Personal well-being in the UK QMI

Quality and methodology information for personal well-being in the UK, including strengths and limitations, methods, and data uses and users.

Contact:
Quality of life team
qualityoflife@ons.gov.uk

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Next release:
To be announced

Notice

10 January 2025

Figures 1 to 4 have been updated until Quarter 2 2024. For the latest personal well-being data please see our personal well-being non-seasonally adjusted and seasonally adjusted data tables.

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1 . Methodology background

- Statistical designation of annual personal well-being statistics: official statistics in development
- Statistical designation of quarterly personal well-being statistics: official statistics in development
- Survey name: Annual Population Survey (APS)
- Frequency: annually and quarterly
- How compiled: sample-based survey
- Geographic coverage: UK
- Related publications: Personal well-being in the UK bulletins, Measures of National Well-being Dashboard, Non-seasonally adjusted quarterly estimates, Seasonally adjusted quarterly estimates and Quality of information for quarterly personal well-being estimates
- Sample size: currently approximately 90,000 individuals for annual estimates, and approximately 20,000 individuals for quarterly estimates
- Last revised: 14 January 2025

2 . About this QMI report

This quality and methodology information (QMI) report contains information on the quality characteristics of the data, including the European Statistical System's five dimensions of quality, as well as the methods used to create it.

The information in this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- understand the methods used to create the data
- help you to decide suitable uses for the data
- reduce the risk of misusing data

3 . Important points

- Personal well-being is assessed through four measures: "life satisfaction", "feeling the things done in life are worthwhile", "happiness", and "anxiety"; these are based on the Government Statistical Service (GSS) personal wellbeing harmonised standard.

- Data for personal well-being estimates are sourced from the Annual Population Survey (APS), which is the UK's largest household survey containing our personal well-being questions.

- Personal well-being data are presented as both average scores (out of 10) and thresholds (very low or low, medium, high, or very high); the mean averages provide an overall estimate of personal well-being, and the thresholds allow us to look at the distribution of the scores.

- Quarterly data allow us to explore short-term changes in personal well-being by looking at fluctuation over the years and comparisons of quarters one year apart, and to investigate seasonal variation.

- The larger sample sizes on the annual datasets allow for greater disaggregation by lower geographic areas, like countries within the UK, region, and local authority level; they also allow for disaggregation by individual characteristics and circumstances, like ethnicity or disability status.

- If using local authority data, the most appropriate comparisons to make are progress over time within the same local authority, or across local authorities that share a similar demographic composition to one another; simply ranking local authorities by their numerical scores can be misleading for several reasons, including sample sizes and mode effects.

- The ongoing challenges with response rates, levels, and weighting approach mean that, as of October 2024, estimates calculated by the ONS from the Annual Population Survey (APS) statistics are considered official statistics in development until further review; because of increased volatility of LFS and APS estimates, estimates of change should be treated with additional caution.

- In a letter to the Office for Statistics Regulation requesting this change to the APS, we outlined that these LFS and APS challenges affected local authority sample sizes; because of this, we will not be publishing our Personal Well-being in the UK bulletin in 2024, but intend this to be a temporary pause while we work to improve the quality of the APS to enable us to reinstate this publication in the future.

4 . Quality summary

Overview

This report relates to our personal well-being in the UK statistics ("life satisfaction", "feeling that the things done in life are worthwhile", "happiness", and "anxiety") produced from the Annual Population Survey (APS).

The APS is a continuous household survey, covering the UK, with the aim of providing estimates between censuses of important social and labour market variables at a local area level. The APS is not a stand-alone survey, but uses data combined from two waves of the main Labour Force Survey (LFS) with data collected on a local sample boost. For more information on the APS, please see our APS Quality and Methodology Information report.

The term "personal well-being" replaced "subjective well-being" after user consultation found it was easier to understand. Personal well-being is assessed through four measures, often referred to as the ONS4. These measures are based on the Government Statistical Service (GSS) Personal wellbeing harmonised standard.

Four measures of personal well-being

Participants are introduced to the part of the survey that assesses the ONS4 with the following text:

Next, I would like to ask you four questions about your feelings on aspects of your life. There are no right or wrong answers. For each of these questions I'd like you to give an answer on a scale of 0 to 10, where 0 is "not at all" and 10 is "completely".

They were then asked to respond to a series of questions relating to the ONS4 measures.

Life satisfaction

Overall, how satisfied are you with your life nowadays, where 0 is "not at all satisfied" and 10 is "completely satisfied"?

Worthwhile

Overall, to what extent do you feel that the things you do in your life are worthwhile, where 0 is "not at all worthwhile" and 10 is "completely worthwhile"?

Happiness

Overall, how happy did you feel yesterday, where 0 is "not at all happy" and 10 is "completely happy"?

Anxiety

On a scale where 0 is "not at all anxious" and 10 is "completely anxious", overall, how anxious did you feel yesterday?

The personal well-being measures are presented as both average (mean) scores and thresholds. Thresholds present the proportion responding in defined response categories, as outlined in Section 5: Accuracy and Reliability. Cognitive testing was undertaken to understand how respondents chose their score on the 11-point scale, and what they considered to be "high", "low", and "average" ratings of personal well-being. These discussions are outlined in our Overview of ONS phase three cognitive testing of subjective well-being questions (PDF 336.1kB).

Personal well-being thresholds for "life satisfaction", "worthwhile", and "happiness" are rated as:

- low - 0 to 4
- medium - 5 to 6
- high - 7 to 8
- very high - 9 to 10

Well-being thresholds for "anxiety" are rated as:

- very low - 0 to 1
- low - 2 to 3
- medium - 4 to 5
- high - 6 to 10

The ONS4 personal well-being questions are asked on various surveys, both internal and external to us, the Office for National Statistics (ONS). Primarily, our analysis of personal well-being originates from the APS and the Opinions and Lifestyles Survey (OPN). The benefits of measuring personal well-being using data from the APS are the large annual sample size (approximately 90,000 individuals across the UK). This allows for more granular reporting and time series data that are available from 2011. The OPN collects data on a fortnightly basis across Great Britain, with a sample size of approximately 2,000 to 2,500 individuals.

