National Survey for Wales, 2018-19: Climate change and environmental action

29/10/2019
SB 46/2019

In 2018-19, the National Survey for Wales included a set of questions about people's views on climate change and types of environmental action that governments and individuals can take. This bulletin reports on people's levels of concern about climate change, over a period of time prior to Welsh Government's April 2019 declaration of a climate emergency.

Key findings

93% think the world's climate is changing

- 48% of people who think the world's climate is changing thought that change was primarily caused by human activity; an increase from 38% in 2016-17.

- 73% of people would support a government policy to make more use of renewable energy. 80% of 16 to 44 year olds would support this policy compared with 57% of those aged 65 and over.

33% think there has been a decrease in the number of species in Wales

- Over half the people asked supported policies for safer footpaths, more cycle routes and spending more on public transport. Charging drivers to come into towns and cities or higher taxes on petrol were not so popular options (16% and 14% respectively).

- 14% of people said they had taken environmental action by switching to a green energy supplier. This is double the proportion who had made the same type of switch in 2016-17.

About this bulletin

This bulletin provides more detailed analysis of the 2018-19 results for questions on **climate change and environmental action.**

The full questionnaire is available on the National Survey web pages.

Additional charts and tables can be accessed via our Results viewer.

In this bulletin

Introduction

The Welsh Government's [Well-being of Wales, 2018-19 report](#) provides an update on progress being made in Wales towards the achievement of the 7 well-being goals set out in the [Well-being of Future Generations Act](#)[1]. Concern about climate change and some of the positive action that can be taken by government and individuals feature in several of the goals:

- The goal "A Prosperous Wales" is aiming for "An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change)"

- The goal "A Resilient Wales" aims for "A nation which maintains and enhances a bio-diverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example, climate change)."

- The goal "A Globally Responsible Wales" aims for "A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being."

Part 2 of the [Environment (Wales) Act 2016](#) requires Welsh Ministers to reduce greenhouse gas emissions in Wales by at least 80% by 2050. In 2019 Welsh Ministers accepted the [recommendation from the Committee on Climate Change](#) to change this target to 95% and will ask the National Assembly to amend the target in legislation next year. The Committee's report sets out the scientific consensus that climate change is happening, and is driven by human activity.

Also in 2019, the Welsh Government published [Prosperity for All: A Low Carbon Wales](#), which contains 100 policies and proposals for meeting Wales's first carbon budget (2016-20). The plan for the second carbon budget (2021-25) will be published in 2021.

Welsh Ministers are also required by the [UK Climate Change Act 2008](#) to report from time to time on the objectives, actions and future priorities in relation to climate change and its impact. The Welsh Government [consulted on a draft climate adaptation plan](#) in 2018-19 and will shortly publish the finalised plan.

The National Survey for Wales first included a set of questions about climate change and environmental action in 2016-17. These questions were repeated in 2018-19, and this report compares results between the two years. Additional questions about the environment (covering biodiversity, flood risk, and access to a garden) were agreed in discussion with [Natural Resources Wales](#) and included in 2018-19. Natural Resources Wales plan to produce additional reporting throughout the year on the wider set of questions.

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[1] See [Key quality information](#) for more information on the [National indicators](#).

Level of concern

When asked if they thought the world's climate was changing, 93% of people said they thought that it was – this is the same result as in 2016-17 when the question was first asked in the National Survey. It's worth noting that there was no variation in the result when looked at by age, sex, urban/rural location, or material deprivation. However, there was a difference by level of educational qualification[2]: 89% of those with no qualifications thought the world's climate was changing compared with 95% of those with 'A' level or higher qualifications.

There has been an increase in the level of concern about climate change. 67% of people in 2016-17 said they were very or fairly concerned compared with 76% saying they were very or fairly concerned in 2018-19. The proportion saying they were very concerned rose over the same period, from 21% to 35%.

