactions with place, people and simultaneous activities.

These interaction effects can be thought of as other variables modulating the happiness of work. In general a variable x might modulate a person's subjective experience of object y. An experimental investigation of such modulation is provided in a recent paper by Bhattacharya and Lindsen (2016):

'A prevalent conceptual metaphor is the association of the concepts of good and evil with brightness and darkness, respectively. Music cognition, like metaphor, is possibly embodied, yet no study has addressed the question whether musical emotion can modulate brightness judgment in a metaphor consistent fashion. In three separate experiments, participants judged the brightness of a grey square that was presented after a short excerpt of emotional music. The results of Experiment 1 showed that short musical excerpts are effective emotional primes that cross-modally influence brightness judgment of visual stimuli. Grey squares were consistently judged as brighter after listening to music with a positive valence, as compared to music with a negative valence. The results of Experiment 2 revealed that the bias in brightness judgment does not require an active evaluation of the emotional content of the music. By applying a different experimental procedure in Experiment 3, we showed that this

**Table 3** Activities, grouped by type and by mean happiness doing activity; (percentage of time spent on activity)

| | |
|---|---|
| Group A1, intrinsic value | |
| Intimacy, making love | 14.20 (1.0?) |
| Theatre, dance, concert | 9.29 |
| Exhibition, museum, library | 8.77 |
| Sports, running, exercise | 8.12 (1.0) |
| Gardening, allotment | 7.83 (0.2) |
| Group A2, intrinsic value | |
| Singing, performing | 6.95 |
| Talking, chatting, socialising | 6.38 (14.2) |
| Birdwatching, nature watching | 6.28 (0.06) |
| Walking, hiking | 6.18 (1.2) |
| Group A3, intrinsic value | |
| Hunting, fishing | 5.82 (0.03) |
| Drinking alcohol | 5.73 (5.2) |
| Hobbies, arts, crafts | 5.53 |
| Meditating, religious activities | 4.95 |
| Match, sporting event | 4.39 |
| Group A4, intrinsic value | |
| Childcare, playing with children | 4.10 |
| Pet care, playing with pets | 3.63 |
| Listening to music | 3.56 (6.0) |
| Other games, puzzles | 3.07 |
| Gambling, betting | 2.62 |
| Watching TV, film | 2.55 (17.8) |
| Computer games, iPhone games | 2.39 |
| Group A5, intrinsic value | |
| Eating, snacking | 2.38 (9.5) |
| Drinking tea/coffee | 1.83 (5.4) |
| Reading | 1.47 |
| Listening to speech/podcast | 1.41 |
| Smoking | 0.69 |
| Something else (version < 1.0.2) | -1.00 |
| Something else (version ≥ 1.0.2) | -2.31 |
| Person fixed effects | Yes |
| Constant | 65.6 (978) |

| | |
|---|---|
| Group B1, instrumental value | |
| Shopping, errands | 2.74 (25.1) |
| Cooking, preparing food | 2.14 |
| Washing, dressing, grooming | 1.18 |
| Sleeping, resting, relaxing | 1.08 (9.6) |
| Browsing the Internet | 0.59 |
| Texting, email, social media | 0.56 |
| Housework, chores, DIY | 0.65 (4.9) |
| Group B2, instrumental value | |
| Travelling, commuting | -1.47 (9.1) |
| In a meeting, seminar, class | -1.50 |
| Admin, finances, organising | -2.45 |
| Waiting, queueing | -3.51 |
| Care or help for adults | -4.30 |
| Working, studying | -5.43 (27.4) |
| Group C, negative value | |
| Sick in bed | -20.4 (-0.01?) |

brightness judgment bias is indeed a robust effect. Altogether, our findings demonstrate a powerful role of musical emotion in biasing brightness judgment and that this bias is aligned with the metaphor viewpoint.'

