

Article

# Personal and economic well-being: what matters most to our life satisfaction?

Insights into socio-demographic and economic factors that matter to life satisfaction, such as an individual's characteristics or circumstances as well as household income and spending.

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# 1 . Main points

- Self-reported health, marital status and economic activity have the strongest associations with how positively we rate our life satisfaction.
- Comparing this with [previous findings](#), marital status appears to matter more for people's life satisfaction in October 2017 to September 2018 than it did six years before, while economic activity contributed less.
- Age is the personal characteristic most strongly related to life satisfaction, with younger people reporting higher life satisfaction; this falls in middle age and rises again in later years.
- People who own their home outright or with a mortgage rate their life satisfaction more highly than those living in both private and social rented housing.
- In terms of household economic circumstances, higher household spending is more strongly related to how we rate our life satisfaction than higher household income, though both matter less than personal circumstances.
- How we spend our money also matters; comparing people with the same level of spending, those able to spend a higher share on experiences, such as hotels and restaurants, are more likely to be very satisfied with life than those spending more on food, insurance and mobile phone subscriptions.

## 2 . Introduction

In February 2019, we introduced [a new series on "people and prosperity"](#) as part of our "[Beyond GDP](#)" initiative, bringing together personal and economic well-being for the first time. The aim is to provide timely, quarterly indicators and analysis of household financial health as well as personal well-being. This release follows on from this in looking beyond gross domestic product (GDP) and investigating how a range of factors, including economic well-being indicators, may have a direct impact on people's personal well-being – as this is [a clear area of interest identified by our users](#).

We have revisited the work carried out in relation to [What matters most to Personal Well-being?](#), replicating analysis where possible, to enable comparisons from April 2011 to March 2012 to October 2017 to September 2018. We also built on other analysis, [Income, Expenditure and Personal Well-being](#), to better examine the relationship between personal well-being and household income and spending.

Regression analysis is used to examine associations between personal well-being and individual characteristics and circumstances. This technique can identify the strength of these relationships but not cause and effect. Regression analysis can be used for prediction (how likely something is to occur given certain conditions); for example, how likely someone is to report higher life satisfaction given their age group or their marital status.

As was found in our [What matters most to Personal Well-being?](#) release, we can explain more of the variance in life satisfaction than the other three measures of personal well-being, so that is why we focus on it in this article, but we do discuss the other well-being measures where notable and provide the analysis in the accompanying [datasets](#).

For further explanation of our approach and how to interpret our findings, see [Section 9](#) and [Section 10](#). For all the regression models reported in this article, see the [datasets](#).

## 3 . Most important factors affecting life satisfaction

## Figure 1: Reporting better general health increases the likelihood of higher life satisfaction more than any other factor

Odds ratios of factors affecting life satisfaction, UK, April 2016 to March 2017

Source: Office for National Statistics - Effects of Taxes and Benefits (ETB)

### Notes:

1. This chart reports findings from the ETB. Similar models using the bigger sample from the Annual Population Survey (APS) are broadly aligned and available in the [datasets](#).
2. This chart includes a selection of factors having the highest impact on personal well-being. See the APS and ETB regression models for the [full list](#).
3. Some of the reference categories presented in this chart differ from the reference categories used in the APS and ETB regression models for presentational purposes only.
4. The values reported in the chart are odds ratios and interpreted as highlighted in [section 10](#).

[Download the data](#)

Figure 1 shows the impact different factors have on reporting higher life satisfaction. We have considered both an individual's "characteristics" (such as sex and age ) and "circumstances" (such as self-reported health, marital status, dependent children in the household, educational attainment, economic activity status, housing tenure, household income and spending), all of which could be associated with life satisfaction.

Self-reported health has a larger effect on reported life satisfaction than any other characteristic or circumstance considered in the analysis. The odds of reporting higher life satisfaction are 3.0 times greater for someone reporting very good health than for someone reporting fair health. In contrast, the odds of reporting higher life satisfaction are 5.7 times lower for someone reporting very bad health than for someone reporting fair health.

Marital status is a significant contributor to the odds of reporting high life satisfaction. People who are married or in a civil partnership are most likely to report higher life satisfaction than those in any other marital status. People who are separated from their partner or widowed are more likely to report lower life satisfaction, compared with people who are single.

Economic activity can also have a significant impact on life satisfaction ratings. Being retired has a positive impact, while being unemployed or economically inactive due to sickness or disability has a significant negative impact. Interestingly, both household spending and household income have less of an impact on life satisfaction than other personal and household circumstances.

