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Technical Report:

Regression analysis of 2019-20 National Survey for Wales results

This report sets out our basic approach to logistic regression analysis of National Survey results. The first section gives brief details of the approach we have used; the annex contains details of the regression models that we have produced.

Regression analysis

Regression analysis goes beyond descriptive statistics in which the relationship between one independent and one dependent variable is explored. Whilst descriptive statistics are quick and easy to produce and the findings can be useful, they don't take account of the complicated relationships between variables. Regression analysis allows for the relationship between an explanatory variable and the outcome variable to be examined whilst at the same time taking into consideration other explanatory variables that have an effect on the outcome.

The analysis we have used for most survey outcomes is binary logistic regression. Logistic regression is used as it is suitable when looking at categorical outcomes (which is the form taken by most National Survey variables). While it is possible to conduct multinomial logistic regression with multiple categorical outcomes, we usually use logistic regression with binary outcomes (e.g. 'satisfied with visit to GP' vs. 'not satisfied') in order to increase ease of understanding. Outcome variables with more than two outcomes are coded into a binary format prior to regression analysis (for example, merging 'very satisfied' and 'fairly satisfied' together to form a 'satisfied' category). Logistic regression is then used to predict the likelihood of being in a particular category based on the values of the independent variables (predictors).

Procedure

Backwards logistic regression is used in order to create the final models. Firstly, the dependent variable and all other relevant variables are investigated using descriptive statistics. Those that are insignificant predictors at the 0.05 level are dropped. All of the remaining significant variables are placed in the initial model. The contribution of each variable is assessed by looking at the significance value of the t-test for each predictor. The variable with the highest p-value is removed, and the procedure repeated, until only the variables that are significant at the 0.05 level are included. There are multiple different ways in which variables could be entered into the model. We usually use backwards selection as forward approaches often allow for important variables to be missed due to other variables being entered into the model first ("suppressor effects").

Multicollinearity

Many of the variables collected in the National Survey are correlated with one another. Multicollinearity (also known as collinearity) is where one or more explanatory variables in a regression model are highly correlated such that they linearly predict each other with a high degree of accuracy. However, a key assumption of multivariate regression is that explanatory variables are not too highly correlated with one another. Too high a degree of correlation

between predictor variables in a regression model can affect the stability and interpretation of the regression estimates. Therefore, the variables included in the model are tested for multicollinearity.

High multicollinearity can be assessed using the variance inflation factor (VIF) statistic. There is differing advice on what constitutes an acceptable degree of multicollinearity. It is generally suggested that "if the largest VIF is greater than 10 then there is cause for concern", "if the average VIF is substantially greater than 1 then the regression may be biased" and "tolerance below 0.1 indicates a serious problem" (Field, 2013, p.325)[1].

The VIF is tested firstly with all relevant variables included. Individual variables that fail to meet the assumptions above are removed from the model. The VIF is then tested again on the final model to double-check for multicollinearity. In all of the models the individual variable VIF is no greater than 10 and the mean VIF is no greater than 2.5, suggesting that there is no cause for concern in these models.

Goodness of fit

Goodness of fit describes how well a model fits the data from which it is generated. It can be used to assess how well the data that the model predicts, corresponds to the data that has been collected. It can be measured using the R^2 statistic. The R^2 statistic is the coefficient of determination for multiple regression models and measures how well the data fits the model. It is reported as a percentage of the variation of the outcome explained by the variables included. As with any regression using survey data, we can only consider the variables for which we have data. Associations could be due to some unmeasured factor, and there may also be important unmeasured factors which are simply not captured in the model. Therefore, in social science research R^2 can appear to be low, but this can be due to the complex nature of outcomes being investigated: a model with a low R^2 can still be useful in understanding the relationships between variables.

When calculating R^2 statistics, the data cannot be weighted. The (un-weighted) R^2 statistic for each model is included in the appendices below.

Interaction effects

Interactions can be used to test for the joint effect of two or more predictor variables on an outcome variable. It allows us to explore how the relationships between dependent and independent variables differ by context. For example, when researching the determinants of well-being, prior research showed that the effect of socio-economic conditions on well-being was different for males to females. Therefore, an interaction between household deprivation and Sex was added to the model. This found that in deprived households females reported higher well-being than males; however in less deprived households it was the other way round. Looking at this interaction allows a more detailed understanding of how various variables interact to influence the dependent variable.

Causality

Regression analysis can identify relationships between factors; however, it cannot tell us about causality. While for some factors causality is fairly clear based on prior knowledge (e.g. material deprivation does not cause changes in Sex; Sex causes changes in material deprivation), for others the relationship between cause and effect is more blurred (e.g. low life

[1] Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.

satisfaction can cause material deprivation; material deprivation can cause low life satisfaction). Therefore, where prior knowledge does not make the direction of causality clear we have generally noted that causality can operate in either direction (or both).

Weighting

The results of the National Survey are weighted to compensate for unequal selection probabilities and differential non-response (i.e. to ensure that the age and sex distribution of the final dataset matches that of the population of Wales). Our regression models take the weights into account. For details of how the weights are calculated, see National Survey for Wales 2018-19 Technical Report.

Marginal effects

The results are sometimes presented using marginal effects. This differs from the usual regression output, odds ratios. Odds are the probability of an event occurring divided by the probability of the event not occurring. Odds ratios are the ratio between two sets of odds. Odds ratios are somewhat abstract and can often be hard to interpret; indeed, are often misinterpreted[2]. Therefore, we turn the odds ratios in the model into predicted probabilities (risks). Using these we can calculate the probability of an individual in a specified group (e.g. female) meeting the regression criteria (e.g. being in material deprivation) and compare it with the probability for individuals not in the group (e.g. males). This is known as a marginal effect.