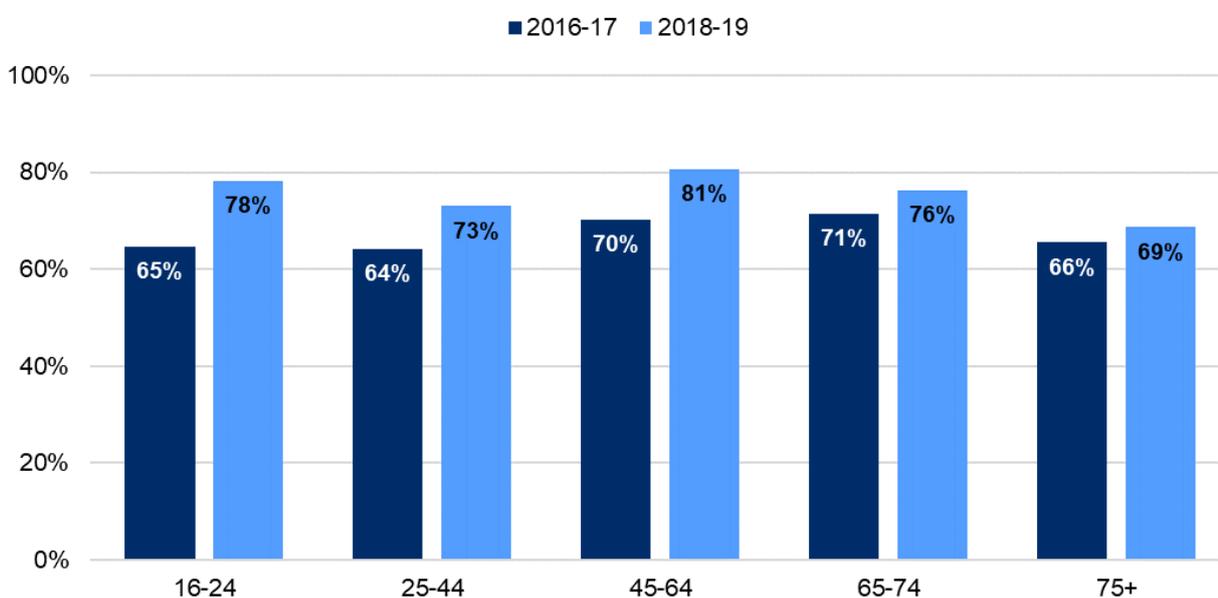**Chart 1: Percentage of people concerned about climate change, by age and year**

Chart 1 shows that levels of concern have increased to some degree in all age groups. Perhaps unsurprisingly concern has risen most amongst 16 to 24 year olds but there has also been a significant rise, from 2016-17 to 2018-9, in the views of those in the 45 to 64 age group.

There was no difference in the level of concern when looked at by sex, urban/rural location or material deprivation; but as with belief that climate change is occurring, a person's level of education was associated with their level of concern. In 2018-19, 82% of those with at least degree level qualifications were concerned compared with 65% of those with no qualifications.

In 2018-19, people were also asked a set of questions about biodiversity. Of the people who said they were concerned about climate change, 37% thought that there had been a decrease in the variety of species in Wales. This compares with 21% of the group who were not concerned about climate change. Around a fifth of both groups thought there had been an increase in species whilst 57% of the unconcerned group thought there had been no change in the variety of species compared with 41% in the concerned group.

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[2] Educational qualifications – see <u>Terms and definitions</u>

Concern about climate change – further analysis

Cross-analysis indicates that various factors may be associated with how people feel about climate change. However, these factors are often linked to each other (for example, households in material deprivation may also have a lower level of educational qualification). To get a clearer understanding of the effect of each individual factor we have used statistical methods[3] to separate out the individual effect of each factor. These methods allow us to look at the effect of one factor while keeping other factors constant – sometimes called "controlling for other factors".[4]