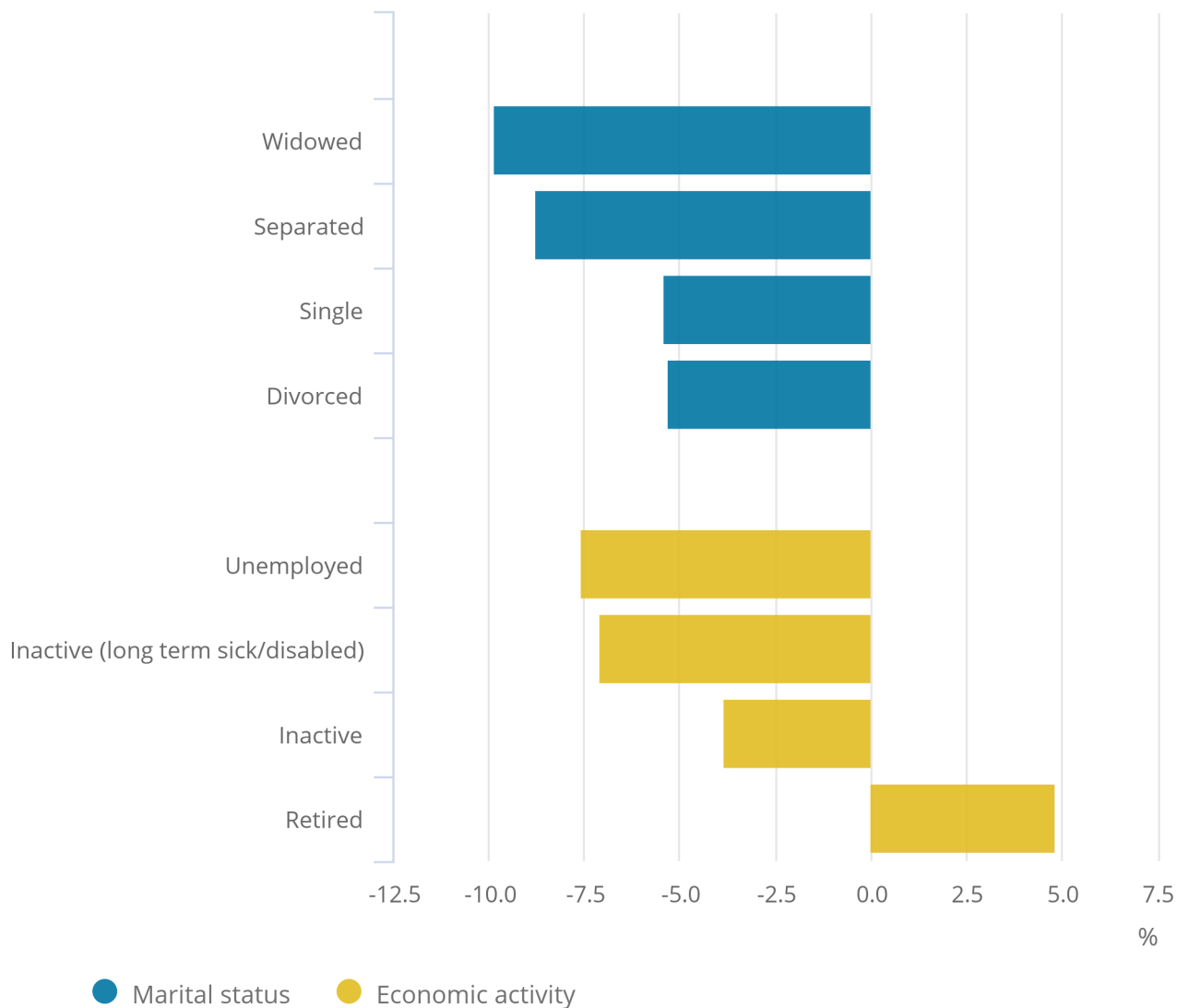
Of the personal characteristics examined in the analysis, age is most strongly related to life satisfaction. [Previous research](#) has shown the relationship between age and life satisfaction to be S-shaped. That is, life satisfaction is higher on average for younger adults, dropping to its lowest point when people are in their 40s, rising again as people near retirement age, and falling again as we enter our 80s.

**Figure 2: Retirees are most satisfied with their life**

Percentage difference in average reported life satisfaction against reference categories, Great Britain, October 2017 to September 2018

**Figure 2: Retirees are most satisfied with their life**

Percentage difference in average reported life satisfaction against reference categories, Great Britain, October 2017 to September 2018



Source: Office for National Statistics - Annual Population Survey

Notes:

1. The reference category for marital status is 'married or in a civil partnership'; reference category for economic activity is 'employed'.
2. The values reported in the chart are all statistically significant compared to the reference categories.
3. Positive values denote greater average life satisfaction and negative values denote lower average life satisfaction, compared with the reference category.

People who are married or in a civil partnership rate their life satisfaction higher – in particular, 9.9% higher than those who are widowed, and 8.8% higher than those separated from a partner. Those who are unemployed report lower life satisfaction ratings than those in any other economic activity group. Those who are economically inactive due to sickness or disability report only slightly higher life satisfaction ratings than unemployed people. Compared with people who are employed, these groups rate their life satisfaction 7.6% and 7.1% lower, respectively.

## 4 . What has changed over time?

We have revisited the work carried out previously in relation to [What matters most to Personal Well-being?](#), replicating analysis where possible, to enable comparisons from April 2011 to March 2012 to October 2017 to September 2018. Self-reported health is still the biggest contributor to life satisfaction of all the factors we considered (see the [accompanying datasets](#) for more information). It is also strongly associated with measures of happiness, anxiety and the feeling that the things we do in life are worthwhile.

For the latest period up to September 2018, economic activity overall showed less variance in life satisfaction than marital status, while it was the reverse in the April 2011 to March 2012 analysis. This may be influenced by [historically low unemployment rates](#), which have fallen between the two periods considered.

## 5 . Associations with life satisfaction and household circumstances

### Those living with dependent children report higher life satisfaction

As seen in Figure 1, those living with dependent children have 1.25 times greater odds of reporting higher life satisfaction. This is true once we control for the effect of income and spending of the household, which will likely be different for those with dependent children.

### Those renting in social housing report worse life satisfaction than those who rent privately

[Housing tenure has a strong association with life satisfaction](#). In comparison with those buying a property with a mortgage, the odds of reporting lower life satisfaction are 1.25 and 1.22 times greater for those in social housing and privately renting, respectively.