Where we have used this approach the results presented are Average Marginal Effects (AMEs). As an example, an AME for the effect of material deprivation on the probability of internet use would be calculated as follows:

1. Generate a logistic regression model for internet use, including material deprivation as one of the predictors.
2. Start at the first person in the dataset.
3. Use the regression model to calculate a predicted probability that this person uses the internet, using their characteristics to set the values for all factors in the model except for material deprivation: set this factor to be 'in material deprivation'. Record the predicted probability generated by the model for that person.
4. Repeat for all the other people in the dataset.
5. Take the mean of the predicted probabilities made for all these people. This is the average adjusted predicted probability of using the internet for living in a deprived household.
6. Do steps 2 to 4 again, except this time setting the material deprivation factor for each person as being 'not in material deprivation'.
7. Take the mean of the predicted probabilities made for all these people. This is the average adjusted predicted probability of using the internet for people not in material deprivation.
8. The difference between the two mean predicted probabilities calculated at steps 5 and 7 is the Average Marginal Effect of material deprivation on internet use.

For a more detailed description of Average Marginal Effects please see Williams (2012)[3].

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[2] See http://www.bmj.com/content/316/7136/989 for a brief discussion of the issues.

[3] Williams, R. (2012). *Using the margins command to estimate and interpret adjusted predictions and marginal effects.*

Statistically significant differences

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).

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.

Where the text of our reports note a difference between two groups, we have checked to ensure that the confidence intervals for the two groups 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.

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Volunteering

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Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, Sex – male or female, DvHiQual2 – Highest qualification, DvTenurGrp2 – housing tenure type, DvMatDep – material deprivation, Dvgenhealth3 – general health, DvLLTI – limiting long-term illness, DvWbHapYestGrp4 – happiness yesterday (grouped), DvWbLifeWrthGrp4 – things in life are worthwhile (grouped), DvWbSatLifeGrp4 – satisfaction with life (grouped), DvEcoStat3 – economic status, MarStat_1 – marital status (single or couple), DvFGSport – takes part in sport three or more times per week, DvIntPersUse – personally uses the internet, Religion_1 – has a religious faith or not, DvFGWelsh – speaks Welsh every day, DvUrbRur – lives in urban or rural area, DvWIMDOvr5 – index of area deprivation, DvLA – local authority, DvFGArts – participate/attend arts, culture & heritage events, DvFGLonely – whether lonely or not, DvSexOrient – whether heterosexual or not, DvEthnicity – whether white British, white other nationality, not white.

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: None

Variables removed as not being significant predictors when part of a regression model: DvWbHapYestGrp4, DvWbSatLife4Grp4, Dvgenhealth3, DvSexOrient, DvLLTI, DvEcoStat3, Sex, DvMatDep, DvWIMDOvr5, DvEthnicity.

Final model

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvAgeGrp5					
16-24	.3177523	.0220037	14.44	0.000	.2746258 .3608789
25-44	.2410115	.0090924	26.51	0.000	.2231909 .2588322
45-64	.2453281	.0078543	31.23	0.000	.229934 .2607221
65-74	.3070517	.0112715	27.24	0.000	.2849601 .3291434
75+	.3588135	.0157312	22.81	0.000	.3279809 .3896461

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvHiQual2					
National Qualification Framework levels 4-8	.3325522	.008472	39.25	0.000	.3159474 .349157
National Qualification Framework level 3	.2434633	.0140112	17.38	0.000	.2160019 .2709247
National Qualification Framework level 2	.237871	.012002	19.82	0.000	.2143476 .2613944
Below National Qualification Framework level 2	.2020695	.0213316	9.47	0.000	.1602604 .2438786
No qualification	.201209	.0106034	18.98	0.000	.1804266 .2219914

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvTenurGrp2					
Owner-occupied	.282645	.0060061	47.06	0.000	.2708733 .2944167
Social Housing	.2289635	.0150593	15.20	0.000	.1994478 .2584792
Private rented	.2416965	.0151599	15.94	0.000	.2119835 .2714094

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvFGSport					
Yes	.3246615	.0091836	35.35	0.000	.3066619 .3426611
No	.2427303	.0061268	39.62	0.000	.2307219 .2547387

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvIntPersUse					
Yes	.2783893	.0051491	54.07	0.000	.2682972 .2884814
No	.1971693	.0151074	13.05	0.000	.1675593 .2267792

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
Religion_1					
No religion	.2252922	.0071591	31.47	0.000	.2112605 .2393238
Religion	.314367	.0075269	41.77	0.000	.2996146 .3291193

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvFGWelsh					
Yes	.3307542	.0175483	18.85	0.000	.2963602 .3651481
No	.2646116	.0052906	50.02	0.000	.2542421 .2749811