We found that the following factors are those most closely linked to people who are **very** concerned about climate change:
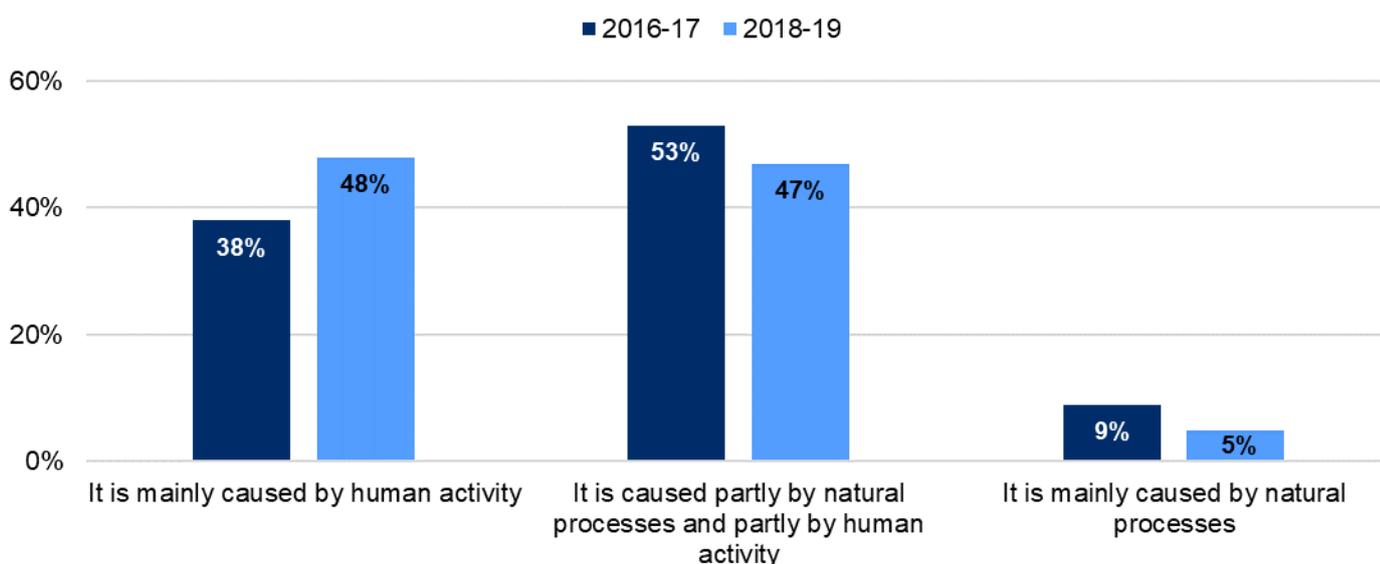
- being aged between 45 and 74; and

- being educated to degree level or above.

Overall satisfaction with life was also associated with concern about climate change but no significant pattern emerged. As with all analysis of this kind we are unable to attribute cause and effect or to allow for unknown factors.

Causes of climate change

In both 2016-17 and 2018-19, people were asked their opinion about the causes of climate change. Chart 2 shows that there has been a change in public opinion over that two year period. In 2016-17, of those who thought the world's climate is changing, 9% felt that climate change was mainly caused by natural processes compared with 5% in 2018-19. There was also a notable shift in the proportion thinking that climate change was primarily caused by human activity – 38% in 2016-17 rising to 48% in 2018-19.

Chart 2: Views about the causes of climate change, by year

■ 2016-17 ■ 2018-19

	It is mainly caused by human activity	It is caused partly by natural processes and partly by human activity	It is mainly caused by natural processes
2016-17	38%	53%	9%
2018-19	48%	47%	5%

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[3] This analysis is known as logistic regression. Information about the method can be found in Regression analysis
[4] The factors we controlled for were: age, gender, whether a child in household, respondent qualifications, Welsh speaking ability, tenure, working status of household, material deprivation, area deprivation, urban/rural areas, satisfaction with life, taking part in sporting activity, religion, ethnicity, sexual orientation, internet use, and bills & credit commitments.

A new question was introduced in 2018-19 asking people which policies they would support the government (either the Welsh Government or UK Government) undertaking to help limit climate change. Respondents were shown a list of potential policies. Of these, Chart 3 shows that the policy most frequently supported (73%) was making more use of renewable energy.