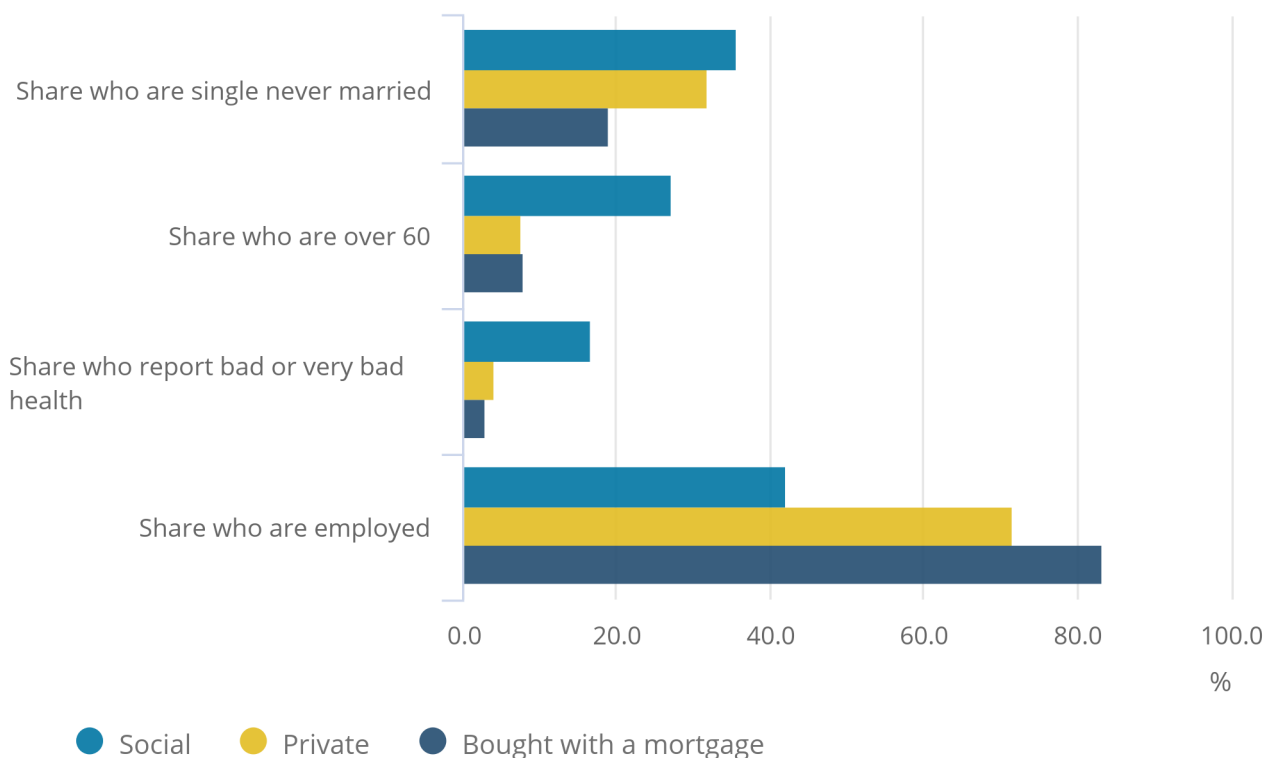
In Figure 3, we look at how people who own or rent their home compare in terms of the personal characteristics and circumstances with the greatest impact on life satisfaction.

**Figure 3: There is a bigger share of people living in social housing who are either single, report bad health or are not employed, compared to those with a mortgage**

Share of the population aged 16 years and over, UK, April 2016 to March 2017

Figure 3: There is a bigger share of people living in social housing who are either single, report bad health or are not employed, compared to those with a mortgage

Share of the population aged 16 years and over, UK, April 2016 to March 2017



Source: Office for National Statistics - Effects of Taxes and Benefits (ETB)

Notes:

1. "Share" refers to those in each tenure category aged 16 and over.

Those living in social housing tend to report worse employment situations and poorer health. Only 42.1% of those living in social housing report being employed, while 83.3% of those who bought with a mortgage or loan are in employment. Of those in social housing, 16.6% report bad or very bad health, compared with 4.0% of those privately renting and 3.0% of those buying with a mortgage.

Additionally, those who are renting privately are much more likely to be single rather than living with a partner or married, which is also associated with lower life satisfaction.

## 6 . Economic associations with life satisfaction

We have highlighted that being unemployed rather than employed is associated with lower life satisfaction. A job may impact people's personal well-being in multiple ways, from providing a sense of purpose and social interaction, through to providing financial security and more choices in the form of purchasing power. This section focuses more on the latter, while recognising the wider benefits employment may also contribute to well-being.

As reported in previous research, such as the [Organisation for Economic Co-operation and Development's \(OECD's\) 2018 follow-up report to the Beyond GDP agenda](#), when considering economic measures of well-being, household income and household spending better take into account the full resources individuals have access to, rather than just earnings from their jobs.

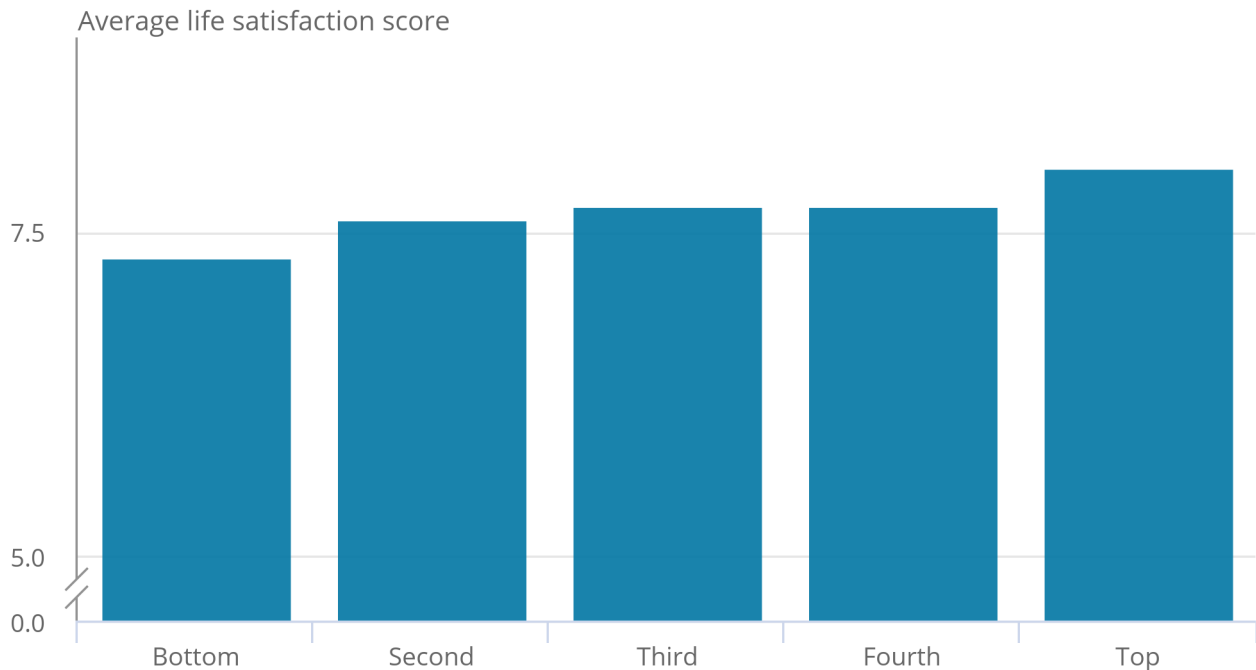
Previous analysis considered [wealth](#) and [income](#) associations with personal well-being, while in this article we focus on spending, as it has been [proposed](#) as a better indicator of people's economic resources. This can be seen when looking at average life satisfaction across spending distribution (Figure 4).

