

Subjective wellbeing in different occupations in UK 2012-2022¹

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¹ This analysis is an update and extension of the work done for the WWCW by Ewen Mackinnon, whose results were used for: <https://whatworkswellbeing.org/blog/whats-wellbeing-like-in-different-jobs-new-data-analysis-and-case-study/>.

Download the data for this analysis:

<https://whatworkswellbeing.wordpress.com/wellbeing-2/wellbeing-data/personal-wellbeing-for-major-and-sub-major-standard-occupation-codes/>

About the author

Simona Tenaglia works on theoretical and empirical aspects of well-being at work and financial well-being. She also works on the analysis of wellbeing for different age groups. She is a Doctor in Economic Theory with experience in definitions and measures of subjective wellbeing and more than 10 years' experience in labour and social policy analysis.

About the What Works Centre for Wellbeing

We are an independent collaborating centre and the aim of our work is to improve wellbeing and reduce misery in the UK. We believe that this is the ultimate goal of effective policy and community action. By accelerating research and democratising access to wellbeing evidence, we develop and share robust evidence for governments, businesses, communities and people to improve wellbeing across the UK.

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Introduction

The time we spend in paid employment is a major part of life in the UK. For people who are employed, work takes up a larger portion of the day than any other activity - including sleep. Moreover, it is an important source of social interactions and friendships, particularly with the decline of other activities like club membership and church attendance in recent decades.

It is therefore no surprise that work, and associated activities like commuting, is a major factor in our wellbeing. Despite the UK's strong track record and history in measuring wellbeing, people are poorly armed with information about the subjective wellbeing associated with a particular job or career. While it is common for prospective employers to advertise salary, location and hours as part of recruitment advertising, as well as some additional benefits (like whether or not the office has a coffee machine, or dogs are welcome in the office), it is almost unheard of for employers to advertise the subjective wellbeing of their staff² or the added value working there brings. The exception is the UK Civil Service, who publish department level subjective wellbeing scores annually.

The Great resignation, which started early in early 2021 in response to the pandemic, showed that it is not only the salary and working hours that matter, but also having both meaning and purpose at work.

Until firms take the lead on this, our best bet for helping UK people make informed choices about their career is to look at the various surveys administered by the Office for National Statistics. In this paper, that's what we're going to do; take a look at wellbeing by occupation, how it's changed over time and how it's been affected by the pandemic.

Having this information is particularly important for young people who are in or entering the workforce so they can make informed decisions about their careers. Data on earnings, hours of work, and required grades are widely available for them, but today it is also possible to gather data on wellbeing for different occupations. Young people are also those who have changed jobs the most during the pandemic.

Previous studies have found higher wellbeing among Managers and Professionals (Andrada, Westover 2018, Hofmann et al 2018), but this paints with too broad a brush. Here, we'll look as granularly as we can at the data, and how it's changed over time.

² The WWC in collaboration with the DWP developed a set of diagnostic tools that businesses and nonprofit organisations can use to identify the drivers of workplace wellbeing and understand which factors may be contributing to higher or lower wellbeing at work in a particular context

<https://whatworkswellbeing.org/blog/developing-an-evidence-informed-workplace-wellbeing-index/>

<https://whatworkswellbeing.org/category/employee-snapshot-survey/>

We analyse wellbeing corresponding to various standard occupations code³ using data from the Annual Population Survey (APS)⁴ collected from April 2012 to March 2022 and the Annual Survey of Hours and Earnings (ASHE)⁵ for the year 2020.

As well as looking at levels of wellbeing, and change over time, we'll also look at the determinants of wellbeing within occupations: how much does pay really matter for wellbeing, compared to other factors? We will seek an answer to this question by running two OLS regressions: one for all individuals and one for only those employees for whom the variable gross weekly pay is available.

The data

For this analysis we will use two datasets: the Annual Population Survey (APS) and the Annual Survey of Hours and Earnings (ASHE). From the APS we will take some socio-demographic variables (age, sex, ethnicity, marital status, level of education, economic activity status, the gross weekly pay), the occupations type variable, other variables related to job quality (types of job, places where job is mainly carried out) and the four variables measuring subjective wellbeing (life satisfaction, happiness, Worthwhile, anxiety). From the ASHE survey we will take the gross annual salary by occupation.

The data on occupations

Occupations are grouped according to the Standard Occupational Classification (SOC)⁶, where jobs are classified into four groups using the concepts of "skill level" and "skill specialisation" (general education (1st level), general education and with a longer period of work-related training or work experience (2nd level), post-compulsory education but not normally to degree level (3rd level), degree or equivalent period of relevant work experience (4th level)) (a full description of the various occupations according to the four skill levels is in the Appendix). The SOC classification has different levels of granularity - the most aggregated includes 9 major groups (see footnote 19).