Returning to the MacKerron studies, MacKerron also looked at the effect of the environment on happiness. Outdoors scored +2.32; land cover had +6.02 for coast, +2.71 for mountains and between +0.37 and +2.12 for other land cover; weather scored between -1.37 for rain and 1.02 for snow; temperature scored +5.13 for over 24 degrees C; and being with one's partner scored +4.51 and being with friends scored +4.38.

The discussion so far has emphasised differences in the level of wellbeing. However it is worth noting that many of the differences are small when compared with the range of values of the underlying scale. In Table 1 the constant for the happiness equation is 65.6. Working/studying is 60.2 and childcare is 69.1 with a total of twenty-five activities in the 60.2 to 69.1 range. Only one activity is below this level, namely 'sick in bed' at 45.2. Nine activities are in the 70.0 to 72.6 range. Four activities are in the range 73.4 to 74.9; and just one, intimacy or making love is at 79.8. Figure 3 shows that the distribution of activity happiness is concentrated in a narrow range of the scale.

**Figure 3** The distribution of activity happiness

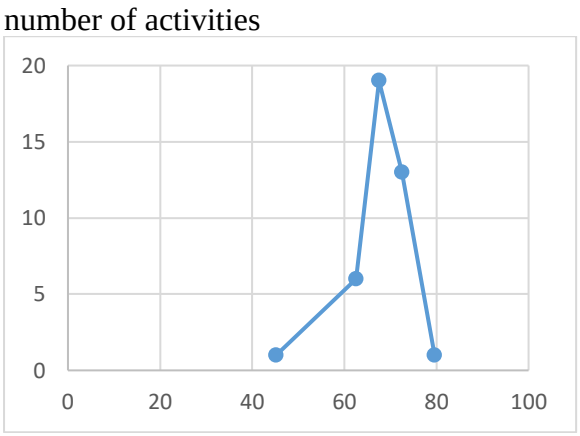



Figure 4 presents how the happiness contribution relates to time spent. There is a suggestion that instrumental value activities are time-consuming whereas intrinsic value activities are less so.

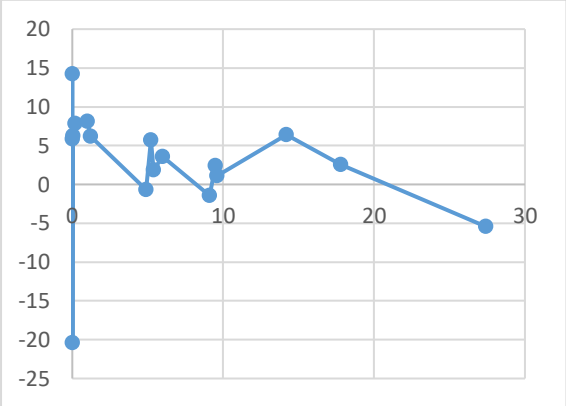
See Figure 4.

Thinking about these results it is important to note that individuals have different tastes, different utility functions. The people enjoying extra happiness of 9.29 at the theatre are not necessarily the same as the people enjoying an extra happiness of 8.12 when involved in sports. Likewise, looking ahead to the next section, the people who enjoy a life satisfaction of 7.66 in Kensington are not the same as the people who

enjoy a life satisfaction of 8.00 in Eden/Penrith. One imagines that Kensington people might not enjoy Eden/Penrith and vice versa.

**Figure 4** How the happiness contribution relates to time spent

Happiness contribution




. % of occasions (% of time)

## 6 Do group differences explain differences between individuals?

An earlier section suggested that different individuals had different levels of wellbeing. How are we to explain this variation?

'Before moving on to the findings from this study, it is important to note that previous research in this area shows that our genes and personality explain much of the differences between people's levels of personal well-being. Indeed, it has been estimated that these differences may explain up to half of the variation observed between people in their level of personal well-being (Diener 1996).'
ONS (2013) Measuring National Well-being, What matters most to Personal Well-being?