## Figure 4: Average life satisfaction is higher for those spending more

Quintiles of equivalised household spending, UK, April 2016 to March 2017

### Figure 4: Average life satisfaction is higher for those spending more

Quintiles of equivalised household spending, UK, April 2016 to March 2017



Source: Office for National Statistics - Effects of Taxes and Benefits (ETB)

#### Notes:

1. The average of every quintile shown, not controlling for any of the regression factors.
2. [Spending values have been equivalised.](#)

It may be that this pattern is simply explained by other characteristics such as self-reported health, age and employment status. To understand the role income and spending have on life satisfaction, it is therefore important to control for personal and household characteristics. The individual effects are shown in Figure 5.

Figure 5 shows that you are more likely to report higher life satisfaction if you have higher household spending, and spending appears to matter more than household income to people's life satisfaction. For someone with twice the level of household spending, their odds of reporting higher life satisfaction are 1.22 times greater. However, it is important to note that both impacts are smaller than most personal characteristics or circumstances shown previously.

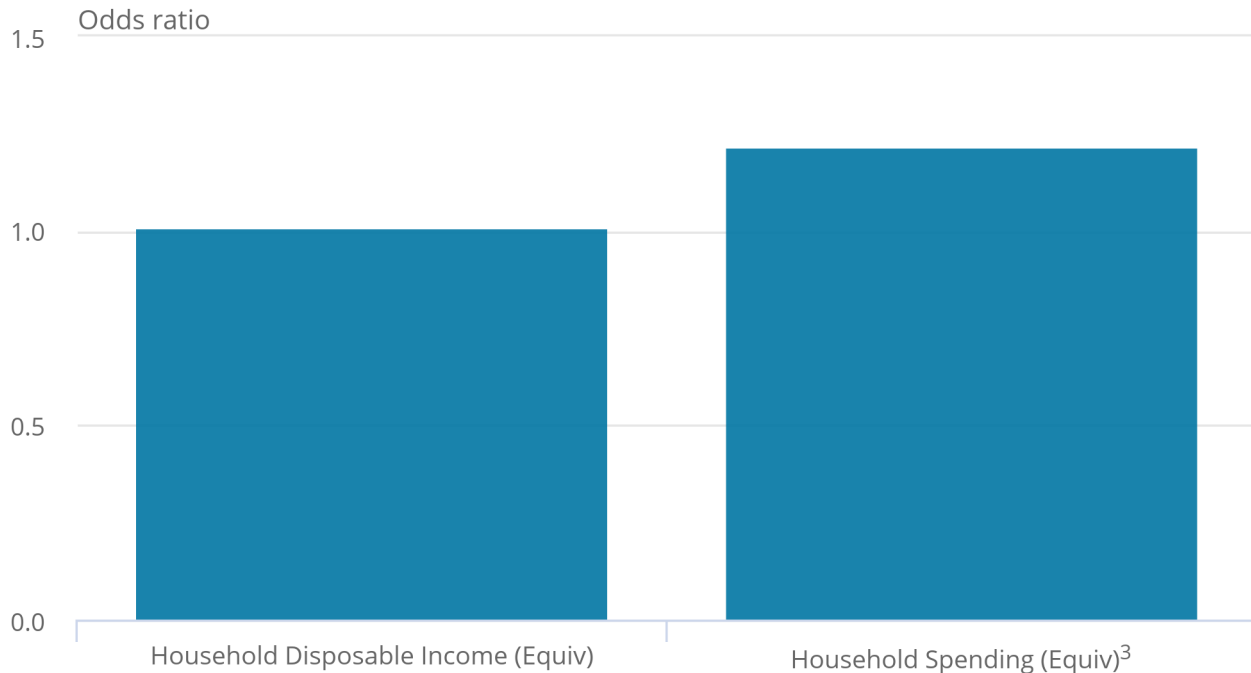


## Figure 5: Household spending has a larger positive association with life satisfaction than household income

Odds ratios of higher life satisfaction associated with a doubling of each monetary measure, UK, April 2016 to March 2017

### Figure 5: Household spending has a larger positive association with life satisfaction than household income

Odds ratios of higher life satisfaction associated with a doubling of each monetary measure, UK, April 2016 to March 2017



Source: Office for National Statistics - Effects of Taxes and Benefits (ETB)

#### Notes:

1. Positive value means more likely to report higher life satisfaction for higher income/spending
2. The values reported in the chart are odds ratios and interpreted as highlighted in [section 10](#).
3. Denotes statistical significance at 95% level, while income is only significant at the 90% level.
4. Data refers to [equivalised](#) household income and spending.