For this study, we will mainly use this classification into 9 major groups, which compresses occupations that are similar in terms of qualification, training, skills and experience. We will calculate the descriptive statistics and run the regression analysis for all 9 groups. Then with the minor groups classification, we will look at the relationship with gross annual salary.

³ The SOC classification changed in 2020, but the 9 largest groups remained unchanged.

⁴ The APS data are downloaded from UK data service.

⁵ The ASHE data are downloaded from:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digit/soc2010ashtable14>

⁶ The Standard Occupational Classification (SOC) 2010 has been revised to produce SOC 2020. For more details see <https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassificationsoc/soc2020/soc2020volume1structureanddescriptionsunitgroups>

Using the 9 major group classification, we can see that the structure of occupations is stable over the period 2012-2022 (table 1 and 2). The percentage composition is essentially the same for all the years considered. Professional occupations and Associate Professional and Technical Occupations are the groups with the highest percentage values (around 20% and 14% respectively), while the lowest percentages are presented by Process, Plant and Machine Operative occupations (around 6%) and Sales and Customer Service Occupations (around 7%). The percentages for the last two years considered, starting in April 2020 when the first lockdown took place, show differences from previous years for almost all groups. These changes are, however, due to a reduction of the number of surveys conducted during the period April 2020 - March 2021 and April 2021-March 2022, so there could be sample frame issues rather than an actual change.

Table 1: Respondents by occupations

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Managers, Directors, Senior Officer	13468	13815	13978	13786	13724	14100	13675	13523	8433	10441
Professional Occupations	25771	26725	26297	25712	25461	25862	25515	25193	16033	23924
Associate Professional /Technical occupations	17996	18358	18357	17750	17382	18113	17827	16946	10628	13737
Administrative and Secretarial Occupations	15336	15327	15097	14013	13528	14147	13214	12258	7606	10440
Skilled Trades Occupations	14351	14617	14686	13836	13642	13768	13178	12397	6446	8572
Caring, Leisure , Other Service Occupations	12797	13235	13255	12698	12515	12805	12314	11813	6216	7754
Sales Customer Service Occupations	10954	10817	10625	10003	9672	10060	9469	8773	4750	6043
Process, Plant And Machine Operative occupations	8974	9032	9062	8865	8667	8978	8650	7902	3922	5410
Elementary Occupations	14713	14910	14797	14205	14009	14067	13290	12545	5837	8375
Total	134360	136836	136154	130868	128600	131900	127132	121350	69871	94696

Table 2: Respondents by occupations (%)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Managers, Directors And Senior Officer	10.02	10.10	10.27	10.53	10.67	10.69	10.76	11.14	12.07	11.03
Professional Occupations	19.18	19.53	19.31	19.65	19.80	19.61	20.07	20.76	22.95	25.26
Associate Professional And Technical occupations	13.39	13.42	13.48	13.56	13.52	13.73	14.02	13.96	15.21	14.51
Administrative And Secretarial Occupations	11.41	11.20	11.09	10.71	10.52	10.73	10.39	10.10	10.89	11.02
Skilled Trades Occupations	10.68	10.68	10.79	10.57	10.61	10.44	10.37	10.22	9.23	9.05
Caring, Leisure And Other Service Occupations	9.52	9.67	9.74	9.70	9.73	9.71	9.69	9.73	8.90	8.19
Sales And Customer Service Occupations	8.15	7.91	7.80	7.64	7.52	7.63	7.45	7.23	6.80	6.38
Process, Plant Machine Operative occupations	6.68	6.60	6.66	6.77	6.74	6.81	6.80	6.51	5.61	5.71
Elementary Occupations	10.95	10.90	10.87	10.85	10.89	10.66	10.45	10.34	8.35	8.84
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The data on UK subjective wellbeing

In the APS wellbeing is measured through the ONS4 questions, as reported in table 3:

Table 3: ONS4 questions

Measure	Question
Life Satisfaction	Overall, how satisfied are you with your life nowadays?
Worthwhile	Overall, to what extent do you feel that the things you do in your life are worthwhile?
Happiness	Overall, how happy did you feel yesterday?
Anxiety	On a scale where 0 is "not at all anxious" and 10 is "completely anxious", overall, how anxious did you feel yesterday?

Source: Office for National Statistics

The ONS has collected these statistics from the April 2013 to March 2014 dataset onwards. Before this they were considered experimental statistics⁷. Life satisfaction, worthwhileness and happiness are measured on a scale from 0 to 10, where 0 corresponds to not at all and 10 corresponds to completely. Anxiety is measured on a scale from 0 to 10, where 0 is not at all anxious and 10 is completely anxious.

Given this coding, high values of life satisfaction, happiness and worthwhileness correspond to a higher wellbeing, while high values of anxiety correspond to a lower wellbeing.

As well as looking at raw scores of these variables, we will also consider the proportion that fall into the ONS' defined bins of "high" or "low" for each of these scores⁸. This allows us to more easily identify those with high or low levels of wellbeing and potentially enables policy makers to more easily target policies.