**Chart 3: Support for government policies to limit climate change**
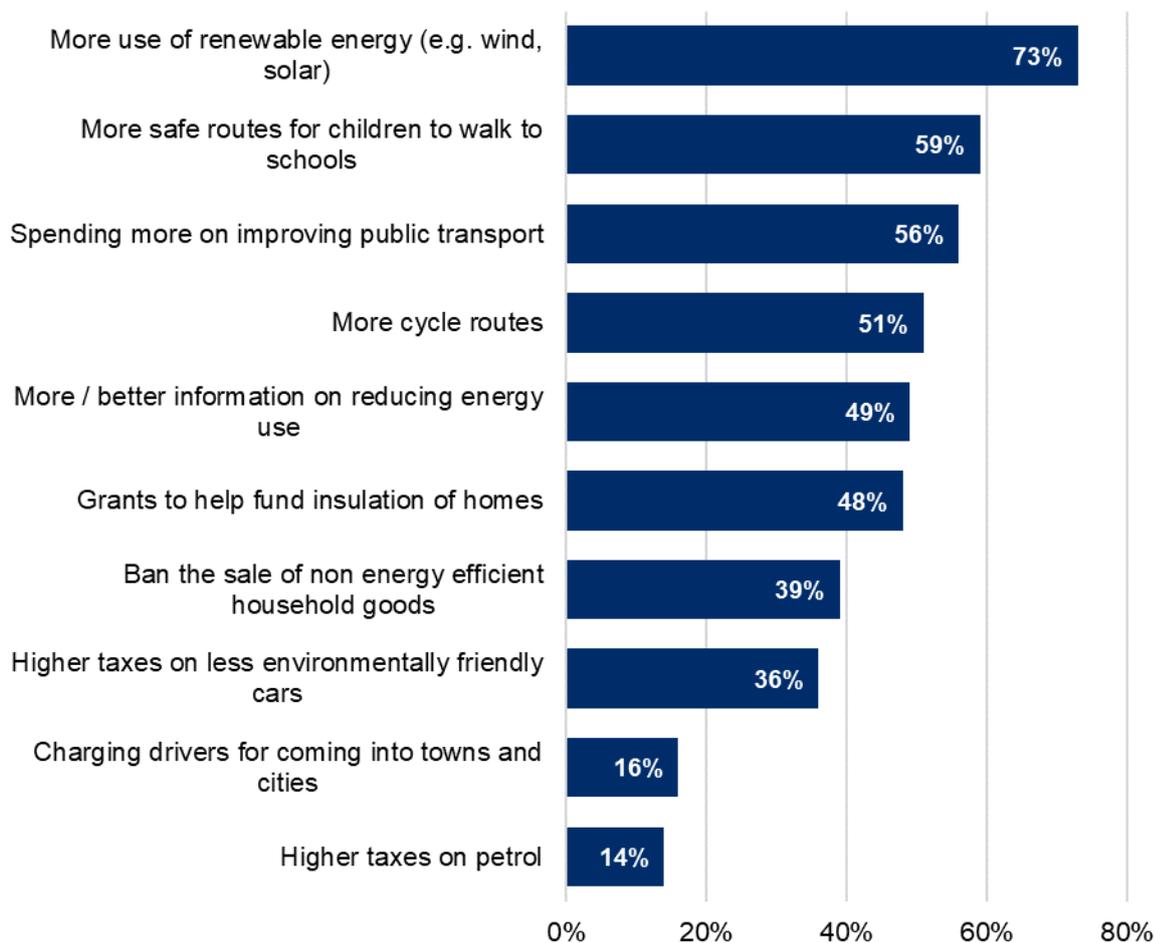
Over half the people asked supported safer footpaths, more cycle routes and spending more on public transport as ways to limit climate change. Charging drivers to come into towns and cities or higher taxes on petrol were not so popular options (selected by 16% and 14% of respondents respectively).

Whilst making more use of renewable energy had the most support overall, there was an interesting split when looked at by age: 80% of 16 to 44 year olds would support this policy compared with 57% of those aged 65 and over. Similarly, 57% of the 16 to 44 year old group supported the government providing more cycle paths compared with 40% of people aged 65 and over. Perhaps surprisingly, households in material deprivation were less likely to think more money should be spent on public transport than households who were not materially deprived (42% compared with 58%).

Individual environmental action

People were shown a list of activities related to the environment and asked whether they had done any of these things in the last 12 months. The same question was asked in 2016-17 and 2018-19 with the results for both years shown in Chart 4.