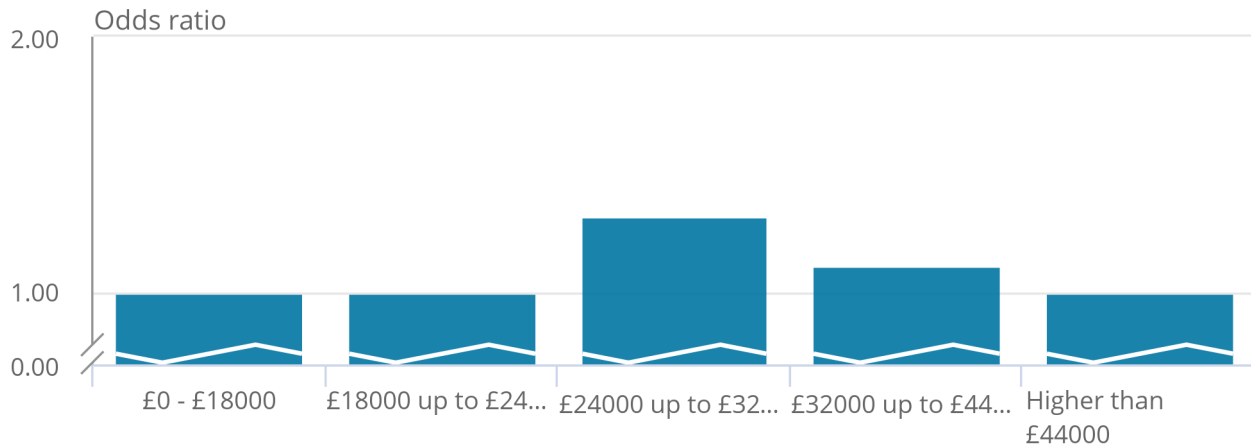
There is no evidence of a statistically significant association between household disposable income and life satisfaction overall after accounting for other characteristics. However, those whose household income is between £24,000 and £44,000 are significantly more likely to report higher life satisfaction with increasing income, as seen in Figure 6.

**Figure 6: Higher disposable household income has a positive impact on the likelihood of reporting higher life satisfaction, if it is between £24,000 and £44,000**

Odds ratios of higher life satisfaction associated with 10% higher household disposable income, UK, April 2016 to March 2017

Figure 6: Higher disposable household income has a positive impact on the likelihood of reporting higher life satisfaction, if it is between £24,000 and £44,000

Odds ratios of higher life satisfaction associated with 10% higher household disposable income, UK, April 2016 to March 2017



Source: Office for National Statistics - Effects of Taxes and Benefits (ETB)

Notes:

1. Quintiles used from [Household Disposable Income and Inequality, financial year ending 2017](#).
2. Denotes values that are statistically significant at the 95% level.
3. The values reported in the chart are odds ratios and interpreted as highlighted in [section 10](#).
4. Income values have been [equivalised](#).

The impact from income for certain parts of the income distribution could be linked to the [stronger effect from income associated with those in middle age](#), as well as [evidence that higher income can impact people's life satisfaction](#) through reduced worries regarding financial security.

There is a stronger relationship between spending and life satisfaction than between income and life satisfaction and this is consistent with the view that household spending is a better proxy for people's achieved living standards. This is in line with [research showing spending better categorises the available resources to an individual \(PDF, 286.6KB\)](#).

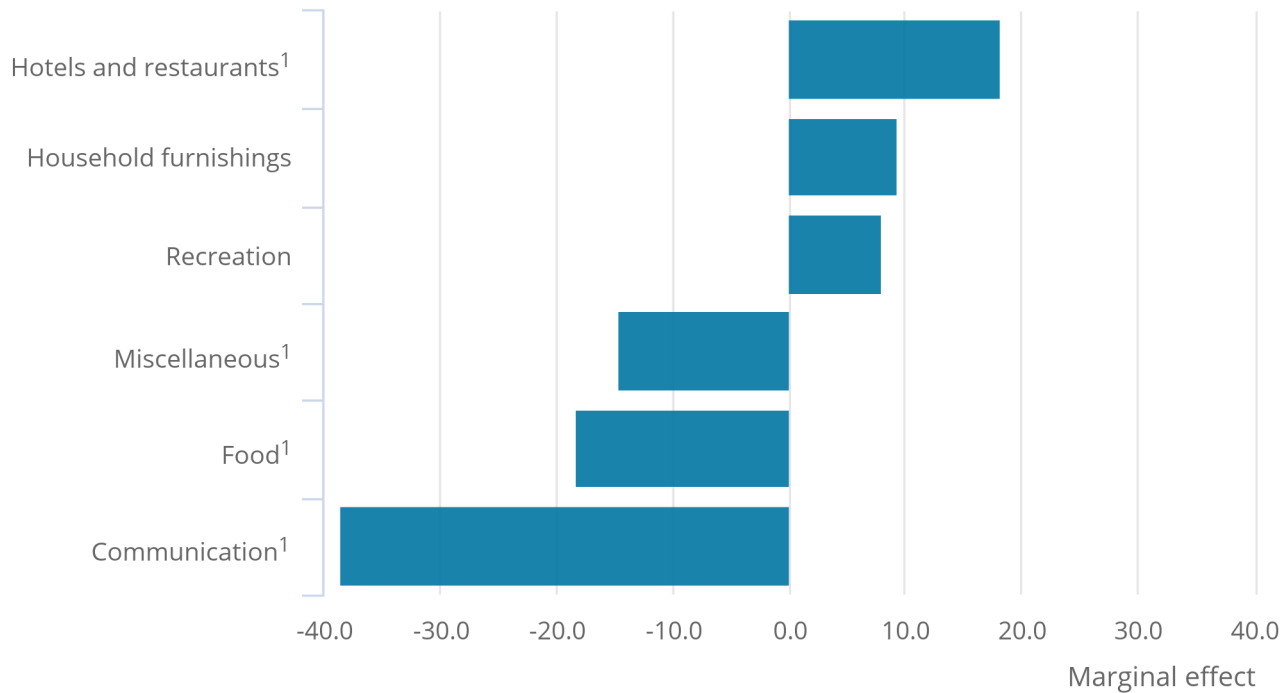
It may not be all forms of spending that have a positive association with personal well-being. For a given level of spending, different households may have higher or lower levels of essential costs on items such as food, accommodation and travel to work, which will in turn affect the amount they can spend on leisure and other more discretionary items. Figure 7 shows that, controlling for total household spending, what people spend their money on has a further impact on life satisfaction.

**Figure 7: Of all categories of spending, a higher share of spending on hotels and restaurants is most positively associated with higher life satisfaction.**

Marginal Effect on reporting very high life satisfaction from a doubling of the share of spending on a particular category, UK, April 2016 to March 2017

Figure 7: Of all categories of spending, a higher share of spending on hotels and restaurants is most positively associated with higher life satisfaction.