⁷ According to the ONS guide, the experimental statistics label is typically used where: 1. the statistics remain subject to testing of quality, volatility and ability to meet user needs; 2. new methods are being tested and are still subject to modification or further evaluation; 3. there is partial coverage (for example, of subgroups, regions or industries) at that stage of the development; 4. there may be potential modification following user feedback about their usefulness and credibility. for more details:

<https://www.ons.gov.uk/methodology/methodologytopicsandstatisticalconcepts/guidetoexperimentalstatistics>

⁸ High scores correspond to individuals answering 9 or more out of 10 for life satisfaction, worthwhileness and happiness (very high wellbeing), and 6 or more out of 10 for anxiety (low wellbeing). People with low scores for life satisfaction, worthwhileness and happiness are those answering 4 or less out of 10 (low wellbeing) while people with low scores of anxiety are those answering 1 or less out of 10 (high wellbeing).

Quantitative results

Wellbeing among different occupations

The first question we want to answer is how wellbeing varies in different occupations. We started by looking at the distributions of the four wellbeing questions for individuals with different occupations. Densities look quite similar (Figure 1 and 2), but the Kolmogorov Smirnov tests show that distributions are different.

Figure 1: Densities of life satisfaction by major groups of occupations

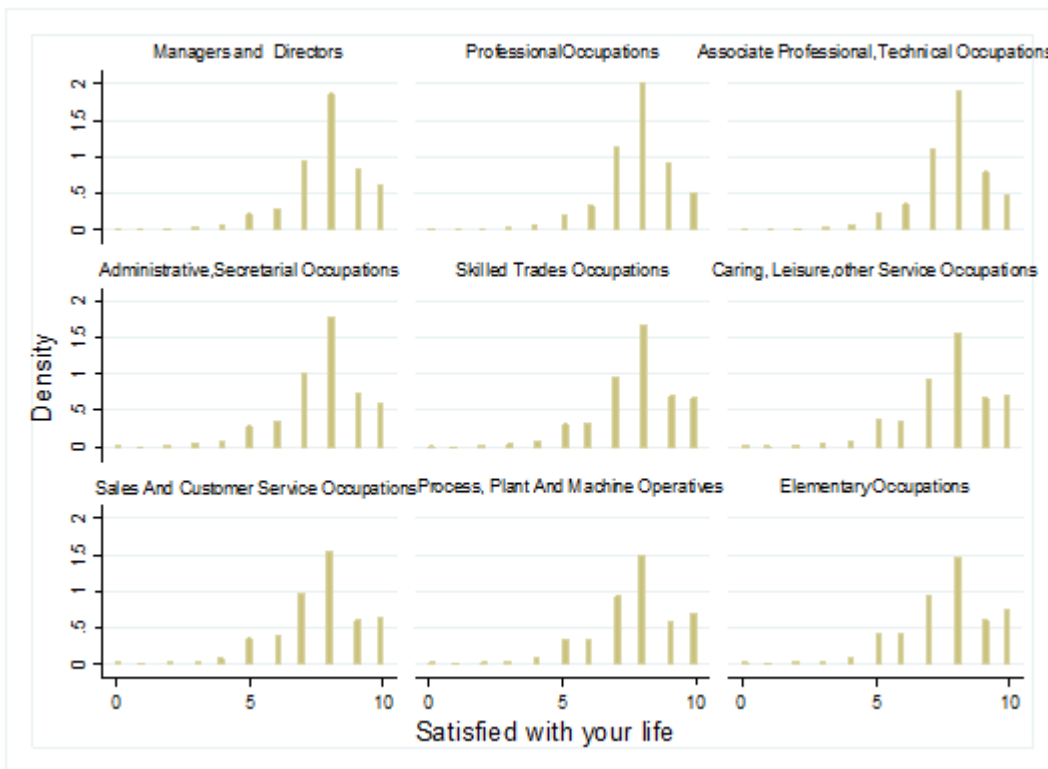
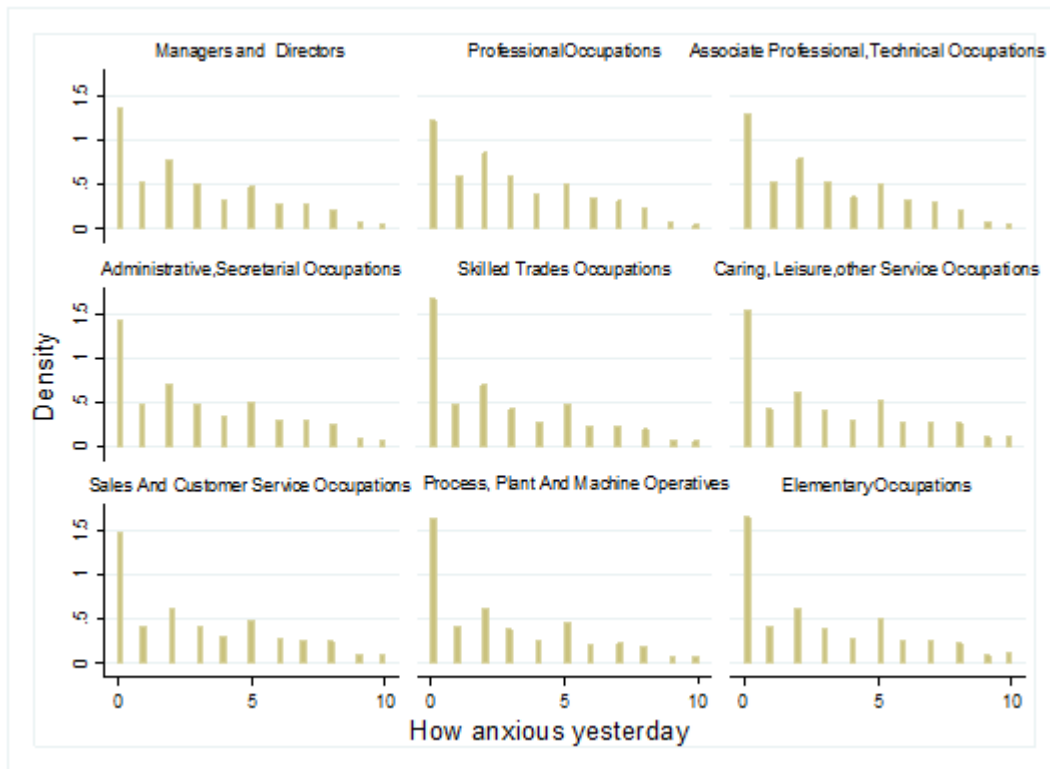