Noting the preceding remarks about the effects of genes and personality we now consider the extent to which group differences explain differences between individuals. (Of course there may be an interaction between groups and genes and personality but we shall not consider this here.)

Different subgroups have different mean wellbeing. However most subgroups have mean wellbeing in the range 7.0 to 8.0, that is 'halfway positive' plus or minus 0.5. Thus differences between groups are an order of magnitude smaller than differences between individuals. Between-group differences are much smaller than within-group differences.

In this section we focus on life satisfaction.

Only one subgroup has a mean above the 7.0 to 8.0 range, namely the group having 'very good health', and that is just over the border with a mean of 8.01. There are six subgroups with a mean below 7.0: black etc. 6.98, ILO unemployed 6.84, divorced or

separated 6.83, ill or disabled 6.82, long term sick 5.63 and very bad health 4.91. See Table 4.

**Table 4** Life satisfaction scores for lowest and highest groups for different attributes and the range between highest and lowest

| attribute . | lowest | highest | range (max=10.00) | sample size, '000 |
|---|---|---|---|---|
| working | 7.63 full time | 7.66 part time | 0.03 | 111 |
| sex | 7.49 men | 7.56 women | 0.07 | 133 |
| religion | 7.31 any other | 7.60 Christian/Hindu | 0.29 | 5 |
| age | 7.21 (50-54) | 7.89 (70-74) | 0.68 | 28 |
| ethnic | 6.98 Black* | 7.64 Indian | 0.66 | 5 |
| part time | 6.82 ill/disabled | 7.81 school/student | 0.99 | 1 |
| employment | 6.64 ILO unemp | 7.64 employed | 1.00 | 11 |
| relationship | 6.83 divorced** | 7.84 married/part. | 1.01 | 36 |
| inactive | 5.63 long term sick | 7.85 retired | 2.22 | 15 |
| health | 4.91 very bad | 8.01 very good | 3.10 | 5 |

The large effect for self-reported health requires some comment. The attributes displaying the greatest range in wellbeing are those where the definition of the groups is value laden. This is most explicit in the case of self-reported health. The variable should be thought of not as health but as 'the value of health': very good, good, fair, bad, very bad. It is no coincidence that this attribute exhibits the largest range. The second largest range also has a health-related value-laden definition: 'long-term sick'. The next three largest ranges include a health-related value-laden definition: 'ill/disabled'; and implicitly-negative work relationship, unemployed, and personal relationship 'divorced or separated.

We now turn to social groups based on geography. With regional differences also most subgroups have mean wellbeing in the range 7.0 to 8.0, that is 'halfway positive' plus or minus 0.5. Thus differences between groups are an order of magnitude smaller than differences between individuals. Between-group differences are much smaller than within-group differences. There are three subgroups with a mean above the 7.0 to 8.0 range, namely Hart (8.11), Fermanagh & Omagh (8.13) and Eilean Siar (8.20). There is just one subgroup with a mean just below 7.0: Harlow (6.97). See Table 5.

See Table 5.

In the results from both the above tables the variation between groups is much smaller than the variation within individuals from the same group. However some group differences are larger than others. The ONS summarises the results in a table.

See Table 6.

**Table 5** Life satisfaction scores for lowest and highest groups for different attributes and range between highest and lowest