Marginal Effect on reporting very high life satisfaction from a doubling of the share of spending on a particular category, UK, April 2016 to March 2017



Source: Office for National Statistics - Effects of Taxes and Benefits (ETB)

Notes:

1. Denotes statistical significance at the 95% level, while other series are significant at the 90% level.
2. These are marginal effects, and are interpreted as outlined in [section 10](#).
3. Other spending categories not shown (alcohol, clothing, housing and rental, health, transport, and education) are not significant even at the 90% level.
4. Miscellaneous spending is mostly captured by insurance such as car insurance, spending on personal care such as hairdressing, and hair products and other cosmetics.
5. Spending values have been [equivalised](#).

Generally, a higher proportion of total spending on hotels and restaurants is positively associated with very high life satisfaction, as is spending on household furnishings and recreation.

In contrast, spending on goods and services – such as food, insurance and mobile phone subscriptions – tends to have a negative association, increasing the likelihood of reporting lower life satisfaction. Spending on categories like clothing, housing and transport were not found to have a statistically significant impact on reporting higher life satisfaction.

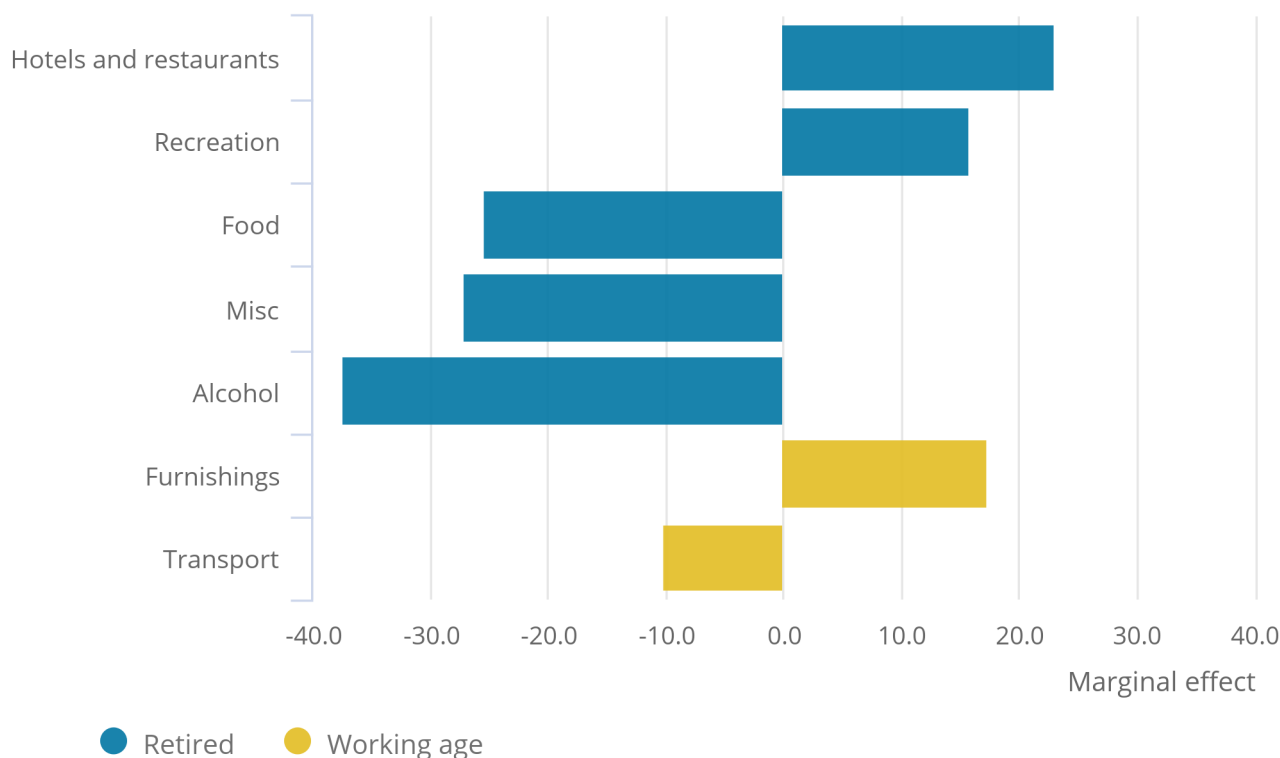
Looking at different age groups, different spending categories influence the retired and the working age populations.

## Figure 8: Higher share of spending on transport for those of working age is associated with lower life satisfaction

Marginal Effect on reporting very high life satisfaction from a doubling of the share of spending on a particular category, UK, April 2016 to March 2017

### Figure 8: Higher share of spending on transport for those of working age is associated with lower life satisfaction

Marginal Effect on reporting very high life satisfaction from a doubling of the share of spending on a particular category, UK, April 2016 to March 2017



Source: Office for National Statistics - Effects of Taxes and Benefits (ETB)

#### Notes:

1. All factors significant at 90% level only, except furnishings for working age which is significant at the 95% level. Other categories not shown are not significant at the 90% level.
2. These are marginal effects and are interpreted as outlined in [section 10](#).
3. 'Working age' is defined here as aged 16 – 65; 'retired' is defined as those over age 65.
4. Spending values have been [equivalised](#).

Those who are retired are less likely to report very high life satisfaction if they have a higher share of spending on alcohol and tobacco, while those of working age are less likely to report high life satisfaction if they have a higher share of spending on transport. The latter may link to our previous analysis on [commuting and personal well-being](#), which found longer commutes lasting between 61 and 90 minutes are associated with lower life satisfaction.

Finally, for those of working age, a higher share of total spending on furnishings and household improvements is associated with a rise in the likelihood of reporting very high life satisfaction. However, this is only among those households who own their property outright or with a mortgage.

## 7 . Your feedback: have your say

Your feedback will be very valuable in making our results useful and accessible. If you have any comments, please contact us via email at [PeopleAndProsperity@ons.gov.uk](mailto:PeopleAndProsperity@ons.gov.uk).