Figure 2: Densities of anxiety by major groups of occupations

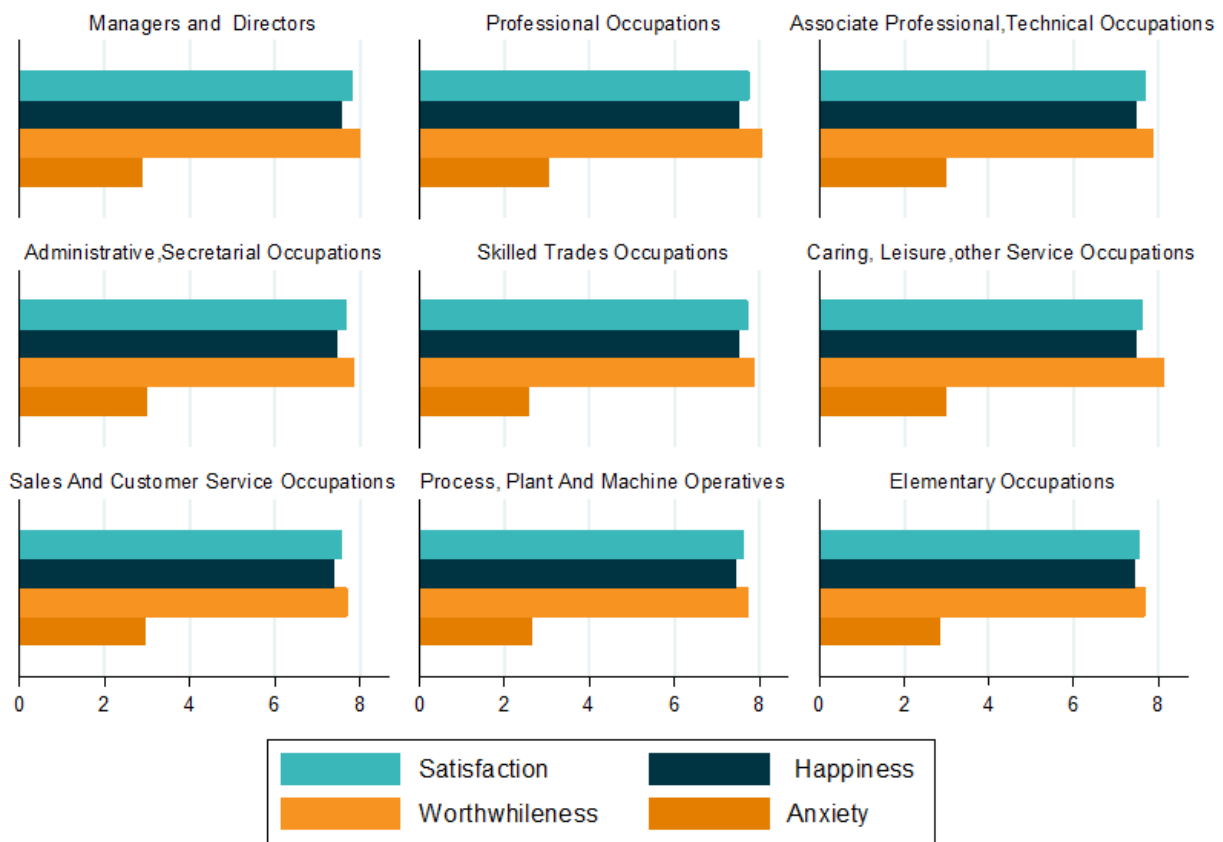


We then calculated the weighted mean for the four variables (life satisfaction, happiness, worthwhileness and anxiety) by occupations.