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvLA					
Isle of Anglesey	.2340091	.0250163	9.35	0.000	.184978 .2830402
Gwynedd	.2577716	.0252068	10.23	0.000	.2083672 .3071759
Conwy	.2933584	.0271053	10.82	0.000	.2402329 .3464839
Denbighshire	.3335514	.0268748	12.41	0.000	.2808778 .3862251
Flintshire	.2913447	.0224268	12.99	0.000	.2473889 .3353005
Wrexham	.27944	.0258122	10.83	0.000	.228849 .3300309
Powys	.2990998	.0169216	17.68	0.000	.2659341 .3322655
Ceredigion	.2770156	.0270368	10.25	0.000	.2240244 .3300068
Pembrokeshire	.3327707	.0259178	12.84	0.000	.2819727 .3835687
Carmarthenshire	.2572002	.0198869	12.93	0.000	.2182225 .2961779
Swansea	.3150644	.0191078	16.49	0.000	.2776138 .3525151
Neath Port Talbot	.2254597	.021894	10.30	0.000	.1825482 .2683712
Bridgend	.2283307	.023345	9.78	0.000	.1825753 .274086
Vale of Glamorgan	.2616049	.0245194	10.67	0.000	.2135478 .309662
Cardiff	.2530411	.0153451	16.49	0.000	.2229653 .283117
Rhondda Cynon Taf	.2487246	.0203235	12.24	0.000	.2088912 .288558
Merthyr Tydfil	.1970576	.0278871	7.07	0.000	.1423997 .2517154
Caerphilly	.2714863	.0238042	11.40	0.000	.2248309 .3181418
Blaenau Gwent	.2721631	.026569	10.24	0.000	.2200888 .3242373
Torfaen	.2721053	.0307592	8.85	0.000	.2118184 .3323922
Monmouthshire	.3103954	.0264311	11.74	0.000	.2585915 .3621994
Newport	.258932	.0245329	10.55	0.000	.2108484 .3070156

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
MarStat_1					
Married	.2915413	.0076072	38.32	0.000	.2766314 .3064511
Single	.2509547	.0068587	36.59	0.000	.237512 .2643975

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvWbLifeWrthGrp4					
Low (0-4)	.1686205	.0292848	5.76	0.000	.1112234 .2260177
Medium (5-6)	.2265753	.0153658	14.75	0.000	.1964588 .2566917
High (7-8)	.2664917	.0072419	36.80	0.000	.2522978 .2806857
Very high (9-10)	.2966562	.0080611	36.80	0.000	.2808567 .3124558

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvUrbRur					
Urban	.2618552	.0066166	39.58	0.000	.2488869 .2748234
Rural	.2907107	.0099306	29.27	0.000	.271247 .3101745

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvFGArts					
Yes	.3031482	.0059499	50.95	0.000	.2914865 .3148098
No	.1749822	.0092336	18.95	0.000	.1568846 .1930798

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvFGLonely					
Not lonely (0)	.265415	.0083801	31.67	0.000	.2489903 .2818398
Sometimes lonely (1-3)	.2648997	.0068201	38.84	0.000	.2515325 .2782669
Lonely (4-6)	.3182172	.0151587	20.99	0.000	.2885066 .3479278

Loneliness

Main factors associated with loneliness

Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, Sex – male or female, DvEthnicity – whether white British, DvLLTI – limiting long-term illness, Dvgenhealth3 – general health, Dvillness4 - has mental illness, CarerHrsAll - How many hours a week spend caring, DvSexOrient – whether heterosexual or not, DvMatDep – material deprivation, DvTenurGrp2 – housing tenure type, DvEcoStat3 – economic status, DvUrbRur – lives in urban or rural area, CarUse - Whether have access to a car, ClubMem - Whether a member of sports club, DvHhType - Household type, MarStat2 – marital status, DvIntPersUse – personally uses the internet, DvFGVol - People who volunteer, DvFGWelsh – speaks Welsh every day

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: Sex, DvIntPersUse, DvFGVol, DvFGWelsh

Variables removed due to multicollinearity: DvHhType

Variables removed as not being significant predictors when part of a regression model: DvTenurGrp2, DvEcoStat3, DvUrbRur, CarUse, ClubMem

Final model

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvAgeGrp5						
16-24	.1711613	.0156694	10.92	0.000	.1404499	.2018728
25-44	.177727	.0080662	22.03	0.000	.1619175	.1935365
45-64	.1578429	.0067057	23.54	0.000	.1447	.1709858
65-74	.1155139	.0076703	15.06	0.000	.1004805	.1305473
75+	.0931143	.0090037	10.34	0.000	.0754675	.1107612

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvEthnicity						
White (Welsh, English, British etc.)	.1488129	.0039767	37.42	0.000	.1410188	.156607
White - other	.2445669	.0258182	9.47	0.000	.1939642	.2951696
Any other ethnic group	.1772938	.0205716	8.62	0.000	.1369742	.2176135

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvLLTI						
Yes	.1660578	.0076373	21.74	0.000	.151089	.1810266
No	.1433374	.0060222	23.80	0.000	.1315341	.1551408

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvgenhealth3						
Very good or good	.1214055	.0049154	24.70	0.000	.1117715	.1310395
Fair	.2113982	.0110012	19.22	0.000	.1898364	.2329601
Bad or very bad	.2422494	.0169056	14.33	0.000	.2091151	.2753837

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvillness4						
No	.1325807	.0042376	31.29	0.000	.1242752	.1408863
Mental illness - anxiety - depression - nerves (nes)	.2696203	.0162229	16.62	0.000	.237824	.3014165

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
CarerHrsAll						
Not a carer	.1503619	.0044989	33.42	0.000	.1415442	.1591796
1 - 10 hours a week	.1609809	.0093437	17.23	0.000	.1426676	.1792941
11 - 19 hours a week	.1332482	.0207957	6.41	0.000	.0924895	.174007
20 - 49 hours a week	.1185284	.0183092	6.47	0.000	.082643	.1544137
50+ hours a week	.201534	.0197517	10.20	0.000	.1628215	.2402465