## 8 . Authors

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## 9 . Quality and methodology

### Why undertake a regression analysis?

To understand the relationship between personal well-being and economic or social factors, regression analysis has been used to measure the size and strength of the relationship between two variables, while holding all other variables in the model equal. While regression analysis can tell us the strength of the relationship between one variable and another, it cannot tell us about causality. Individuals will have many characteristics that could increase or decrease the chances of them reporting low personal well-being ratings that are not captured in our model and it can be difficult to identify the underlying causes of scoring their well-being this way.

It should be noted that our regression models explain between 9% and 21% of the differences in levels of personal well-being between people, suggesting that most of what influences a person's well-being is not explained by our data. This is to be expected, as many factors impact on well-being that are not quantified in our data sources or included in our regression models. These include genetic and personality factors, which have been claimed to account for about [half of the variation in personal well-being](#).

### Surveys used

The analysis presented in this publication is based on two different data sources, the Annual Population Survey (APS) and Effects of Taxes and Benefits (ETB).

### Annual Population Survey (APS)

The [APS](#) has the largest coverage of any household survey in the UK. The topics covered include employment and unemployment, as well as housing, ethnicity, religion, health and education. For some of our [well-being domains](#), such as “where we live”, the APS has limited data available. To capture more of the differences between places, we included a place-related variable, which indicates urban and rural locations, as done in [our previous analysis](#).

Due to Northern Ireland having a lower sample size than England, Wales and Scotland, these data could not be created. The regression analysis therefore does not include respondents from Northern Ireland and focuses on Great Britain rather than the UK.

The dataset used for this analysis covers October 2017 to September 2018 and has a total sample size of 286,059. Not all survey participants answer all the well-being questions; proxy responses, for example, are not valid. As a result, of the total sample size we analyse data for around 145,000 for this period. We also analysed APS data for the period April 2011 to March 2012 to assess change from our previous analysis of [What matters most to Personal Well-being?](#), as well as for the period October 2014 to September 2015 (as a mid-point period between the two reference periods considered).

## Effects of Taxes and Benefits (ETB)

ETB data are from the Office for National Statistics' (ONS's) Living Costs and Food Survey (LCF), a voluntary sample survey of around 5,000 responding private households in the UK for the year. In addition, ETB uses several administrative sources to improve the quality of estimates, particularly to estimates of indirect taxes (for example, VAT) and benefits in kind (for example, education, NHS). The data cover the UK as a whole and are collected in the financial year from April 2016 to March 2017.

The main purpose of ETB is to provide quantitative analysis of the effects of government intervention (through taxes and benefits) on the income of private households in the UK. Further information on the ETB can be found in the [ETB Quality and Methodology Information \(QMI\) report](#). Supporting information on the LCF can be found in the [user guidance and technical information](#).

It is important to note that the data in this article were taken from household surveys to help understand well-being of those living in private residential households. People living in communal establishments (such as care homes) or other non-household situations are not represented in the APS or ETB. This may be important in interpreting the findings as we could possibly be excluding some of those more likely to have poor well-being.

These two data sources are used to complement each other. We used the APS for comparison with the previous [What matters most to Personal Well-being?](#) analysis and because the larger sample size allows for more sophisticated analysis and more granular estimates. However, the ETB provides better data on income and spending and so this is used where appropriate.

## Personal well-being measures

The four personal well-being questions are:

- Overall, how satisfied are you with your life nowadays?
- Overall, to what extent do you feel the things you do in your life are worthwhile?
- Overall, how happy did you feel yesterday?
- Overall, how anxious did you feel yesterday?

People are asked to respond on a scale of 0 to 10, where 0 is “not at all” and 10 is “completely”. We produce estimates of the mean ratings for all four personal well-being questions, as well as their distributions (as shown in Table 1).



Table 1: Labelling of thresholds for life satisfaction, worthwhile, happiness and anxiety scores

Life satisfaction, worthwhile and happiness scores		Anxiety scores	
Response on an 11-point scale	Label	Response on an 11-point scale	Label
0 to 4	Low	0 to 1	Very low
5 to 6	Medium	2 to 3	Low
7 to 8	High	4 to 5	Medium
9 to 10	Very high	6 to 10	High

Source: Office for National Statistics - Annual Population Survey

## Approach used to develop models

The variables used in the APS and ETB regression models and their corresponding reference category were chosen to replicate [previous analysis](#) where possible.

The model presented in Figure 1 uses data from the ETB. This model controls for as many of the categories in the APS models as possible, alongside controlling for dependent children, log of household income, and log of household spending. However, for presentational purposes, different reference categories' odds ratio relationships were presented to more intuitively visualise the positive and negative associations between certain categories of individual and household circumstances and life satisfaction.

For example, for self-reported health, fair status is the baseline to represent good health as having a positive association with life satisfaction, rather than showing fair health as having a negative association (if the "good" category was used to represent the reference category). We used ETB data to produce a model capturing the full range of variables to show the relative impacts of different factors on life satisfaction using a single survey. Some of the estimates presented in Figure 1 were not statistically significant from this model, but have been shown to be significant within the APS models, which have a larger sample, to validate the statistical inferences made of associations between these factors, rather than the precise value of the magnitude of the effect.

## Weighting

Datasets are weighted to reflect the size and composition of the general population, by using the most up-to-date official population data. Weighting factors take account of the design of the survey (which does not include communal establishments) and the composition of the local population by age and sex.

The APS datasets are reweighted historically to use more up-to-date mid-year population estimates and subnational projection estimates. Supporting information on methodological aspects on the APS can be found in [Volume 6 of the APS user guide](#).

For more information on weighting in the LCF, see the [Living Costs and Food Survey QMI](#).

## Missing data

Missing data can produce biased estimates and invalid conclusions, particularly if data are not “missing at random” or, in other words, if there is some (unknown) patterning to that “missingness” (for more information, see [Missing data analysis: making it work in the real world](#)). Missing data in this analysis refers to incidences when respondents have either refused to answer questions or have answered “don’t know”. For the regression models, in instances of missing data for any of the variables included in the model, the entire case was excluded from analysis.