As we can see from figure 3, Managers and Directors, Professional Occupations show the highest mean level of life satisfaction and happiness, while Caring and Leisure Occupations show the highest mean level of Worthwhile, followed by Professional Occupations, and Managers and Directors.

As for the mean level of anxiety, Professional Occupations, Caring and Leisure Occupations and Administrative and Secretarial occupations are among those who show the highest mean level of anxiety, while Skilled Trades and Process, and Plant and Machine Operative Occupations show the lowest mean level of anxiety.

Figure 3: Weighted average for life satisfaction, happiness, worthwhileness and anxiety by occupations



Looking at the proportions of high wellbeing and low anxiety (figure 4), we can see that:

- Managers and Directors are more likely to experience high life satisfaction;
- Caring, Leisure and Other Services Occupations are more likely to experience high happiness and Worthwhile (although they are also the most likely to have high anxiety);
- Skilled Traded Occupations are more likely to experience low anxiety .

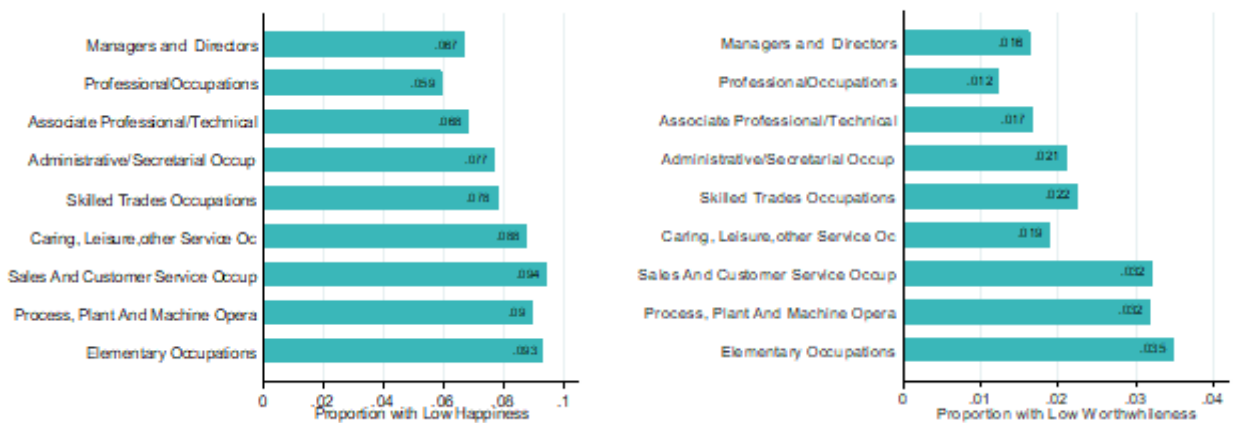
When looking at occupations showing low wellbeing (Figure 5):

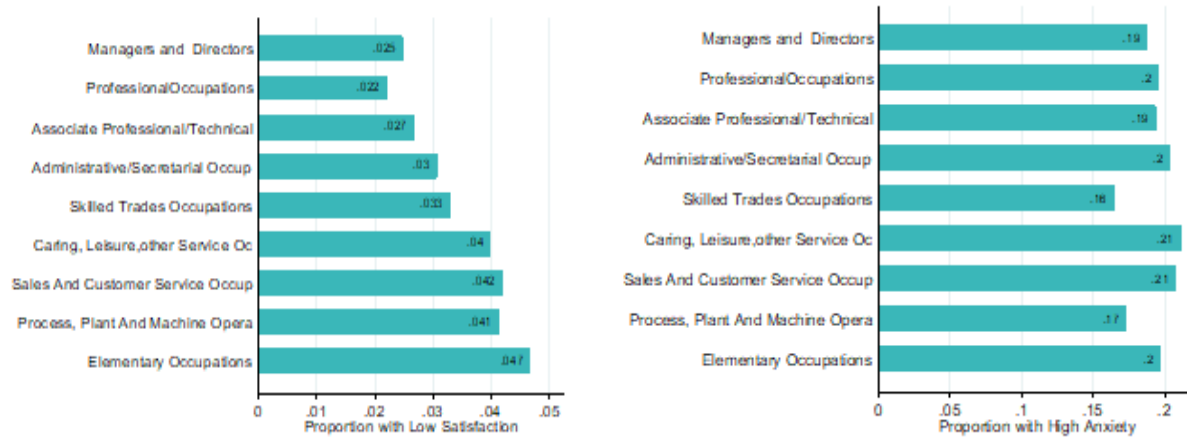
- Elementary occupations are more likely to experience low life satisfaction and worthwhileness, for which they are more than twice as likely as professional occupations;
- Sales and Customer Service Occupations are also more likely to experience low happiness, for which they are almost twice as likely as professional occupations.