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvSexOrient						
Heterosexual or straight	.1500065	.0039142	38.32	0.000	.1423349	.1576782
Another response	.2112019	.0225385	9.37	0.000	.1670272	.2553767

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvMatDep						
In material deprivation	.2611151	.0135078	19.33	0.000	.2346404	.2875898
Not in material deprivation	.1316992	.0042915	30.69	0.000	.123288	.1401103

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
MarStat2						
Single	.1980878	.0098771	20.06	0.000	.178729	.2174465
Living with someone as a couple but not married	.135276	.0112573	12.02	0.000	.1132121	.1573399
Married or in a civil partnership	.1202486	.0055212	21.78	0.000	.1094273	.13107
Separated from marriage or civil partnership	.2069912	.0268588	7.71	0.000	.1543489	.2596334
Divorced or civil partnership legally dissolved	.1735829	.0112828	15.38	0.000	.151469	.1956968
Surviving partner from marriage or civil partnership	.2033692	.0161791	12.57	0.000	.1716589	.2350796

Main factors associated with emotional loneliness

Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, DvEthnicity – whether white British, DvLLTI – limiting long-term illness, Dvgenhealth3 – general health, Dvillness4 - has mental illness, CarerHrsAll - How many hours a week spend caring, DvSexOrient – whether heterosexual or not, DvMatDep – material deprivation, DvTenurGrp2 – housing tenure type, DvEcoStat3 – economic status, DvUrbRur – lives in urban or rural area, CarUse - Whether have access to a car, ClubMem - Whether a member of sports club, DvHhType - Household type, MarStat – marital status

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: DvHhType

Variables removed as not being significant predictors when part of a regression model: DvUrbRur, DvEcoStat3, CarUse, ClubMem

Final model

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvAgeGrp5						
16-24	.2356387	.0182802	12.89	0.000	.1998101	.2714674
25-44	.2236385	.0091246	24.51	0.000	.2057546	.2415225
45-64	.1861707	.0070415	26.44	0.000	.1723697	.1999717
65-74	.1660524	.0085499	19.42	0.000	.1492949	.1828099
75+	.1442921	.0097038	14.87	0.000	.125273	.1633111

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvEthnicity						
White (Welsh, English, British etc.)	.1925791	.0043548	44.22	0.000	.1840439	.2011142
White - other	.2499091	.0264066	9.46	0.000	.1981531	.3016652
Any other ethnic group	.2337311	.0262595	8.90	0.000	.1822635	.2851988

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvLLTI						
Yes	.217623	.0084461	25.77	0.000	.201069	.2341769
No	.1805155	.0063521	28.42	0.000	.1680657	.1929653

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvgenhealth3						
Very good or good	.1549829	.0054415	28.48	0.000	.1443177	.165648
Fair	.2674463	.0114372	23.38	0.000	.2450299	.2898628
Bad or very bad	.3252408	.0186805	17.41	0.000	.2886277	.3618538

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvillness4						
No	.17192	.0046894	36.66	0.000	.1627289	.181111
Mental illness - anxiety - depression - nerves (nes)	.3507595	.0178393	19.66	0.000	.3157951	.3857239

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
CarerHrsAll						
Not a carer	.18848	.0048663	38.73	0.000	.1789422	.1980179
1 - 10 hours a week	.2122049	.0103009	20.60	0.000	.1920156	.2323943
11 - 19 hours a week	.2019747	.0265663	7.60	0.000	.1499057	.2540437
20 - 49 hours a week	.1944451	.0242305	8.02	0.000	.1469543	.241936
50+ hours a week	.2600013	.0229212	11.34	0.000	.2150765	.3049261

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvSexOrient						
Heterosexual or straight	.1915433	.0043156	44.38	0.000	.183085	.2000017
Another response	.2890787	.0257204	11.24	0.000	.2386677	.3394898

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvMatDep						
In material deprivation	.2666335	.0135381	19.69	0.000	.2400993	.2931678
Not in material deprivation	.1827308	.0048087	38.00	0.000	.1733059	.1921557

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvTenurGrp2						
Owner-occupied	.1794167	.0053912	33.28	0.000	.1688501	.1899833
Social Housing	.2301772	.0119325	19.29	0.000	.2067898	.2535645
Private rented	.2302597	.0131813	17.47	0.000	.2044248	.2560945

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
MarStat2						
Single	.2391666	.0108226	22.10	0.000	.2179548	.2603785
Living with someone as a couple but not married	.1543054	.0117125	13.17	0.000	.1313493	.1772615
Married or in a civil partnership	.1574266	.0063085	24.95	0.000	.1450623	.169791
Separated from marriage or civil partnership	.275533	.0299897	9.19	0.000	.2167543	.3343117
Divorced or civil partnership legally dissolved	.2164952	.0125148	17.30	0.000	.1919665	.2410238
Surviving partner from marriage or civil partnership	.3349657	.0175994	19.03	0.000	.3004715	.3694599

Main factors associated with social loneliness

Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, DvEthnicity – whether white British, DvLLTI – limiting long-term illness, Dvgenhealth3 – general health, Dvillness4 - has mental illness, CarerHrsAll - How many hours a week spend caring, DvSexOrient – whether heterosexual or not, DvMatDep – material deprivation, DvTenurGrp2 – housing tenure type, DvEcoStat3 – economic status, DvUrbRur – lives in urban or rural area, CarUse - Whether have access to a car, ClubMem - Whether a member of sports club, DvHhType - Household type, MarStat – marital status