Chart 4: Action taken to help protect the environment or address climate change
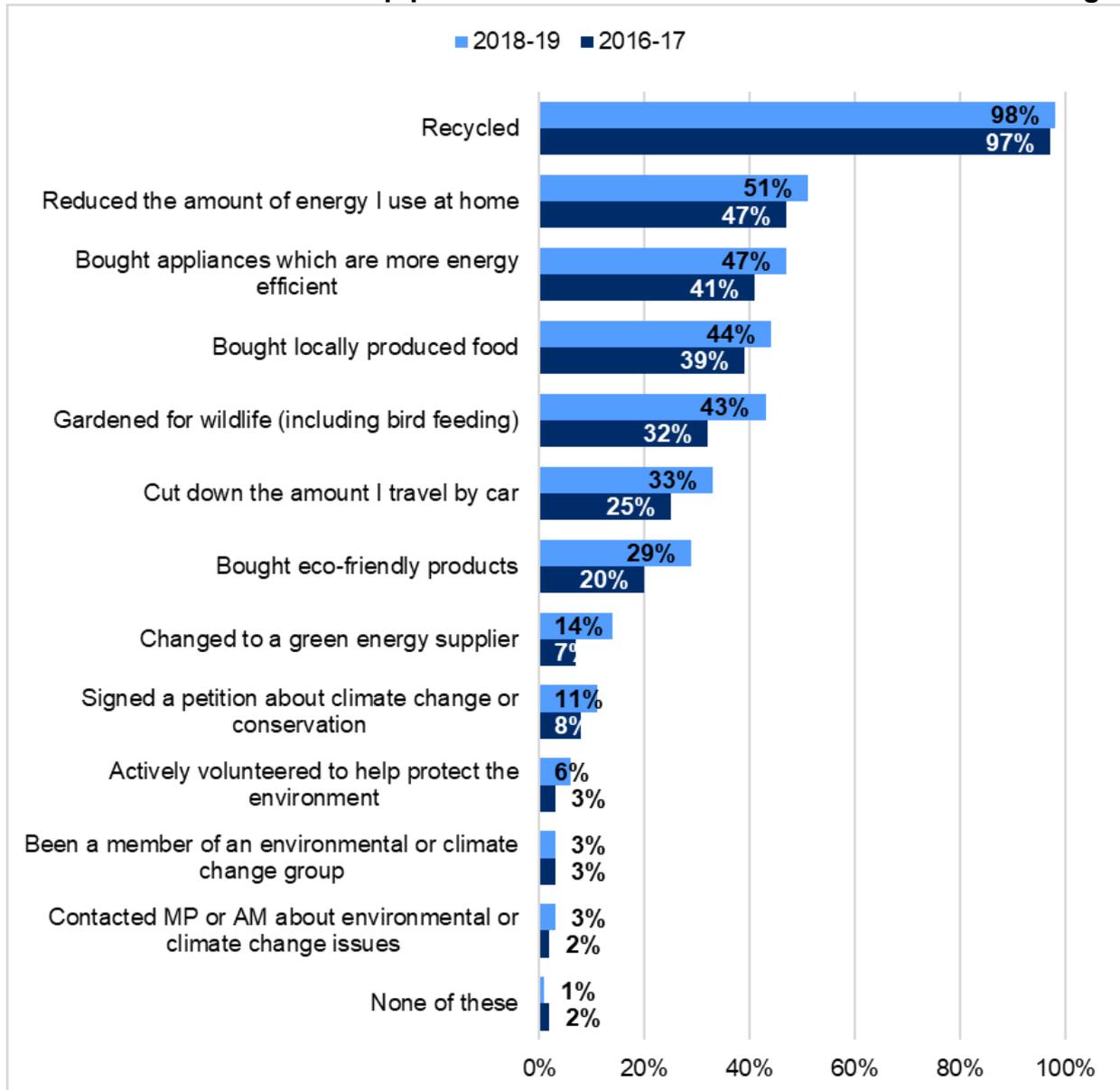
Recycling is by far the most commonly-undertaken activity, with 98% of people doing this in 2018-19, similar to 97% in 2016-17. Most other types of environmental action had increased since 2016-17. The greatest change was seen in the proportions gardening for wildlife: up from 32% in 2016-17 to 43% in 2018-19. In 2018-19, 51% of people had reduced the amount of energy used at home and 33% had cut down the amount they travel by car. There was also an increase in the proportion who reported buying eco-friendly products.

In addition, we found differences in the popularity of certain environmental actions within sub-groups. The proportion of people who regularly recycled was similar for those who were concerned about climate change as for those who were not. However, there were also notable differences between these two groups; 61% of people who were very concerned about climate

change had reduced the amount of energy used at home, compared with 28% of those who were not at all concerned. A similar pattern was seen for those who bought eco-friendly products: 39% compared with 12%.