Our Public opinions and social trends, Great Britain bulletin includes well-being in its datasets and is published five days from the end of the collection period. So, it provides more timely and punctual understanding of personal well-being. Further information on the OPN can be found in our Opinions and Lifestyle Survey QMI.

Further information on the development and use of the personal well-being questions can be found in our Personal well-being user guidance.

Uses and users

Traditional measures of progress like gross domestic product (GDP) have long been recognised as an incomplete picture of the state of the nation. Other economic, social, and environmental measures are needed, alongside GDP, to provide a complete picture of how society is doing. By supplementing economic measures, such as GDP, with measures that reflect social and environmental well-being, national well-being looks at the state of the nation through a broader lens. Personal well-being is one of those lenses that provides a measure of individuals' well-being in our society.

Our UK Measures of National Well-being (UK MNW) framework is comprised of 10 domains, also referred to as topic areas in related articles. The domains provide a structure to measure national well-being. They reflect what is important to national well-being in a comprehensive and mutually exclusive way. Personal well-being is one of these domains and is the most direct representation of how people are doing. Measures in this domain cover people's opinions on aspects of their current well-being. The UK MNW are one of our approaches to go beyond GDP to provide a broader understanding of progress in the UK.

The quarterly personal well-being in the UK estimates are reported in our UK Measures of National Well-being Dashboard using the following measures, chosen to highlight those reporting poor well-being:

- life satisfaction: people rating their overall satisfaction with their life as low
- worthwhile: people rating how worthwhile they feel the things they do in life are as low
- happiness: people rating how happy they felt yesterday as low
- feeling anxious: people rating high feelings of anxiety yesterday

Personal well-being data can be used in several ways. The large sample sizes of the APS datasets allow for comparison between different sub-groups of the population (for example, sex or different age groups) and between different areas within the UK (for example, countries and regions). This can help policy-makers target policies at the groups or areas with the highest need in terms of personal well-being.

Our ONS subnational indicators explorer is an interactive tool that provides users with information about their local authority and others. The annual personal well-being in the UK scores are used to report the average (mean) score for each local authority in the tool.

There is demand for personal well-being data to inform the policy-making process, both in central government and local government.

The Office Health Improvement and Disparities (OHID) tool was developed to present evidence of health inequalities in England. Measures of inequality are provided for main indicators to monitor progress on reducing inequalities in England. The personal well-being in the UK annual estimates are reported for regions, and upper-tier local authorities in the tool.

The individual characteristics reported in our Personal well-being in the UK bulletins are used in the Ethnicity facts and figures tool, which brings together government data about the UK's different ethnic groups.

The ethnicity facts and figures website is built and run by the Race Disparity Unit (RDU), which is part of Cabinet Office.

Strengths and limitations

Strengths

- The APS provides a representative sample of those living in private residential households in the UK.
- Personal well-being questions are harmonised by the Government Statistical Service (GSS), making the data more comparable, consistent, and coherent.
- The annual estimates of personal well-being have been certified by the UK Statistics Authority as being compliant with the Code of Practice for Statistics and are designated as accredited official statistics (previously known as National Statistics).
- The annual data from the APS provide the timeliest data on personal well-being by local authority.
- The quarterly data explore short-term changes in personal well-being by looking at the fluctuation over the years and comparisons over quarters one year apart, with breakdowns by age, sex, UK country, and English region.
- The quarterly seasonally adjusted estimates aid interpretation by removing recurring fluctuations caused by, for example, holidays or others seasonal patterns.
- For more information see Section 6: Methods used to produce the personal well-being in the UK data

Limitations

- People living in communal establishments, like care homes, or other non-household situations, are not represented in the APS.
- Estimates for small groups (for example, respondents from a single local authority) are less reliable and tend to be more volatile than for larger aggregated groups, such as region, because the sample size is smaller.
- We have seen a decline in the number of responses to the APS, which can lead to higher sampling variability, especially for estimates for smaller geographies and subgroups of the population; as a result, estimates should be used with caution, especially for smaller geographies or groups.
- For more information see our Labour market transformation - update on progress and plans: December 2024 article.

Recent updates

The personal well-being user needs were reviewed as part of our recent Review of the UK Measures of National Well-being, October 2022 to March 2023 article. User feedback requested additional breakdowns to be provided for the measures. We started this by adding individual characteristics and circumstances breakdowns to our Personal well-being in the UK bulletin in November 2023.

Data collection methods changed in March 2020 to accommodate the coronavirus (COVID-19) pandemic. This meant that all data were collected over the telephone, as opposed to mixed modes of face-to-face and telephone. More information can be found in our Data collection changes because of the pandemic and their impact on estimating personal well-being article. Since October 2023, face-to-face interviews have resumed. For further changes to data collection methods see our Labour Force Survey: planned improvements and its reintroduction methodology.

Where possible, we have made adjustments to make the data collected after the modal changes in March 2020 comparable with data collected prior to this. This change also coincided with a shift in sample composition, with fewer people in rented accommodation taking part. Because of this, housing tenure was added to the weighting process. This new weighting has been applied to the quarterly personal well-being estimates since Quarter 2 (Apr to June) 2020. Another weighting variable, country of origin, has also been added and applied from Quarter 1 (Jan to Mar) 2020. For more information on the personal well-being weighting, see Section 6: Methods used to produce the personal well-being in the UK data.