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: DvHhType

Variables removed as not being significant predictors when part of a regression model: ClubMem, DvEcoStat3, CarUse, DvTenurGrp2, CarerHrsAll, DvLLTI, DvUrbRur

Final model

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvAgeGrp5						
16-24	.2984372	.0213722	13.96	0.000	.2565483	.340326
25-44	.31475	.0100226	31.40	0.000	.295106	.334394
45-64	.3313989	.0089462	37.04	0.000	.3138646	.3489332
65-74	.2624065	.0111112	23.62	0.000	.240629	.2841841
75+	.2114877	.0132317	15.98	0.000	.1855539	.2374214

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvEthnicity						
White (Welsh, English, British etc.)	.295132	.00527	56.00	0.000	.2848031	.305461
White - other	.4140278	.0315165	13.14	0.000	.3522566	.4757991
Any other ethnic group	.3231826	.0288993	11.18	0.000	.266541	.3798241

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvgenhealth3						
Very good or good	.2708894	.0060331	44.90	0.000	.2590648	.2827139
Fair	.3804758	.0123043	30.92	0.000	.3563598	.4045919
Bad or very bad	.3600123	.0173641	20.73	0.000	.3259793	.3940452

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvillness4						
No	.2862333	.005474	52.29	0.000	.2755046	.2969621
Mental illness - anxiety - depression - nerves (nes)	.4051107	.0181721	22.29	0.000	.369494	.4407274

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvSexOrient						
Heterosexual or straight	.2975089	.0052085	57.12	0.000	.2873005	.3077174
Another response	.3577137	.0279139	12.81	0.000	.3030034	.412424

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvMatDep						
In material deprivation	.4259356	.0163548	26.04	0.000	.3938808	.4579903
Not in material deprivation	.2807171	.0055686	50.41	0.000	.2698028	.2916313

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
MarStat2					
Single	.3463828	.0129951	26.65	0.000	.3209129 .3718526
Living with someone as a couple but not married	.2930386	.0168447	17.40	0.000	.2600237 .3260536
Married or in a civil partnership	.2714801	.0075577	35.92	0.000	.2566674 .2862928
Separated from marriage or civil partnership	.3544648	.0342696	10.34	0.000	.2872976 .421632
Divorced or civil partnership legally dissolved	.3436073	.0158388	21.69	0.000	.3125638 .3746508
Surviving partner from marriage or civil partnership	.2877966	.0172331	16.70	0.000	.2540204 .3215729

Accessing information on health and well-being

Main factors associated with ability to access the right information when ill

Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, Sex – male or female, DvEthnicity – whether white British, DvReligion – religion, DvLLTI – limiting long-term illness, Dvgenhealth3 – general health, DvSexOrient – whether heterosexual or not, DvMatDep – material deprivation, DvTenurGrp2 – housing tenure type, DvEcoStat3 – economic status, DvUrbRur – lives in urban or rural area, CarUse - Whether have access to a car, DvHhType - Household type, DvIntPersUse – personally uses the internet, DvFGVol - People who volunteer, DvFGWelsh – speaks Welsh every day, DvHiQual2 – Highest educational qualification, DvFGArts – People attending or participating in arts, culture or heritage activities at least three times a year, DvFGSport – Participation in sporting activities three or more times a week, DvFGLonely - People feeling lonely, DvWkingHh - Household members of working age in paid work

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: DvWkingHh

Variables removed as not being significant predictors when part of a regression model: Sex, DvEthnicity, DvReligion, DvLLTI, DvSexOrient, DvMatDep, DvTenurGrp2 DvEcoStat3, DvUrbRur, CarUse, DvHiQual2, DvFGWelsh, DvHhType, DvIntPersUse, DvFGVol, DvFGSport

Final model

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvAgeGrp5					
16-24	.929537	.0174814	53.17	0.000	.8952741 .9637999
25-44	.8556785	.0126063	67.88	0.000	.8309706 .8803865
45-64	.8147026	.0121873	66.85	0.000	.790816 .8385893
65-74	.8090546	.0153739	52.63	0.000	.7789222 .839187
75+	.806312	.0190557	42.31	0.000	.7689635 .8436605

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvgenhealth3						
Very good or good	.8586135	.0080281	106.95	0.000	.8428787	.8743482
Fair	.8280699	.0138044	59.99	0.000	.8010137	.8551261
Bad or very bad	.7548357	.0238707	31.62	0.000	.70805	.8016215

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvFGArts						
Yes	.8561136	.007822	109.45	0.000	.8407829	.8714444
No	.8136055	.012575	64.70	0.000	.788959	.838252

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvFGLonely						
Not lonely (0)	.887369	.0099495	89.19	0.000	.8678683	.9068697
Sometimes lonely (1-3)	.8448273	.0093319	90.53	0.000	.8265371	.8631175
Lonely (4-6)	.7311029	.0204167	35.81	0.000	.6910869	.7711188

Main factors associated with ability to access the right information on how to lead a healthy lifestyle

Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, Sex – male or female, DvEthnicity – whether white British, DvReligion – religion, DvLLTI – limiting long-term illness, Dvgenhealth3 – general health, DvSexOrient – whether heterosexual or not, DvMatDep – material deprivation, DvTenurGrp2 – housing tenure type, DvEcoStat3 – economic status, DvUrbRur – lives in urban or rural area, CarUse - Whether have access to a car, DvHhType - Household type, DvIntPersUse – personally uses the internet, DvFGVol - People who volunteer, DvFGWelsh – speaks Welsh every day, DvHiQual2 – Highest educational qualification, DvFGArts – People attending or participating in arts, culture or heritage activities at least three times a year, DvFGSport – Participation in sporting activities three or more times a week, DvFGLonely - People feeling lonely, DvWkingHh - Household members of working age in paid work