Buying appliances that are more energy-efficient was least common amongst the 16 to 24 age group and most common amongst 25 to 64 year olds. More women than men said they gardened for wildlife but there were no other significant differences between the sexes. Households classed as being materially deprived were less likely (34%) to buy locally-produced food than people living in non-deprived households (45%); but the same proportion in deprived and non-deprived households had changed to a green energy supplier (14%).

The National Survey has developed a new set of more detailed questions, to be asked in 2020-21, which will provide further evidence of the environmental action being taken to halt climate change. These results will be available in June 2021.

To investigate a couple of the cross-analysis results in more detail (instances where there was a notable change between 2016-17 and 2018-19) we again used statistical methods[5] to separate out the individual effect of each factor.

Purchase of energy efficient appliances – further analysis

As mentioned previously, this detailed analysis involves studying each factor's effect on the outcome of interest (in this case, who has bought more energy efficient appliances in the past year) whilst holding the values of other factors[6] constant. Although this type of analysis does not allow us to attribute cause it can establish which factors (among those available in the survey results) had the most influence on the outcome.

We found that the following factors are those most closely linked to people who have chosen to buy more energy efficient appliances in the past year.

- being an owner-occupier;

- being educated to degree level or above;

- living in household where all adults are working[7];

- being an internet user; and

- having high or very high life satisfaction.

Actively volunteered to protect the environment – further analysis

6% of people said that they had volunteered to help protect the environment, double the proportion who had taken the same action in 2016-17. Once again by controlling for other factors[8] we were

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[5] This analysis is known as logistic regression. Information about the method can be found in Regression analysis
[6] The factors we controlled for were: age, gender, whether a child in household, respondent qualifications, Welsh speaking ability, tenure, working status of household, material deprivation, area deprivation, urban/rural areas, satisfaction with life, ethnicity, internet use, general health.
[7] Ethnicity - see Terms and definitions
[8] The factors we controlled for in this model were: age, gender, whether a child in household, respondent qualifications, Welsh speaking ability, tenure, material deprivation, urban/rural areas, satisfaction with life, ethnicity, internet use, ability to keep up with bills, general health, sense of community, access to services.

able to identify the characteristics of people who were most likely to have volunteered. These were:

- being educated to degree level or above;
- being an internet user; and
- being in good or very good health.

We also found an association with where a person lives, whether in an urban or rural area, but there was no clear pattern to this link. As always there will be other explanatory factors, not available from the National Survey, which may be important but that we are unable to include in the analysis.

To find a wide range of existing published results from the National Survey, including those on the wider set of environment questions, then visit our Results viewer by selecting 'Climate change', 'Flood risk', 'Green spaces' and 'Biodiversity' in the Detailed topics column.

Terms and definitions

Material deprivation

Material deprivation is a measure which is designed to capture the consequences of long-term poverty on households, rather than short-term financial strain.

Non-pensioner adults were asked whether they had things like 'a holiday away from home for at least a week a year', 'enough money to keep their home in a decent state of decoration', or could 'make regular savings of £10 a month or more'. The questions for adults focussed on whether they could afford these items. These items are really for their 'household' as opposed to them personally which is why they were previously called 'household material deprivation'.

Pensioners were asked slightly different questions such as whether their 'home was kept adequately warm', whether they had 'access to a car or taxi, when needed' or whether they had their hair done or cut regularly'. These also asked whether they could afford them, but also focussed on not being able to have these items for other reasons, such as poor health, or no one to help them etc. these questions were less based on the household and more about the individual.

Those who did not have these items were given a score, such that if they didn't have any item on the list, they would have a score of 100, and if they had all items, they had a score of 0. Non-pensioners with a score of 25 or more were classed as deprived and pensioners with a score of 20 or more were classed as deprived.