Annual estimates for the year ending (YE) March 2020 and YE March 2021 have been revised using a new set of weights calibrated to the 2021 mid-year population estimates. Estimates from YE March 2021 onwards are also calibrated to this time point. Quarterly estimates have been revised from Quarter 1 2020.

We are transforming the way we collect labour market data. For more information on planned changes, see our Labour market transformation - update on progress and plans: December 2024 article.

5 . Quality characteristics of the personal well-being in the UK estimates

This section describes the quality characteristics of the data and identifies issues that should be considered when using the statistics.

We have developed guidelines for measuring statistical quality, based on the European Statistical System's five dimensions of quality. This report addresses the quality dimensions and important quality characteristics, which are:

- relevance
- accuracy and reliability
- output quality
- coherence and comparability
- concepts and definitions
- geography
- accessibility and clarity
- timeliness and punctuality

More information is provided about these quality dimensions in the following sections.

Relevance

One of the main benefits of collecting information on personal well-being is that it is based on people's views on their individual well-being. In the past, assumptions were made about how objective conditions, like people's health and income, might influence their individual well-being. Personal well-being measures, on the other hand, take account of what matters to people by allowing them to decide what is important when they respond to questions.

The uses of personal well-being data are varied, but four main uses have been identified:

- overall monitoring of national well-being
- use in the policy-making process
- international comparisons
- allowing individuals to benchmark their own well-being against national measures of personal well-being

There is demand for personal well-being information to inform the policy-making process, both in central government and local government.

Accuracy and reliability

The APS is made up of the Labour Force Survey (LFS) is a sample survey, it provides estimates of population characteristics, rather than exact measures. In principle, many random samples could be drawn and each would give different results, because each sample would be made up of different people who would give different answers to the questions asked. The spread of these results is the sampling variability.

Confidence intervals are used to present sampling variability. A confidence interval gives the range of values that we believe the true value of the whole population falls into. For example, if we have a 95% confidence interval, it means that if we took many samples and calculated a confidence interval from each sample, about 95% of those intervals would include the true value.

Confidence intervals and sample sizes are given in the quality datasets accompanying each personal well-being release.

Personal well-being estimates follow the Government Statistical Service (GSS) Statistical Disclosure Control and Communicating Uncertainty and Change guidance. As such, estimates of personal well-being are not published if the sample size they are based on is fewer than 50, or their numerator is less than 5. These rules are for both disclosure control and quality reasons.

The co-efficient of variance (CV) is the ratio between the standard error of the estimate and the estimate itself. It gives an indication of the variability and accuracy of the estimate. There are bounds used to determine the accuracy of the estimates.

Understanding the co-efficient of variance for the accuracy of personal well-being estimates

- If the CV is less than or equal to 5%, the estimate is considered to be precise.
- If the CV is greater than 5% and less than or equal to 10%, the estimate is considered to be reasonably precise.
- If the CV is greater than 10% and less than or equal to 20%, the estimate is considered to be acceptable.
- If the CV is greater than 20% or unavailable, the estimate is considered to be unreliable.

Output quality

Ongoing challenges with the response rates, levels, and weighting approach of the Annual Population Survey (APS) means that estimates from the APS are currently not considered accredited official statistics and are designated as official statistics in development until further review. As such the annual personal well-being statistics and the quarterly well-being statistics are now designated as official statistics in development.

In a letter to the Office for Statistics Regulation requesting this change to the APS, we outlined that these LFS and APS challenges affected local authority sample sizes; because of this, we will not be publishing our Personal Well-being in the UK bulletin in 2024, but intend this to be a temporary pause while we work to improve the quality of the APS to enable us to reinstate this publication in the future.

The annual personal well-being statistics were designated as accredited official statistics (previously National Statistics) from March 2013 to April 2014 onwards. Before this, they were designated as official statistics in development (previously experimental statistics).

The quarterly well-being statistics were designated as official statistics from April to June 2022 onwards. Before this, they were designated as official statistics in development.

Quarterly estimates of personal well-being are produced at a UK, country, and regional level, as well as by age and sex. These estimates are produced within four months from the end of the reporting period. Publishing in a timely manner means there is a trade-off of publishing more in-depth analysis. This is because of the time needed to produce, quality assure more detailed analysis, and collect the larger sample needed for more granular analysis.

Our annual personal well-being estimates are produced seven months from the end of the reporting period. They include a larger dataset, which allows for more detailed analysis of estimates by county, local and unitary authorities, as well as personal characteristics, health, and socio-economic circumstances.

Coherence and comparability

The ONS4 are a harmonised standard for measuring personal well-being. This ensures comparability across different survey data collections. See the GSS Personal wellbeing harmonised standard for a list of surveys using this standard.

The first personal well-being APS dataset was published for April 2011 to March 2012. The personal well-being questions have remained the same since they were first introduced to the APS in April 2011.

Accessibility and clarity

Personal well-being data from the APS are available in both one-year and three-year datasets.

- The one-year datasets are published quarterly, based on the previous year's data; the first one-year dataset covered the financial year ending 2012.
- The three-year datasets were originally produced on a financial-year basis (April 2011 to March 2014, and April 2012 to March 2015); however, these are now published on a calendar-year basis, the first one being January 2013 to December 2015.

APS datasets, including the ONS4, are deposited quarterly on the UK data service (UKDS), where they can be accessed by academic institutions and members of the public under the end-user licence. The data can also be accessed on our Secure Research Service (SRS) through the accredited researchers route.

The ONS Social Survey Data Access and Response Team provide APS data for a fee and can be contacted by telephone on +44 1633 455678. Tables using APS data can also be requested by emailing the ONS data service at socialsurveys@ons.gov.uk.

Supporting documentation for the APS and ONS4 are available in our Labour Force Survey - user guidance.

Timeliness and punctuality

Personal well-being estimates are published quarterly and annually. Annual personal well-being estimates are produced from the one-year April to March APS dataset and are published on an annual basis, usually within four months of the dataset being available (around the autumn period).