| attribute . | lowest | highest | range (max=10.00) | sample size, '000 |
|---|---|---|---|---|
| country | 7.51 Wales | 7.69 N. Ireland | 0.18 | |
| England | 7.38 London | 7.63 South East | 0.25 | |
| Wales | 7.35 Merthyr | 7.81 Anglesey | 0.46 | |
| Scotland | 7.38 Glasgow/I.clyde | 8.20 Eilean Siar | 0.82 (Outer Hebrides) | |
| N. Ireland | 7.40 Belfast | 8.13 Fermanagh & O | 0.73 | |
| North East | 7.36 Newcastle | 7.69 Stockton | 0.33 | |
| North West | 7.18 Pendle (Nelson) | 8.00 Eden (Penrith) | 0.82 | |
| Yorks. & H | 7.30 Barnsley | 7.79 Harrogate | 0.49 | |
| East Mids | 7.18 Corby | 7.97 S. Northants. | 0.79 | |
| West Mids | 7.28 Birmingham | 7.81 Stratford.Avon | 0.53 | |
| East | 6.97 Harlow | 7.87 Broadland | 0.90 (out of Norwich) | |
| London | 7.16 Greenwich | 7.66 Kensington | 0.50 | |
| South East | 7.27 Slough | 8.11 Hart | 0.84 (Hampshire) | |
| South West | 7.34 Bristol | 7.92 North Dorset | 0.58 | |

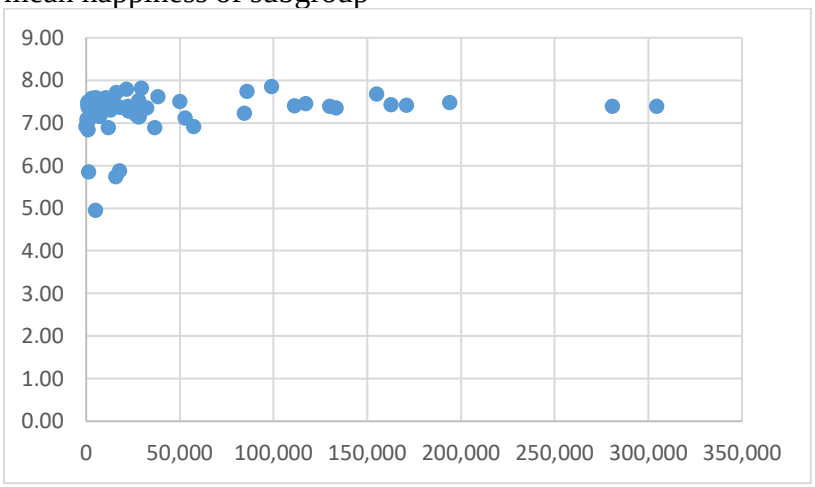
**Table 6** The size of the unique contribution that each variable makes to the explained variance in personal well-being: 'life satisfaction' ($R^2$) 'worthwhile' ($R^2$) 'happiness yesterday' ($R^2$) 'anxious yesterday' ($R^2$)

| . | life sat | worth | happ | anxiety/relax |
|---|---|---|---|---|
| Self-reported health | Large | Large | Large | Large |
| Economic activity | Large | Large | Moderate | Moderate |
| Marital status | Large | Moderate | Moderate | Very Small |
| Age | Moderate | Very Small | Small | Small |
| Mode of interview | Small | Small | Very Small | Very Small |
| Ethnicity | Small | Very Small | Very Small | Very Small |
| Region | Small | Small | Very Small | Small |
| Tenure | Small | Small | Very Small | Very Small |
| Religion | Very Small | Small | Small | Very Small |
| Socio-economic status | Very Small | Very Small | Very Small | Very Small |
| Index of multiple deprivation decile | Very Small | Very Small | Very Small | Very Small |
| Education | Very Small | Very Small | Very Small | Small |
| Gender | Very Small | Small | Very Small | Small |
| Disability | Very Small | Very Small | Very Small | Very Small |
| Migration | Very Small | Very Small | Very Small | Very Small |
| Children | Very Small | Small | Very Small | Very Small |

Different subgroups have different sample sizes. Subgroups based on smaller sample sizes have greater variation in the mean and in particular exhibit groups with low means – see Figure 5.

**Figure 5** Happiness and personal characteristics; sample size and mean

mean happiness of subgroup




. sample size of subgroups

## 7 Local attachment, person attachment … physical and social migration

The ONS study (2016) found that people living in different parts of the UK had different levels of wellbeing and MacKerron and Mourato (2016) found that momentary happiness depended to some extent on the nature of the surrounding physical environment. These results suggest that people attach a value to their location but neither of the studies directly asked people about their attachment to their location.