Figure 4: High wellbeing and Low anxiety by occupations



Figure 5: Low Wellbeing and High anxiety by occupations





Finally, to understand at what level the data for the nine major occupation groups vary, we calculated the Intraclass Correlation Coefficient (ICC). The variation can be within each occupation group or between occupation groups. For happiness the ICC takes value 0.22, which means that most of the variation is within the occupation groups. This variability may be due to the variety in types of jobs that fall within the nine major groups. Although they require the same level of skills, they do in fact exhibit some heterogeneity⁹. For life satisfaction the ICC takes value 0.40, for worthwhile 0.45, for anxiety equals 0.47, that means almost half of variation is between groups of occupations.

Wellbeing by occupations over time

In this section we want to analyse the change of wellbeing over time for different occupations. We are interested in its changes over the ten 10 years of data collection, but also the specific effect of the pandemic, which we can observe using data collected from April 2020 onwards.

We start by looking at the weighted mean for wellbeing by major groups of occupations over time (figure 6-9). Almost all the occupations share the same pattern over the period 2012-2022 for Life satisfaction, happiness and Worthwhile, with rising values until 2018-2019. Then after a stable pattern in 2019-2020 we can see decreasing values in 2020-2021. In the period 2021-2022 immediately thereafter, there has been a recovery for all the three variables. Anxiety shows the opposite pattern with declining values over the period 2012-2019 and rising values starting from 2019-2020. In 2021-2022 there was a reduction in anxiety values. All this shows that there was a deterioration in wellbeing during the lockdown period, a situation that started to improve as Covid restrictions eased.

⁹ If we consider the second group, "Professional Occupations", it includes the following types of jobs that are quite different (see table A1 in the Appendix):

21: Science, research, engineering and technology professionals

22 :Health professionals

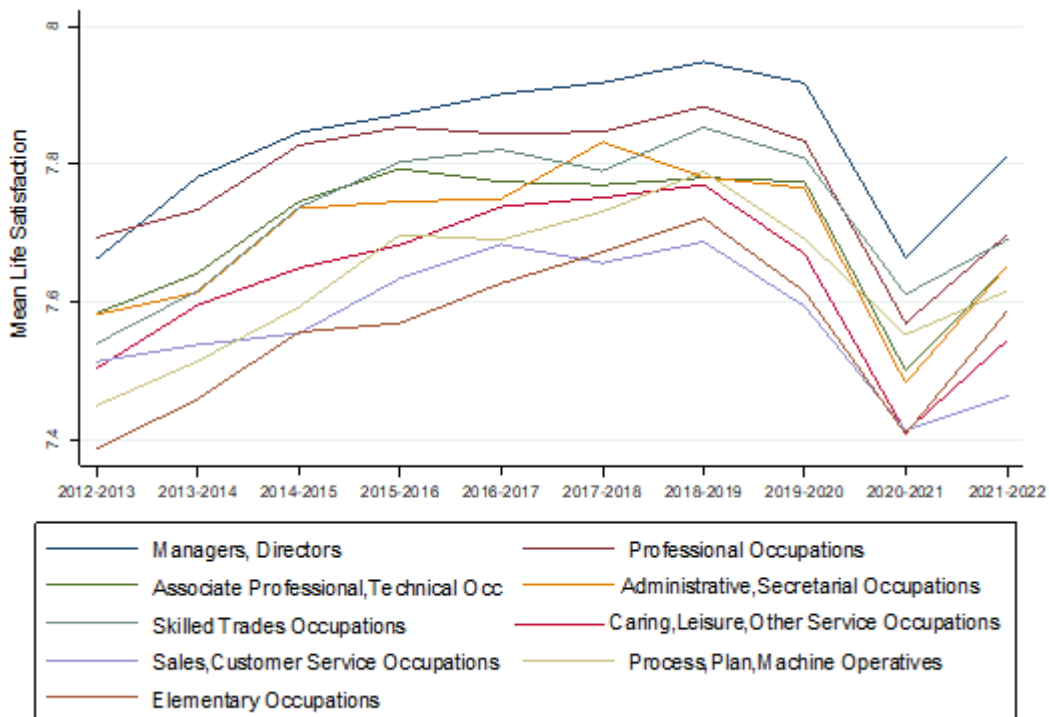
23: Teachers and other educational professionals

24 : Business, media and public service professionals

For 2012-2022 Managers and Directors showed the highest levels of life satisfaction and happiness (and the lowest levels of anxiety) while Caring, Leisure and Other Services occupations reported the highest level of Worthwhile (and, during the pandemic, the highest level of anxiety).