The quarterly estimates are produced from the latest one-year APS dataset for the quarter that is being reported. For example, personal well-being estimates for Quarter 4 (Oct to Dec) 2023 are produced from the January 2023 to December 2023 APS dataset. These estimates are published on a quarterly basis within three months of the dataset being available.

There was an exception with the August 2022 release, which published the Quarter 4 2021 data eight months after the end of the reporting period. This was on account of other priority releases. The quarterly estimates tend to be published to coincide with our GDP first quarterly estimate bulletins.

The personal well-being three-year dataset and associated results have been previously published with a time lag of 12 months. They were originally produced on a financial year basis (April 2011 to March 2014, and April 2012 to March 2015). However, these are now published on a calendar year basis, the first one being January 2013 to December 2015.

For more details on related releases, our Release calendar provides advance notice of release dates. In the unlikely event of a change to the pre-announced release schedule, public attention will be drawn to the change within the 28 days prior to publication, and the reasons for the change will be explained fully at the same time, as set out in the Code of Practice for Statistics.

Concepts and definitions

Our Personal well-being user guidance explains the concepts and definitions used in the production of personal well-being statistics.

Geography

Local government boundary names and area codes can change at any time. In some cases, local authority names or area codes have changed with little effect. In other cases, local authorities have merged into new larger bodies. Our annual personal well-being in the UK estimates are published each year, according to the local authorities in place at the time of publication. Where changes have occurred in the 12 months before publication, the latest local authorities are published, and we may provide a series for comparison for the new geography.

Boundary changes in 2021

We have provided estimates for the newly-formed local authority of North Northamptonshire and unitary authority of West Northamptonshire in 2021, from April 2019 to March 2020 onwards, to provide a series for comparison.

Boundary changes in 2020

We have provided estimates for the newly-formed unitary authority of Buckinghamshire in 2020, from April 2011 to March 2012 onwards, to provide a series for comparison.

Boundary changes in 2019

We have provided estimates for newly-formed local authorities of East Suffolk, West Suffolk, and Somerset West and Taunton, and the unitary authority of Bournemouth, Christchurch and Poole in 2019, from April 2011 to March 2012 onwards, to provide a series for comparison.

Glasgow City and North Lanarkshire were subject to minor local authority district boundary changes. However, this did not affect their data series and no adjustments were made to the personal well-being datasets.

Boundary changes in 2018

Have provided estimates for newly formed unitary authority of Dorset in 2018, from April 2011 to March 2012 onwards, to provide a series for comparison.

The name of the local authority "Shepway" was changed to "Folkestone and Hythe", but the local authority boundary was not affected. This change was reflected in the April 2022 to March 2023 dataset. Fife, and Perth and Kinross were subject to minor local authority district boundary changes, but this did not affect their data series and no adjustments were made to the personal well-being datasets.

Boundary changes in Northern Ireland

Northern Ireland reformed its local government boundaries in April 2015. Estimates have been provided by the 11 newly-created boundaries from April 2012 to March 2013 onwards, to provide a series for comparison. Data for April 2011 to March 2012 are unavailable. For more information see the Small Area Look-up Tables and Guidance Documents from the Northern Ireland Statistics and Research Agency (NISRA).

For each quarter from Quarter 1 (Jan to Mar) 2018, the LFS sample for Northern Ireland received a boost. This resulted in greater accuracy in a set of local authorities that had relatively small sample sizes, compared with other local authorities in the UK.

From 2021, the local authority breakdowns for Northern Ireland derived from the APS are no longer the official well-being statistics used by NISRA, as these have been changed to the Northern Ireland Continuous Household Survey.

6 . Methods used to produce the personal well-being in the UK data

Main data source

The main data source used to produce personal well-being estimates is the Annual Population Survey (APS). The APS surveys the population of the UK but excludes those in communal establishments.

The achieved sample size of the APS is approximately 70,000 households, or around 145,000 respondents, on each annual APS dataset. However, of these 145,000 respondents, only around 90,000 provide valid personal well-being responses. This difference is because personal well-being questions cannot be answered by proxy. Respondents need to be over the age of 16 years and answer the questions themselves. Non-response for the well-being questions is very low.

How we process the data

The APS datasets are weighted to reflect the size and composition of the general population, by using the most up-to-date official population data. From April 2011, the APS datasets have contained a specific personal well-being weight that must be used when analysing the ONS4 personal well-being questions.

Weighting takes account of the composition of the local population by age and sex and the design of the survey, which does not include communal establishments. The personal well-being weight is created by calibrating to population totals of groups defined by four different partitions. This ensures that the weighted sample has the same distribution as the general population, with respect to each of the following partition groups:

- partition one: region, age (grouped) and sex
- partition two: local authority
- partition three: housing tenure
- partition four: country of birth

The APS datasets are reweighted historically every two years to use more up-to-date mid-year population estimates and subnational projection estimates. At the time of this publication, the most recent reweighting took place in 2022. More information on the personal well-being weights can be found in our Data collection changes due to the pandemic and their impact on estimating personal well-being article.

How we analyse and interpret the data

The personal well-being measures are presented as both average (mean) scores and threshold (the proportion of people reporting defined responses on the 0 to 10 scale). The purpose of presenting both of these measures is to provide a summary measure of well-being through the mean and an indication of inequality through the dispersion of the results. The aim of the annual and quarterly outputs is to present statistics on personal well-being and to inform the debate on what matters most to the population of the UK.

All personal well-being estimates produced are weighted to account for them being obtained from a survey. Sample sizes are also provided as unweighted counts of valid responses to each of the well-being questions. It is possible for each of the four questions ("life satisfaction", "worthwhile", "happiness", and "anxiety") to have different sample sizes. This is because respondents can choose which, if any, of the personal well-being questions they answer.