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: DvWkingHh

Variables removed as not being significant predictors when part of a regression model: DvAgeGrp5, Sex, DvEthnicity, DvReligion, DvLLTI, DvSexOrient, DvMatDep, DvTenurGrp2, DvEcoStat3, DvUrbRur, CarUse, DvHiQual2, DvFGWelsh, DvFGVol, DvFGSport

Final model

	Margin	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
Dvgenhealth3						
Very good or good	.8695058	.0081475	106.72	0.000	.853537	.8854746
Fair	.8239329	.0137581	59.89	0.000	.7969675	.8508984
Bad or very bad	.7413619	.0264663	28.01	0.000	.689489	.7932349

	Margin	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvHhType						
Single pensioner (no ..)	.7948845	.0186353	42.65	0.000	.7583599	.8314091
Married couple pensio..)	.8320236	.0176647	47.10	0.000	.7974013	.8666458
Single person, not a ..)	.8593257	.0147511	58.25	0.000	.830414	.8882375
Two adult household wi..	.8431379	.0168624	50.00	0.000	.8100883	.8761875
Two adult household (u..	.8310251	.0138644	59.94	0.000	.8038514	.8581988
Single parent household	.8996008	.0210731	42.69	0.000	.8582983	.9409033
Other households	.8746358	.0157785	55.43	0.000	.8437106	.905561

	Margin	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvIntPersUse						
Yes	.8514652	.0070407	120.93	0.000	.8376656	.8652648
No	.8063112	.0210141	38.37	0.000	.7651243	.8474981

	Margin	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvFGArts						
Yes	.8643821	.0078706	109.82	0.000	.8489561	.8798082
No	.8154513	.0130473	62.50	0.000	.7898791	.8410234

	Margin	Delta-method Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvFGLonely						
Not lonely (0)	.8713572	.0106043	82.17	0.000	.8505732	.8921412
Sometimes lonely (1-3)	.8583815	.0094103	91.22	0.000	.8399377	.8768254
Lonely (4-6)	.7632051	.019989	38.18	0.000	.7240274	.8023828

Main factors associated with ability to trust health and well-being information on websites used

Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, Sex – male or female, DvEthnicity – whether white British, DvReligion – religion, DvLLTI – limiting long-term illness, Dvgenhealth3 – general health, DvSexOrient – whether heterosexual or not, DvMatDep – material deprivation, DvTenurGrp2 – housing tenure type, DvEcoStat3 – economic status, DvUrbRur – lives in urban or rural area, CarUse - Whether have access to a car, DvHhType - Household type, DvFGVol - People who volunteer, DvFGWelsh – speaks Welsh every day, DvHiQual2 – Highest educational qualification, DvFGArts – People attending or participating in arts, culture or heritage activities at least three times a year, DvFGSport – Participation in sporting activities three or more times a week, DvFGLonely - People feeling lonely

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: None

Variables removed as not being significant predictors when part of a regression model: DvAgeGrp5, Sex, DvEthnicity, DvReligion, DvLLTI, DvSexOrient, DvTenurGrp2, DvEcoStat3, DvUrbRur, CarUse, DvHhType, DvHiQual2, DvFGWelsh, DvFGVol, DvFGArts, DvFGSport

Final model

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
Dvgenhealth3					
Very good or good	.8151858	.0106161	76.79	0.000	.7943786 .8359929
Fair	.744221	.0225194	33.05	0.000	.7000837 .7883582
Bad or very bad	.7298034	.0374174	19.50	0.000	.6564668 .8031401

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvMatDep					
In material deprivation	.7347209	.0265245	27.70	0.000	.6827338 .7867079
Not in material depriv..	.8031568	.0101303	79.28	0.000	.7833017 .8230119

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvFGLonely					
Not lonely (0)	.8152013	.016523	49.34	0.000	.7828168 .8475858
Sometimes lonely (1-3)	.8031787	.0120734	66.52	0.000	.7795153 .8268422
Lonely (4-6)	.7379712	.0271718	27.16	0.000	.6847154 .791227

Internet skills and online public sector services

Main factors associated with demonstrating five digital skills

Initial list of variables considered: DIAgeGrp – respondent age in 4 groups, DvHiQual2 – Highest qualification, Sex – male or female, DvMatDep – material deprivation, IntFrqAccE – frequency of checking the internet, DvWbAnxYestGrp4 – anxiety yesterday (grouped), IntGovSat - Satisfaction with most recent public website visited, IntGovTransEase - Ease of public sector website transaction, LAServ – can find out what services local authority provides, LAInfoCh - can access information about local authority in desired way, DvHhUnd19 – Household contains someone under the age of 19, DvEcoStat3 – economic status, DvTenurGrp2 – housing tenure type, DvWbSatLifeGrp4 – satisfaction with life (grouped), Genhealth – general health, DvUrbRur – lives in urban or rural area, DvLLTI – limiting long-term illness, DvEthnicity – whether white British, white other nationality, not white, DvSexOrient – whether heterosexual or not.

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: None

Variables removed as not being significant predictors when part of a regression model: DvMatDep, DvWbAnxYestGrp4, IntGovSat, IntGovTransEase, LAInfoCh, DvHhUnd19, DvEcoStat3, DvTenurGrp2, DvLLTI, Genhealth, DvUrbRur, DvEthnicity, DvSexOrient.