## Goodness of fit

Goodness of fit describes how well a model fits the data from which it is generated. After the addition of each variable to the model, goodness of fit and change in the coefficients were assessed.

## Regression techniques used

Ordinary Least Squares (OLS), Probit and Logit models were applied throughout the analysis. The main advantage of OLS is that the interpretation of the regression results is more straightforward than in alternative methods. Probit and Logit models were applied as important assumptions for the OLS regression may not hold for the ordered personal well-being data. Logit coefficients allow easier comparison through the derivation and use of odds ratios.

## OLS

An important assumption in OLS regression is that the dependent variable is continuous. The personal well-being survey responses, however, are discrete. OLS regression also assumes that the values of the dependent variable (for example, personal well-being ratings) are cardinal (that is, the interval between any pair of categories such as between 2 and 3 is of the same magnitude as the interval between any other similar pair such as between 6 and 7). As the personal well-being responses are rankings we cannot know whether, for example, the distance between 2 and 3 is the same as the distance between 6 and 7.

However, OLS may still be implemented when there are more than five levels of the ordered categorical responses, particularly when there is a clear ordering of the categories, for example, levels of happiness, with 0 representing the lowest category and 10 representing the highest category (for an example see [Ordinary Least Squares Regression of Ordered Categorical Data: Inferential Implications for Practice](#)).

## Probit

An alternative method is to treat the response variable as ordinal and use probit regression, which can deal with ordinal data. Ordinal data values can be ranked or ordered on a scale such as from 0 to 10 with each higher category representing a higher degree of personal well-being (or lower personal well-being in the case of anxiety).

Unlike the OLS method, probit regression does not assume that the differences between the ordinal categories in the personal well-being rankings are equal. It is important to note that probit performs several regressions simultaneously, assuming that the models are identical for all scores. The latter assumption can be relaxed but the interpretation of the results becomes more difficult.

The analysis was conducted in both OLS and probit regression methods. This also acts as a sensitivity check for the robustness of the OLS results as the main assumptions for the OLS regression may not hold for the ordered personal well-being data. Indeed, several studies applied both methods to personal well-being data and found that there is little difference between the OLS and the probit (for example, see [How important is methodology for the estimates of the determinants of happiness?](#)).

## Logit

We also used an ordered logit model. The ordered logistic model (logit), like the probit, can account for variables that need to be considered as ordinal but treats them slightly differently to the probit model.

The main difference is that the logit makes use of the proportional odds assumption. This means the relationship between the independent variables and their effect on personal well-being is assumed to be the same for each level of personal well-being (the 0 to 10 ranking). For example, the effect of the independent economic and societal variables on the highest level of personal well-being will represent the same relationship for the lowest level of personal well-being.

## Considerations for household income and expenditure analysis

The following information should be taken on when considering the analysis of income and expenditure (spending) to aid understanding of the complexities behind the findings, and of what has shaped the analysis that has been carried out.

### Household income as opposed to individual or personal income

Income is analysed at household level, as the income of one household member is assumed to have an impact on all the members of the household.

### Income relationships between household members

Different household members may feel differently about their life satisfaction depending on if they themselves are bringing in that particular type of income. For example, if other members of the same household are earning high wages and you are unemployed, you may feel particularly unsatisfied with your life. Alternatively, if you are in employment then increasing levels of household income acquired because of earnings from employment may be associated with higher levels of life satisfaction.

### Omitted variables

Our survey data capture some individual and household characteristics, but of course there are other factors that are not captured in the data and, therefore, omitted from our models. For example, those in self-employment may have broadly different personalities to those in employment when considering them as large groups and this may have an impact on how they report their life satisfaction. Alternatively, those benefiting from different forms of income may lead very different lifestyles, which are not well captured in the survey data.

### Direction of causality

It is also possible that some people are predisposed to report higher life satisfaction than others. This could be a personality trait or a socially learnt disposition. Either way, this possibility demonstrates that it is not possible in this analysis to infer causality.

Different types of income, the underlying activities associated with types of income, or even demographics associated with types of income, may lead to higher life satisfaction but it is also possible that the relationship might operate in part, or whole, in the opposite direction. Those with a predisposition to give higher self-reported life satisfaction may also be more likely to benefit from specific forms for household income. For example, those who report higher life satisfaction may be more likely to get a job with a higher income.

## 10 . Interpreting factors affecting life satisfaction

In this article, we have used different analytical approaches to answer the basic question of what contributes to higher or lower levels of life satisfaction. The two techniques used, logistic and linear regression, produce findings best expressed in different ways.

Logistic regression provides us with an “odds ratio”. This tells us the odds of someone with a particular characteristic or circumstance reporting higher life satisfaction when compared with someone with another specified characteristic or circumstance, after taking other possible influences on life satisfaction into account. For example, the odds of reporting higher life satisfaction are 3.0 times greater for someone reporting very good health than for someone reporting fair health, after taking other possible influences on life satisfaction into account (see [Section 3](#)).

“Marginal effects” are an alternative way of expressing odds ratios. The marginal effect tells us how much life satisfaction changes with a change in individual characteristics or circumstances, after taking other possible influences on life satisfaction into account. For some numerical characteristics (for example, spending), it can be easier to explain effects in terms of marginal effects.

Take two people with the same level of household spending for example: one who spends double the share of their spending on hotels or restaurants is 18 percentage points more likely to report very high life satisfaction than another spending less in this way (see [Section 6](#)).

Linear regression results can be expressed in terms of differences in how people rated their life satisfaction when asked: “Overall, how satisfied are you with your life nowadays?”. They respond on a scale from 0 to 10, with 0 being “not at all” and 10 being “completely”. The findings can be expressed in terms of the percentage difference in average reported life satisfaction between someone with a particular characteristic or circumstance and someone else with a different characteristic or circumstance, after taking other possible influences on life satisfaction into account. For example, those who are economically inactive due to sickness or disability rate their life satisfaction 7.6% lower than people who are employed, after taking other possible influences on life satisfaction into account (see [Section 3](#)).