Seasonal adjustment of quarterly personal well-being data

Seasonal adjustments are made when producing quarterly personal well-being estimates, to account for variations in personal well-being resulting from the time of year and calendar arrangement. Therefore, if analysis or interpretation are based on non-seasonally adjusted data, they should account for the variation because of the time of year and arrangement of the calendar. For more information on this, see our Seasonal adjustment methodological note.

The personal well-being time series are tested for seasonality and seasonally adjusted annually using X13-ARIMA-SEATS software. The seasonal adjustment is performed using the X11 algorithm, which is a non-parametric approach based on iterations of moving average filters. As part of the standard procedure, the time series are tested for:

- additive outliers (extreme one-off points that are not in line with the rest of the series)
- level shifts (an abrupt but sustained change in the underlying level of the time series)
- ramp effects (a type of outlier used when a trend is changing too quickly to be considered a natural movement of the trend itself)
- Easter effects (considered specifically because Easter is a calendar-related event that can move between quarters)
- trading days

If any of these effects are considered to be statistically significant, the time series are prior-adjusted using a regARIMA model to correct the time series, before applying the moving average filters for the seasonal adjustment. A regular annual review of the seasonal adjustment parameters is carried out to ensure any changes are applied where necessary. The date of the last review was August 2024.

In the latest review, there were no Easter effects identified for any of the time series. In the 2022 review, time series in the happiness subgroup were identified to have an Easter effect. The implication was that happiness seemed to decrease in the period immediately before Easter. As more data points are added, the estimation of the Easter effect and other seasonal effects becomes more accurate, because there are more time points in the series.

More time series across the four personal well-being measures were identified to have additive outliers, level shifts, and ramp effects. The majority of these were covering the period associated with the coronavirus (COVID-19) pandemic.

The following shows which personal well-being measures and time series have been identified as having an identifiable seasonal pattern in the latest review.

Life satisfaction measure and series:

- mean - seasonally adjusted
- low (0 to 4) - not seasonally adjusted
- medium (5 to 6) - seasonally adjusted
- high (7 to 8) - seasonally adjusted
- very high (9 to 10) - seasonally adjusted

Worthwhile measure and series:

- mean - seasonally adjusted
- low (0 to 4) - not seasonally adjusted
- medium (5 to 6) - not seasonally adjusted
- high (7 to 8) - not seasonally adjusted
- very high (9 to 10) - seasonally adjusted

Happiness measure and series:

- mean - seasonally adjusted
- low (0 to 4) - seasonally adjusted
- medium (5 to 6) - seasonally adjusted
- high (7 to 8) - seasonally adjusted
- very high (9 to 10) - seasonally adjusted

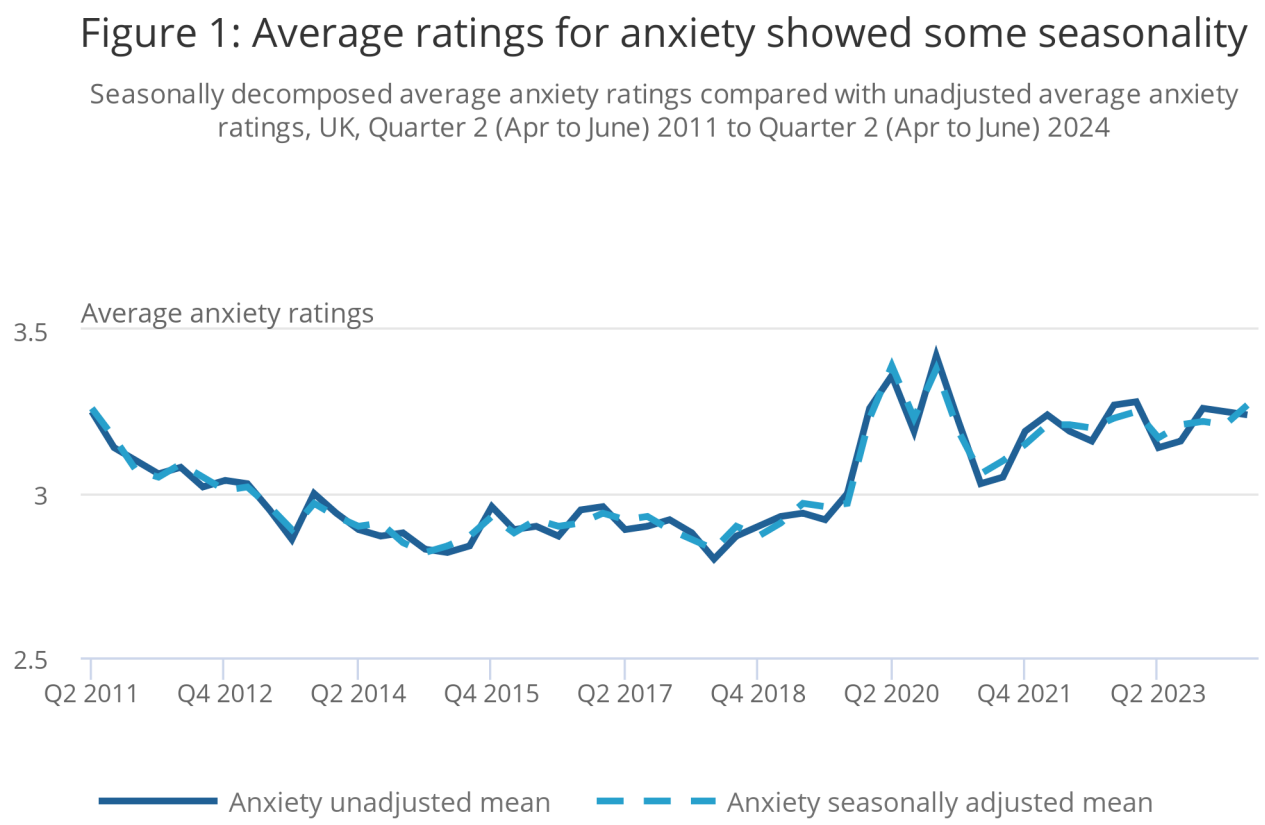
Anxiety measure and series:

- mean - seasonally adjusted
- low (0 to 4) - seasonally adjusted
- medium (5 to 6) - not seasonally adjusted
- high (7 to 8) - not seasonally adjusted
- very high (9 to 10) - seasonally adjusted

Figures 1 to 4 show the seasonally adjusted average estimates and the quarterly unadjusted average estimates for the four personal well-being measures. These highlight the effect that seasonal adjustment has had on the time series and provide a better indication of the underlying movements. The biggest differences between the seasonally adjusted and non-seasonally adjusted quarterly time series occur for the average happiness and anxiety ratings. This is because these measures show the greatest seasonality.

Figure 1: Average ratings for anxiety showed some seasonality

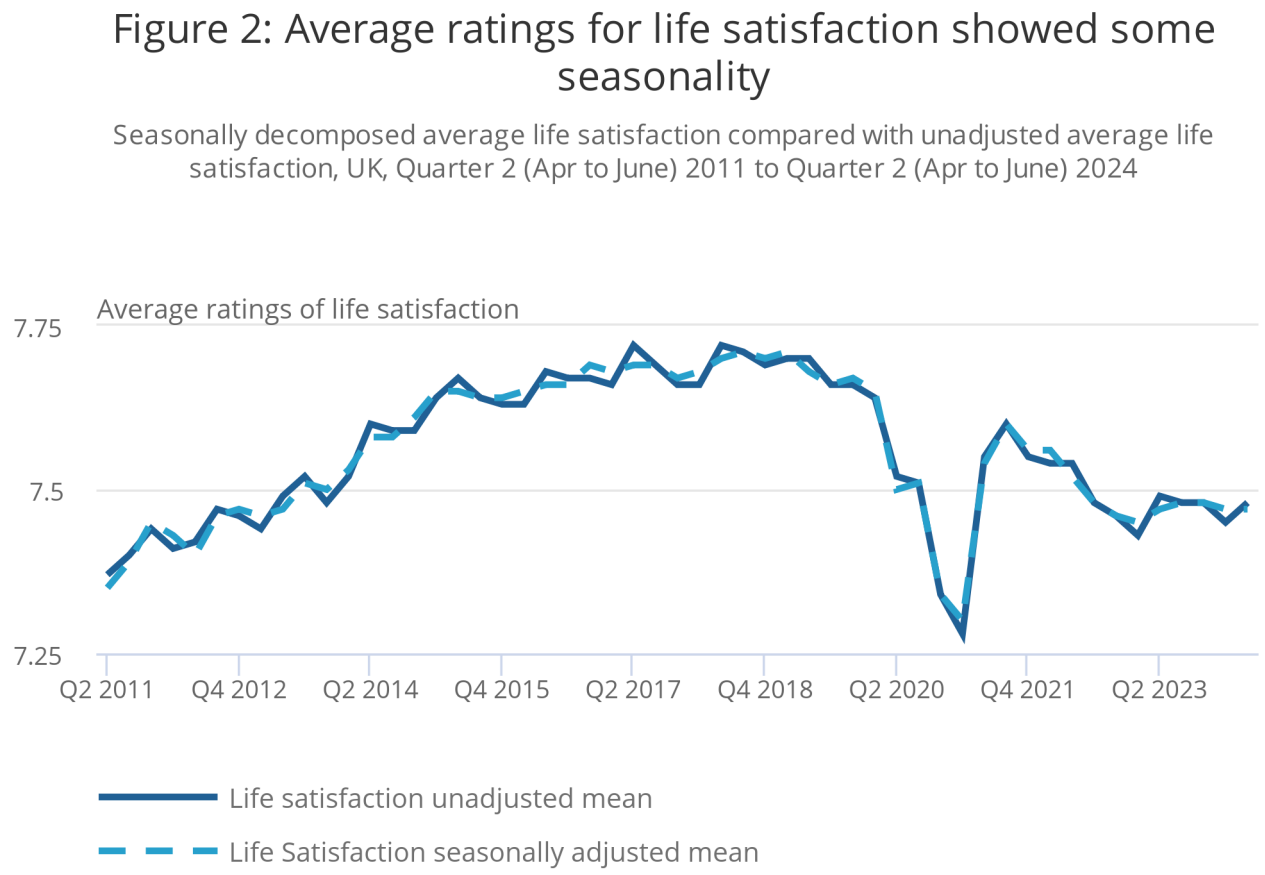
Seasonally decomposed average anxiety ratings compared with unadjusted average anxiety ratings, UK, Quarter 2 (Apr to June) 2011 to Quarter 2 (Apr to June) 2024