Final model

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DIAgeGrp						
16-49	.7823204	.0062659	124.85	0.000	.770038	.7946029
50-64	.6662621	.0074768	89.11	0.000	.651606	.6809182
65-74	.5880872	.0094344	62.33	0.000	.5695939	.6065805
75+	.4764795	.0136718	34.85	0.000	.4496801	.5032789

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DvHiQual2						
National Qualification Framework levels 4-8	.7351076	.006079	120.93	0.000	.7231917	.7470236
National Qualification Framework level 3	.6974904	.0114135	61.11	0.000	.6751176	.7198632
National Qualification Framework level 2	.6762725	.0096007	70.44	0.000	.6574533	.6950917
Below National Qualification Framework level 2	.69373	.0179072	38.74	0.000	.6586283	.7288316
No qualification	.5776866	.0089891	64.27	0.000	.5600661	.595307

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Gender						
Male	.6958493	.0059641	116.67	0.000	.6841585	.7075401
Female	.6761097	.0053569	126.21	0.000	.6656091	.6866103

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
IntFrqAccE						
Several times a day	.7605007	.0048675	156.24	0.000	.7509594	.770042
Daily	.5758032	.0087808	65.58	0.000	.5585911	.5930153
Weekly	.310479	.0178471	17.40	0.000	.2754951	.3454628
Less than weekly	.247592	.0270584	9.15	0.000	.1945522	.3006317

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LAServ						
Strongly agree	.7259175	.0066837	108.61	0.000	.7128162	.7390188
Tend to agree	.6900076	.0061308	112.55	0.000	.67799	.7020253
Neither agree nor disagree	.6309198	.013331	47.33	0.000	.6047885	.6570511
Tend to disagree	.5890483	.0135656	43.42	0.000	.562457	.6156396
Strongly disagree	.5869051	.0203407	28.85	0.000	.5470333	.6267769

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DvWbSatLifeGrp4						
Low (0-4)	.6081288	.0180673	33.66	0.000	.5727133	.6435442
Medium (5-6)	.66224	.0110214	60.09	0.000	.6406359	.6838441
High (7-8)	.695377	.0056588	122.88	0.000	.6842846	.7064694
Very high (9-10)	.6898519	.0070625	97.68	0.000	.6760081	.7036957

Main factors associated with visiting public sector websites

Initial list of variables considered: DIAgeGrp – respondent age in 4 groups, DvHiQual2 – Highest qualification, Sex – male or female, DvMatDep – material deprivation, IntFrqAccE – Frequency of checking the internet, DvWbAnxYestGrp4 – anxiety yesterday (grouped), LAServ – can find out what services local authority provides, LAInfoCh - can access information about local authority in desired way, DvHhUnd19 – Household contains someone under the age of 19, DvEcoStat3 – economic status, DvTenurGrp2 – housing tenure type, DvWbSatLifeGrp4 – satisfaction with life (grouped), Genhealth – general health, DvUrbRur – lives in urban or rural area, DvLLTI – limiting long-term illness, DvEthnicity – whether white British, white other nationality, not white, DvSexOrient – whether heterosexual or not.

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: None

Variables removed as not being significant predictors when part of a regression model: DvWbAnxYestGrp4, DvEcoStat3, DvTenurGrp2, DvEthnicity

Final model

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DIAgeGrp						
16-49	.2011298	.0072433	27.77	0.000	.1869315	.215328
50-64	.2386462	.0075247	31.71	0.000	.2238962	.2533962
65-74	.2941858	.0105777	27.81	0.000	.2734514	.3149202
75+	.4389248	.0146382	29.98	0.000	.4102309	.4676187

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DvHiQual2						
National Qualification Framework levels 4-8	.1771145	.0059773	29.63	0.000	.1653978	.1888312
National Qualification Framework level 3	.2257257	.0110668	20.40	0.000	.2040326	.2474188
National Qualification Framework level 2	.2735824	.0093005	29.42	0.000	.2553515	.2918133
Below National Qualification Framework level 2	.2845842	.0172951	16.45	0.000	.2506822	.3184862
No qualification	.3953057	.008918	44.33	0.000	.3778246	.4127868

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Gender						
Male	.2734927	.0058047	47.12	0.000	.2621144	.2848711
Female	.2326902	.0051971	44.77	0.000	.2225028	.2428775

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
IntFrqAccE						
Several times a day	.2023082	.0047036	43.01	0.000	.1930882	.2115281
Daily	.3145276	.0085239	36.90	0.000	.297819	.3312362
Weekly	.5036085	.0173048	29.10	0.000	.4696877	.5375293
Less than weekly	.5743066	.0261324	21.98	0.000	.5230818	.6255314

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LAServ						
Strongly agree	.212982	.0079256	26.87	0.000	.1974462	.2285178
Tend to agree	.2517514	.0065777	38.27	0.000	.2388578	.2646449
Neither agree nor disagree	.2974558	.0138013	21.55	0.000	.2704024	.3245092
Tend to disagree	.3236086	.0148226	21.83	0.000	.2945532	.352664
Strongly disagree	.3360991	.0232388	14.46	0.000	.2905463	.3816518

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LAInfoCh						
Strongly agree	.2213849	.0081107	27.30	0.000	.2054863	.2372835
Tend to agree	.2607996	.0066727	39.08	0.000	.2477198	.2738795
Neither agree nor disagree	.2819448	.0124771	22.60	0.000	.2574871	.3064025
Tend to disagree	.2766953	.0142881	19.37	0.000	.2486877	.304703
Strongly disagree	.2659114	.0224385	11.85	0.000	.2219275	.3098953