Laurence and Bentley (2016) did ask these specific questions. A factor analysis of standard local social cohesion measures identified two factors, one relating to social interactions within the neighbourhood and the other related to valuing the neighbourhood, 'local place attachment/belonging' – liking living there, planning to remain, preferring to stay, feeling belonging. Table 1, p. 59.

The aim of the Laurence and Bentley was to investigate the relationship between ethnic diversity social cohesion. Ward-level ethnic diversity is measured using Simpson's Index of Diversity which measures the likelihood that two randomly selected individuals within a community will belong to the different ethnic groups.

Diversity exhibits a significant negative association with attachment (Model 1) – see equation [1] below. Change in diversity exhibits a significant negative association with change in attachment (Model 2) – see equation [2] below. Attachment and change in attachment are also negatively associated with material and educational disadvantage. Looking at subgroups, 'stayers', those who stay in a location, feel less attachment if the location increases in diversity; and 'movers', those who move to a new location, feel less attachment if the new location has less diversity – see equation [2] below.

However, as suggested, 'an individual's move into a more/less diverse community may reflect prior preferences for in-/out-group cohabitation – see Equation [3]. If

present, we would expect different outcomes for those moving into more diverse communities (predicted to have no diversity bias) compared with those moving into less diverse communities (predicted to have negative bias). Models 3 and 4 (Table 3) subdivide movers into ‘moved into a less-’ or ‘more-diverse community’. For movers, those who move to a less diverse location express a large increase in attachment (see Equation [4]); and those who move to a more diverse location express little change in attachment.

The following schematic equations are meant to capture the above arguments. In Equation [1] the value v of location depends positively on the homogeneity h of the location. The parameter b measures the strength of that effect. In equation [2], ‘d’ denotes change and change in value of location depends on change in homogeneity, the strength of the effect again being measured by b. In Equation [3] the change in homogeneity achieved by moving is driven by the strength of effect ‘b’ and in equation [4] the strength b has a heightened effect on the change in the value of the location.

. $v = b\ h$ [1]
. $dv = b\ dh$ [2]
. $dh = a\ b$ [3]
. $dv = a\ b^2$ [4]

A study by Bahns, Crandall and Preacher (2016) had a similar structure. However rather than looking at an attachment to a place they looked at attachment to a person; rather than looking at ethnic diversity/similarity they looked at person diversity/similarity; and rather than looking at staying in a location or moving they looked at staying in a relationship or leaving.

‘A series of field studies focused on the role of similarity as niche construction in friendships. Using a free-range dyad harvest method, we collected 11 independent samples with 1,523 interacting pairs, and compared dyad members' personality traits, attitudes, values, recreational activities, and alcohol and drug use. Within-dyad similarity was statistically significant on 86% of variables measured. To determine whether similarity was primarily attributable to niche construction (i.e., selection) or social influence, we tested whether similarity increased as closeness, intimacy, discussion, length of relationship, and importance of the attitude increased. There were no effects on similarity of closeness, relationship length, or discussion of the attitude. There were quite modest effects of intimacy, and a reliable effect of the shared importance of the attitude. Because relationship length, intimacy, closeness, and discussion can all serve as markers of opportunity for, or potency of social influence, these data are consistent with the "niche construction" account of similarity. In 2 follow-up controlled longitudinal field studies, participants interacted with people they did not know from their large lecture classes, and at a later time completed a survey of attitudes, values, and personality traits. Interacting pairs were not more similar than chance, but for the 23% of dyads that interacted beyond the first meeting, there was significant similarity within dyad members. These 2 lines of inquiry converge to suggest that similarity is mainly due to niche construction, and is most important in the early stages of a relationship; its importance to further relationship development wanes.’

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