Source: Annual Population Survey from the Office for National Statistics

Figure 2: Average ratings for life satisfaction showed some seasonality

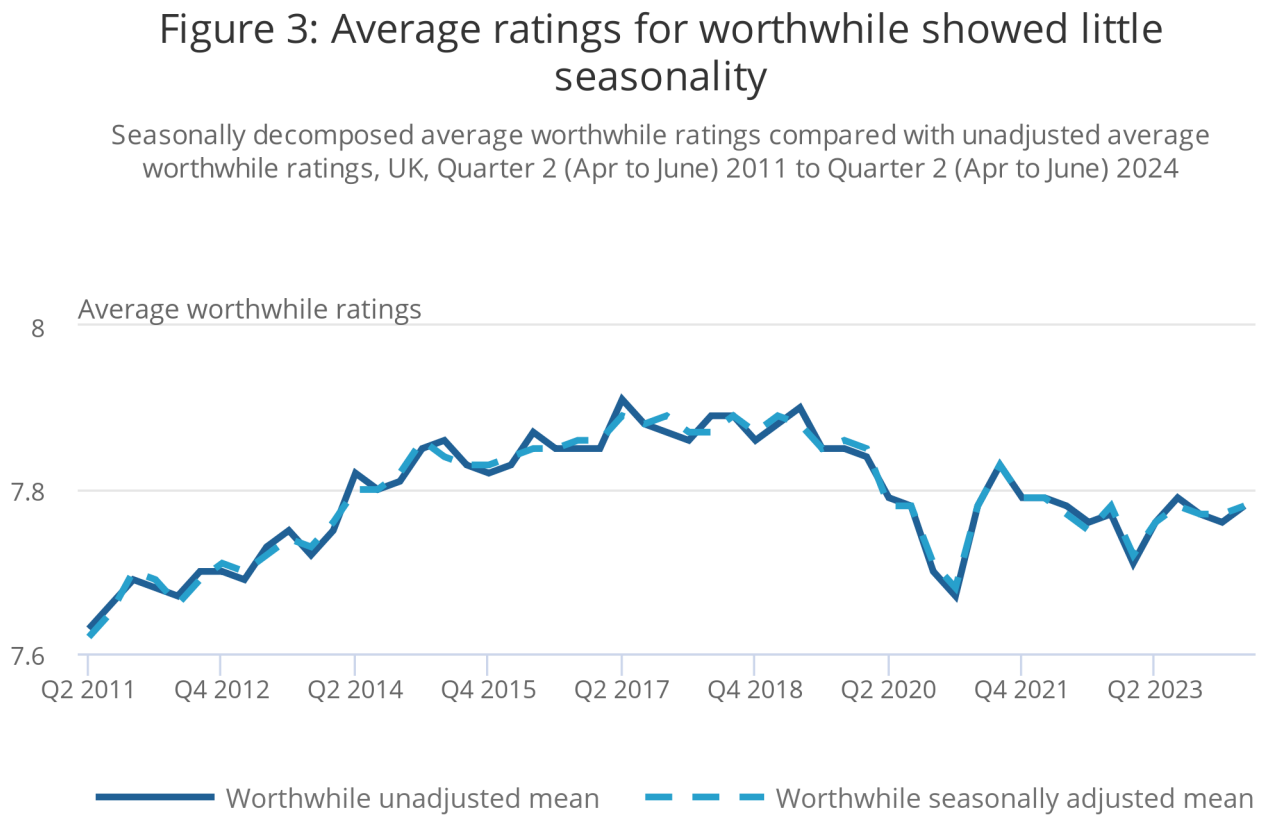
Seasonally decomposed average life satisfaction compared with unadjusted average life satisfaction, UK, Quarter 2 (Apr to June) 2011 to Quarter 2 (Apr to June) 2024



Source: Annual Population Survey from the Office for National Statistics

Figure 3: Average ratings for worthwhile showed little seasonality

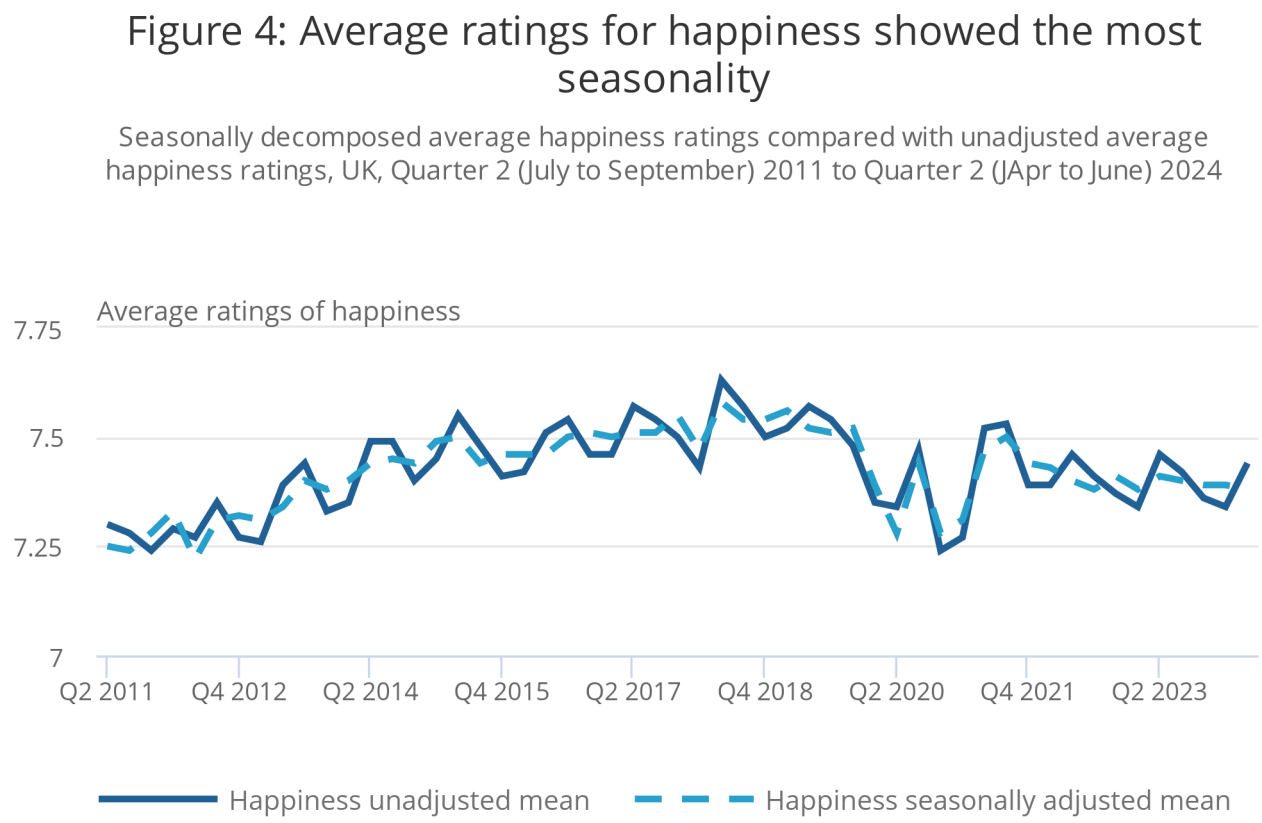
Seasonally decomposed average worthwhile ratings compared with unadjusted average worthwhile ratings, UK, Quarter 2 (Apr to June) 2011 to Quarter 2 (Apr to June) 2024