Welsh Index of Multiple Deprivation

The Welsh Index of Multiple Deprivation (WIMD) is used as the official measure of deprivation in Wales. Deprivation is a wider concept than poverty. Deprivation refers to wider problems caused by a lack of resources and opportunities. The WIMD is constructed from eight different types of deprivation. These are: income, housing, and employment, access to services, education, health, community safety and physical environment. Wales is divided into, 1,909 Lower-Layer Super Output Areas (LSOA) each having about 1,600 people. Deprivation ranks have been worked out for each of these areas: the most deprived LSOA is ranked 1, and the least deprived 1,909. For this bulletin, we have grouped the people living in the 20 % of LSOAs that are most deprived based on WIMD score and compared them against the 20% of the LSOAs that are least deprived.

Urban / rural

"Urban" includes settlements with a population of 10,000 or more and small towns and their fringes, where the wider area is less sparsely populated. "Rural" includes all other areas.

Qualifications

Respondents' highest qualifications have been grouped according to the National Qualification Framework (NQF) levels, where level 1 is the lowest level of qualifications and level 8 is doctoral degree or equivalent. For the National Survey, respondents have been grouped into 5 groups, those with no qualifications are in the lowest category and respondents with qualifications at levels 4 to 8 (degree level or above) have been grouped together in the highest qualification category.

To provide more meaningful descriptions of the qualifications, these short descriptions have been used in this bulletin.

National Qualification Framework levels	Description used in bulletin
NQF levels 4-8	Higher education (Level 4+)
NQF level 3	'A' level and equivalent (Level 3)
NQF level 2	GCSE grades A to C and equivalent (Level 2)
Below NQF level 2	GCSE below grade C (below Level 2)
No qualifications	No qualifications

Ethnicity

Where ethnicity is discussed within this report different categories have been grouped together.

> White British – people self-identifying as white Welsh, white English, white Scottish, white Northern Irish, white British

> White other – white Irish, white Gypsy, white Traveller, other white background

> Other ethnicity – all other ethnicities (including black African, black Caribbean, black British, Asian, Asian British, Mixed ethnic groups)

Key quality information

Background

The National Survey for Wales is carried out by The Office for National Statistics on behalf of the Welsh Government. The results reported in this bulletin are based on interviews completed in 2017-18 (1 April 2017 – 31 March 2018).

The sample was drawn from the Royal Mail Small Users Postcode Address File (PAF), whereby all residential addresses and types of dwellings were included in the sample selection process as long as they were listed as individual addresses. If included as individual addresses on the PAF, residential park homes and other dwellings were included in the sampling frame but community establishments such as care homes and army barracks are not on the PAF and therefore were not included.

The National Survey sample in 2017-18 comprised 23,517 addresses chosen randomly from the PAF. Interviewers visited each address, randomly selected one adult (aged 16+) in the household, and carried out a 44-minute face-to-face interview with them, which asked for their opinions on a wide range of issues affecting them and their local area. A total of 11,381 interviews were achieved.

Interpreting the results

Percentages quoted in this bulletin are based on only those respondents who provided an answer to the relevant question. Some topics in the survey were only asked of a sub-sample of respondents and other questions were not asked where the question is not applicable to the

respondent. Missing answers can also occur for several reasons, including refusal or an inability to answer a particular question.

Where a relationship has been found between two factors, this does not mean it is a causal relationship. More detailed analysis is required to find whether a factor causes change in another.

The results are weighted to ensure that the results reflect the age and sex distribution of the Welsh population.

Quality report

A summary Quality report is available, containing more detailed information on the quality of the survey as well as a summary of the methods used to compile the results.

Sampling variability

Estimates from the National Survey are subject to a margin of uncertainty. Part of the uncertainty comes from the fact that any randomly-selected sample of the population will give slightly different results from the results that would be obtained if the whole population was surveyed. This is known as sampling error. Confidence intervals can be used as a guide to the size of the sampling error. These intervals are calculated around a survey estimate and give a range within which the true value is likely to fall.

In 95% of survey samples, the 95% confidence interval will contain the 'true' figure for the whole population (that is, the figure we would get if the survey covered the entire population). In general, the smaller the sample size the wider the confidence interval. Confidence intervals are included in tables of survey results published on StatsWales.

As with any survey, the National Survey is also subject to a range of other sources of error: for example, due to non-response; because respondents may not interpret the questions as intended or may not answer accurately; and because errors may be introduced as the survey data is processed. These kinds of error are known as non-sampling error, and are discussed further in the quality report for the survey.