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DvHhUnd19						
Yes	.1945837	.0083381	23.34	0.000	.1782393	.2109281
No	.2732246	.0048402	56.45	0.000	.2637369	.2827123

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DvEcoStat3						
In employment	.264216	.0058732	44.99	0.000	.2527033	.2757288
Unemployed	.266147	.0255256	10.43	0.000	.2161116	.3161824
Economically inactive	.2330576	.0068597	33.97	0.000	.2196112	.2465041

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DvTenurGrp2						
Owner-occupied	.2397448	.0045965	52.16	0.000	.2307348	.2487549
Social Housing	.3029436	.0110426	27.43	0.000	.2812978	.3245894
Private rented	.2593548	.0110802	23.41	0.000	.2376353	.2810743

	Delta-method Margin	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DvEthnicity						
White (Welsh, English, British etc.)	.2470036	.0039674	62.26	0.000	.2392266	.2547806
White - other	.2897125	.0242694	11.94	0.000	.2421395	.3372854
Any other ethnic group	.3325074	.0215766	15.41	0.000	.290213	.3748018

Caring

Main factors associated with being a carer

Initial list of variables considered: DvAgeGrp5 – respondent age in 5 groups, Sex – male or female, DvHiQual2 – Highest qualification, DvWbAnxYestGrp4 – anxiety yesterday (grouped), DvEcoStat3 – economic status, DvTenurGrp2 – housing tenure type, MarStat_1 – marital status (single or couple), DvWbSatLifeGrp4 – satisfaction with life (grouped), DvWbLifeWrthGrp4 – things in life are worthwhile (grouped), DvLLTI – limiting long-term illness, DvEthnicity – whether white British, white other nationality, not white, DvSexOrient – whether heterosexual or not, Religion_1 – has a religious faith or not, DvIntPersUse – personally uses the internet, DvMatDep – material deprivation, DvWIMDOvr5 – index of area deprivation, DvLA – local authority, DvFGLonely – whether lonely or not, DvFGWelsh – speaks Welsh every day.

Variables removed due to missing values: None

Variables removed as not being significant predictors on their own: None

Variables removed due to multicollinearity: DvWbLifeWrthGrp4

Variables removed as not being significant predictors when part of a regression model: DvFGWelsh, MarStat_1, DvHiQual2, DvWbAnxYestGrp4, DvIntPersUse, DvEthnicity, Religion_1, DvMatDep, DvSexOrient, DvLA.

Final model

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvAgeGrp5						
16-24	.3002497	.040781	7.36	0.000	.2203205	.380179
25-44	.4300844	.0253285	16.98	0.000	.3804415	.4797273
45-64	.5418729	.0164936	32.85	0.000	.5095461	.5741997
65-74	.4948318	.0327046	15.13	0.000	.4307319	.5589316
75+	.5956687	.0418403	14.24	0.000	.5136632	.6776742

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Gender						
Male	.4378803	.0148522	29.48	0.000	.4087705	.4669901
Female	.5309527	.0126909	41.84	0.000	.506079	.5558264

	Delta-method Margin	Std. Err.	z	P>|z|	[95% Conf.	Interval]
DvTenurGrp2						
Owner-occupied	.4657811	.0112588	41.37	0.000	.4437144	.4878479
Social Housing	.5856927	.0284578	20.58	0.000	.5299164	.6414691
Private rented	.5160596	.0342738	15.06	0.000	.4488841	.583235

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvHhType					
Single pensioner (no children)	.2564413	.0302881	8.47	0.000	.1970777 .315805
Married couple pensioner (no children)	.4819255	.0363947	13.24	0.000	.4105932 .5532578
Single person, not a pensioner (no children)	.4455759	.0256886	17.35	0.000	.3952271 .4959247
Two adult household with children	.4617777	.0282242	16.36	0.000	.4064594 .5170961
Two adult household (up to one pensioner) without children	.5139318	.0178285	28.83	0.000	.4789885 .5488751
Single parent household	.4069265	.0390519	10.42	0.000	.3303861 .4834669
Other households	.5453875	.0217452	25.08	0.000	.5027676 .5880074

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvWbSatLifeGrp4					
Low (0-4)	.6271131	.041052	15.28	0.000	.5466525 .7075736
Medium (5-6)	.5322529	.0267909	19.87	0.000	.4797437 .5847621
High (7-8)	.4773099	.0133863	35.66	0.000	.4510732 .5035466
Very high (9-10)	.4688877	.0172764	27.14	0.000	.4350266 .5027489

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvWIMDOvr5					
Most deprived 20%	.5671596	.0247316	22.93	0.000	.5186865 .6156328
Q2	.5290205	.0217793	24.29	0.000	.4863338 .5717071
Q3	.4637452	.020104	23.07	0.000	.4243421 .5031483
Q4	.4895822	.0213075	22.98	0.000	.4478202 .5313442
Least deprived 20%	.4092732	.0206168	19.85	0.000	.3688651 .4496813

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvLLTI					
Yes	.5145679	.0163615	31.45	0.000	.4824999 .5466358
No	.4730166	.0122665	38.56	0.000	.4489747 .4970585

	Delta-method				
	Margin	Std. Err.	z	P>|z|	[95% Conf. Interval]
DvEcoStat3					
In employment	.4148716	.0149483	27.75	0.000	.3855735 .4441696
Unemployed	.5760914	.0630494	9.14	0.000	.4525169 .6996659
Economically inactive	.5831211	.0173545	33.60	0.000	.5491069 .6171352

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Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

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