Source: Annual Population Survey from the Office for National Statistics

Figure 4: Average ratings for happiness showed the most seasonality

Seasonally decomposed average happiness ratings compared with unadjusted average happiness ratings, UK, Quarter 2 (July to September) 2011 to Quarter 2 (JApr to June) 2024



Source: Annual Population Survey from the Office for National Statistics

How we quality assure and validate the data

To ensure that the output meets quality and accuracy standards, the APS data are quality assured at an early stage by running descriptive statistics. This will identify whether there are any discontinuities, outlying values, or small sample sizes in the personal well-being variables and other variables of interest. The weights are also checked against the latest population totals.

Running these checks at an early stage allows for any concerns to be investigated thoroughly, identifying if they could be caused by a questionnaire change, processing error, or real-world change. When calculating the personal well-being estimates, the team independently dual run the analysis to make sure errors have not been brought in during their calculations. These estimates are compared with one another to ensure that they are the same. The estimates are also compared with previous estimates and triangulated with estimates from other sources, like the Opinions and Lifestyle Survey (OPN), as a validity check. The estimates are also peer-reviewed with experts in personal well-being to ensure that the data are as we would expect.

From the April 2015 to March 2016 dataset onwards, the personal well-being questions were moved from a bespoke personal well-being dataset to the main APS dataset. The effect of this on personal well-being estimates is minimal. However, it does provide a more accurate representation of the results at that time. Sensitivity analysis was carried out to assess the effect of this change on the personal well-being series, and it has shown minimal effect. For more information on sensitivity analysis, please see Section 11: Impact of transition to Annual Population Survey dataset in our Impact of transition to Annual Population Survey dataset in personal well-being in the UK: 2015 to 2016.

How we disseminate the data

The quarterly estimates (mean scores and thresholds) are reported from Quarter 2 (Apr to June) 2011, by UK country, English region, age and sex.

The data were published in our Personal well-being in the UK, quarterly bulletins. This publication was discontinued in spring 2022. However, the datasets continue to be published in:

- our Quarterly personal well-being estimates - non-seasonally adjusted
- our Quality of information for quarterly personal well-being estimates
- our Quarterly personal well-being estimates - seasonally adjusted

Using quarterly data allows us to explore short-term changes in personal well-being by looking at fluctuations over the years and comparisons of quarters one year apart. Additionally, quarterly estimates are more comparable with the measures of economic progress, such as UK gross domestic product (GDP) found in our GDP first quarterly estimate, UK bulletins.

The annual estimates of personal well-being are presented for the UK, by country, region, country, unitary and local authority from April 2011 to March 2012. Individual characteristics and circumstances are also reported annually from April 2022 to March 2023. To see these findings, please refer to:

- our Personal well-being in the UK annual bulletin series -- the bulletin series also provides an interactive tool to explore well-being in a chosen area
- our Annual personal well-being estimates
- our Quality information for annual personal well-being estimates

The larger sample sizes on the annual dataset allow for greater detail to be reported at the local area level, and with greater precision than other sources. Caution should be taken when using local authority data to make comparisons. The most appropriate comparisons are progress over time within the same local authority, or across local authorities that share a similar demographic composition to one another. Ranking local authorities by their numerical scores can be misleading for several reasons, including sample sizes and mode effects.

Please note that from April 2023 to March 2024 the production of these annual statistics has been paused because of ongoing challenges with the response rates, levels, and weighting approach of the APS. We intend this to be a temporary pause while we work to improve the quality of the APS to enable us to reinstate this publication in the future.

7 . Other information

Assessment of user needs and perceptions

Historically, we have used various ways to gauge user needs including:

- Technical Advisory Group, which includes experts from a variety of sectors including academia and other government departments
- Measuring National Well-being Advisory Forum
- Social Impacts Task Force
- National Statistician's Advisory Group
- Well-being Policy Steering Group
- Well-being Analysis Board
- focus groups to determine inquiring citizen users' understanding of well-being estimates, and to determine the clearest methods of presenting results
- consultations and user feedback on the content and presentation of personal well-being results following releases

We run public consultations on major decisions affecting users. This has included:

- the national well-being debate
- consultation on domains and measures of national well-being
- a review of the UK measures of national well-being

We also consult known users on issues that we consider do not warrant full public consultation.

Additionally, we carry out cognitive testing and quantitative testing on the personal well-being questions on the Opinions and Lifestyle Survey (OPN), to better understand how people interpret and answer the questions.

Sources for further information or advice

Our recommended format for accessible content is a combination of HTML web pages for narrative, charts, and graphs, with data provided in usable formats like CSV and Excel. We also offer users the option to download the narrative in PDF format. In some instances, other software may be used, or may be available on request.

Available formats for content published on our website, but not produced by us, or referenced on our website but stored elsewhere, may vary. For further information please contact the Quality of Life team by email at QualityOfLife@ons.gov.uk. For information about conditions of access to data, please refer to our Terms and conditions for data on the website and our Accessibility statement.

8 . Cite this QMI

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