Significant differences

Where the text of this release notes a difference between two National Survey results (in the same year), we have checked to ensure that the confidence intervals for the two results do not overlap. This suggests that the difference is statistically significant (but as noted above, is not as rigorous as carrying out a formal statistical test), i.e. that there is less than a 5% (1 in 20) chance of obtaining these results if there is no difference between the same two groups in the wider population.

Checking to see whether two confidence intervals overlap is less likely than a formal statistical test to lead to conclusions that there are real differences between groups. That is, it is more likely to lead to "false negatives": incorrect conclusions that there is no real difference when in fact there is. It is also less likely to lead to "false positives": incorrect conclusions that there is a difference when there is in fact none. Carrying out many comparisons increases the chance of finding false

positives. Therefore, when many comparisons are made the conservative nature of the test is an advantage because it reduces (but does not eliminate) this chance.

Where National Survey results are compared with results from other sources, we have not checked that confidence intervals do not overlap.

Regression analysis

Where further analysis has been carried out selection of the initial variables used in the regression was based on; the results from cross-analysis, policy direction, and the practicality of using the variable. The results for some factors were only available for a sub-sample of respondents, or there were a large number of 'missing' results which resulted in a substantial drop in the sample size on which the regression model could be tested. For this reason some variables/factors were omitted from the investigation. The final models consisted of those factors that remained significant even after holding the other factors constant. These significant factors are those that have been discussed in this bulletin and the use of regression analysis is indicated by the statement that we have 'controlled for other factors'. It is worth noting that had a different range of factors been available to consider from the survey, then some conclusions about which factors were significant may have been different.

In this bulletin the regression results did not find that living in a Fusion Programme area was linked to the proportion of people who visit cultural events at least 3 times in the past year. However, cross-analysis suggested there was a link and further investigation showed that when the regression model contained both Fusion area and WIMD area factors only WIMD was shown as being significant. This may be because the WIMD classifications also captures area deprivation in places that are not covered by Fusion initiatives. However, it is worth noting that if the model is run using the Fusion area factor, but excluding WIMD, then living in a Fusion area is significantly associated with being less likely to have visited a cultural event three times or more in the past year.

More details on the methodology used in the regression analysis in this report are available in the [Regression methodology and models: technical report](#).

Technical report

More detailed information on the survey methodology is set out in the [Technical Report](#) for the survey.

National Statistics status

The [United Kingdom Statistics Authority](#) has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the [Code of Practice for Statistics](#).

National Statistics status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

All official statistics should comply with all aspects of the Code of Practice for Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's

regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

The continued designation of these statistics as National Statistics was confirmed in 2017 following a compliance check by the Office for Statistics Regulation [letter of confirmation]. These statistics last underwent a full assessment [full report] against the Code of Practice in 2013.

Since the latest review by the Office for Statistics Regulation, we have continued to comply with the Code of Practice for Statistics, and have made the following improvements:

•   provided more detailed breakdowns in the Results viewer and made it easier for users to compare results across years;

•   updated the survey topics annually to ensure we continue to meet changing policy need;

•   made regression analysis a standard part of our outputs to help users understand the contribution of particular factors to outcomes of interest.

Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section (10)(1) of the Act, the Welsh Ministers must (a) publish indicators ("national indicators") that must be applied for the purpose of measuring progress towards the achievement of the Well-being goals, and (b) lay a copy of the national indicators before the National Assembly. The 46 national indicators were laid in March 2016 and this releases includes 1 of the national indicators namely the percentage of people attending or participating in arts, culture or heritage activities at least three times a year.

Information on the indicators, along with narratives for each of the well-being goals and associated technical information is available in the Well-being of Wales report.

As a national indicator under the Act they must be referred to in the analyses of local well-being produced by public services boards when they are analysing the state of economic, social, environmental and cultural well-being in their areas.

Further information on the Well-being of Future Generations (Wales) Act 2015.

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local well-being assessments and local well-being plans.

Further details

This bulletin is available at:

https://gov.wales/national-survey-wales-culture-and-welsh-language

The first release for the survey was published on 20 June 2018.

More detailed information on the survey methodology is set out in the Technical Report for the survey.

Next update

Not a regular output.

We want your feedback

We welcome any feedback on any aspect of these statistics which can be provided by email to surveys@gov.wales.

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