Regression analysis confirms an overall positive and significant trend in wellbeing over the time period studied¹⁰, and that this benefits all groups - with no significant differences between individual groups' trends over time.

Figure 6: Mean life satisfaction over 2012-2022 by major groups of occupations



¹⁰ The regression includes 2020 and 2021 as binary indicators (rather than trends) due to the pandemic.

Figure 7: Mean worthwhileness over 2012-2022 by major groups of occupations

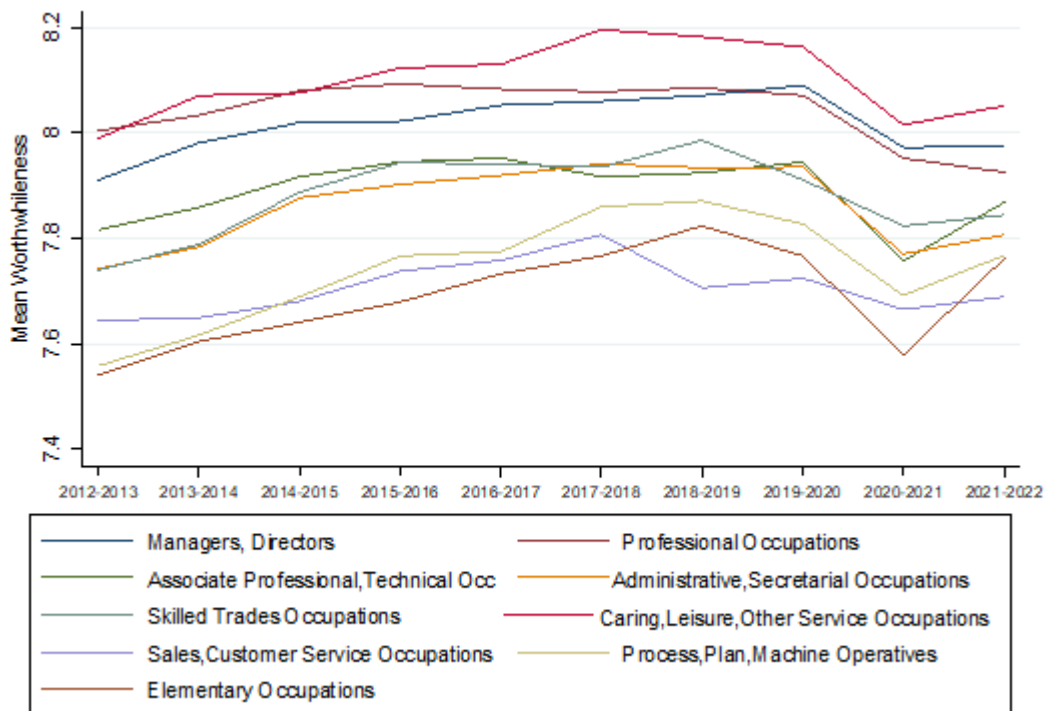


Figure 8: Mean happiness over 2012-2022 by major groups of occupations

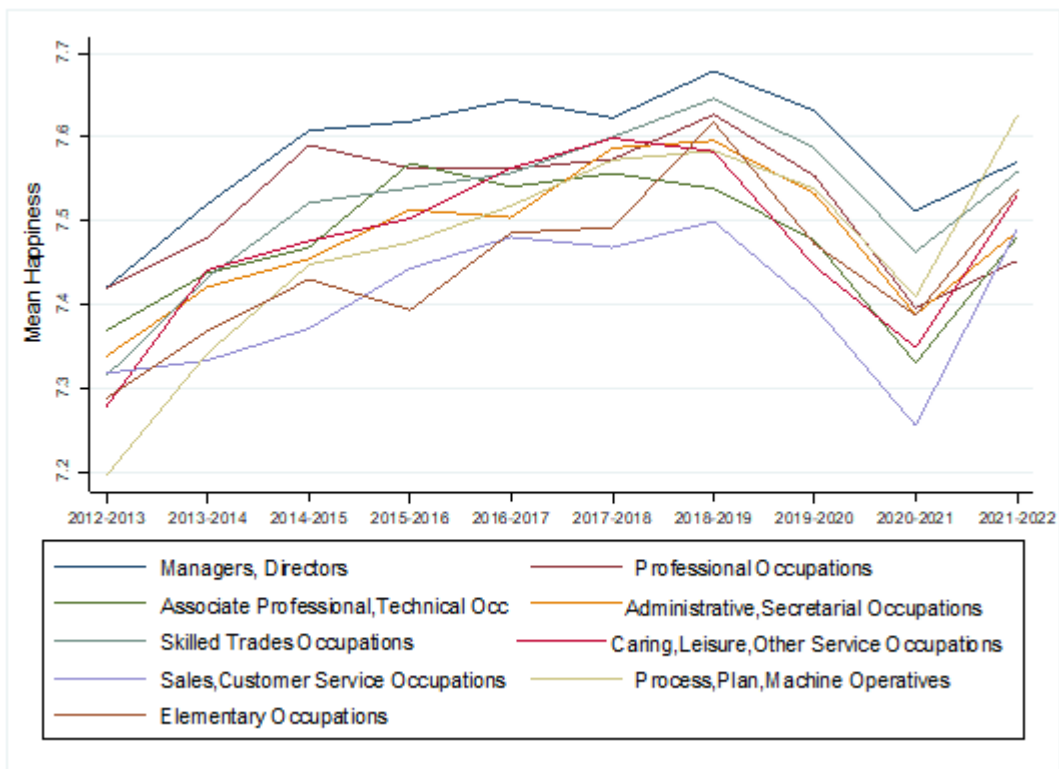
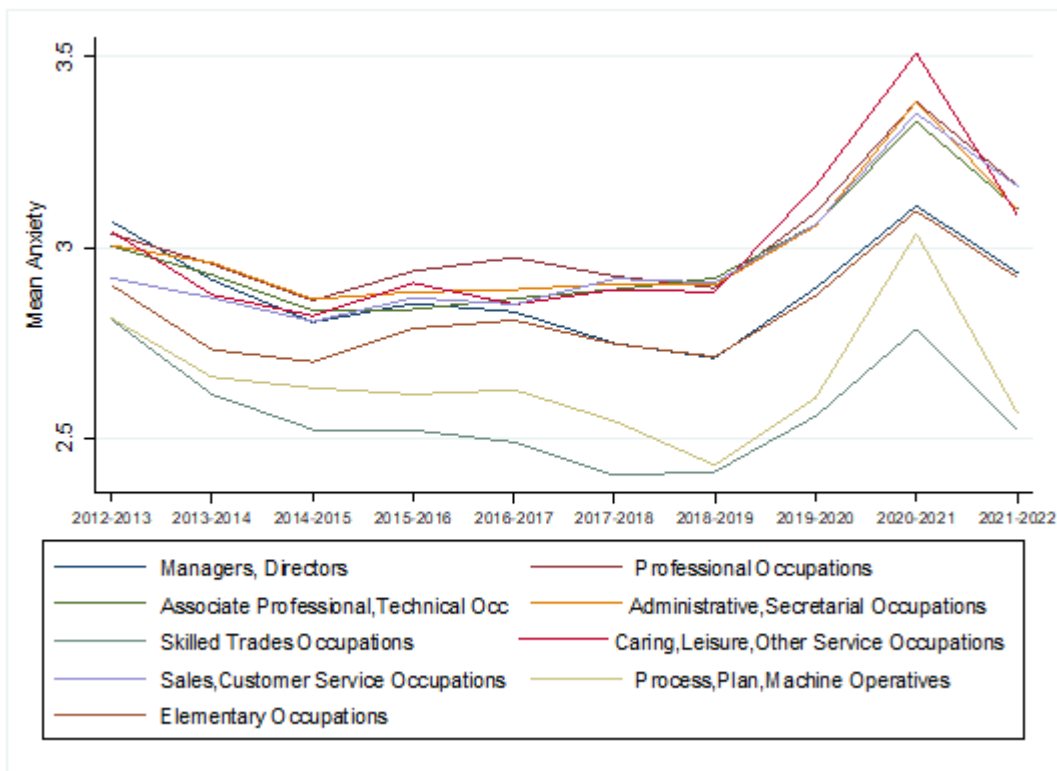


Figure 9: Mean anxiety over 2012-2022 by major groups of occupations



Considering the role of the Covid-19 pandemic

The global pandemic and resulting restrictions had a great impact on multiple aspects of people's lives, including their employment. We want to look at this period in more detail to analyse how this impacted different UK occupations across 2019-2020, 2020-2021 and 2021-2022 in terms of wellbeing. This period includes the nation-wide lockdowns followed by gradual and then full reopenings of non-essential shops, hairdressers, pubs and restaurants, entertainment and sport facilities.

For many professionals, particularly those who were solely office-based pre-pandemic, the UK Government's order to stay at home resulted in a shift of work environment from in-person to fully remote. This brought about technological change, the rise of virtual meetings, and a dramatic reduction in the social element of work.

For millions, the changes were even more severe, with many losing their jobs or being 'furloughed' - a term that was not widely known before the pandemic - whereby they were paid by their employers not to work, with the government compensating their employers for some proportion of their original salaries, up to a limit of £2,000 a month¹¹.

¹¹ The precise details of the support from HM Treasury for firms varied over the duration of the pandemic, but this description summarises the broad strokes of the policy.

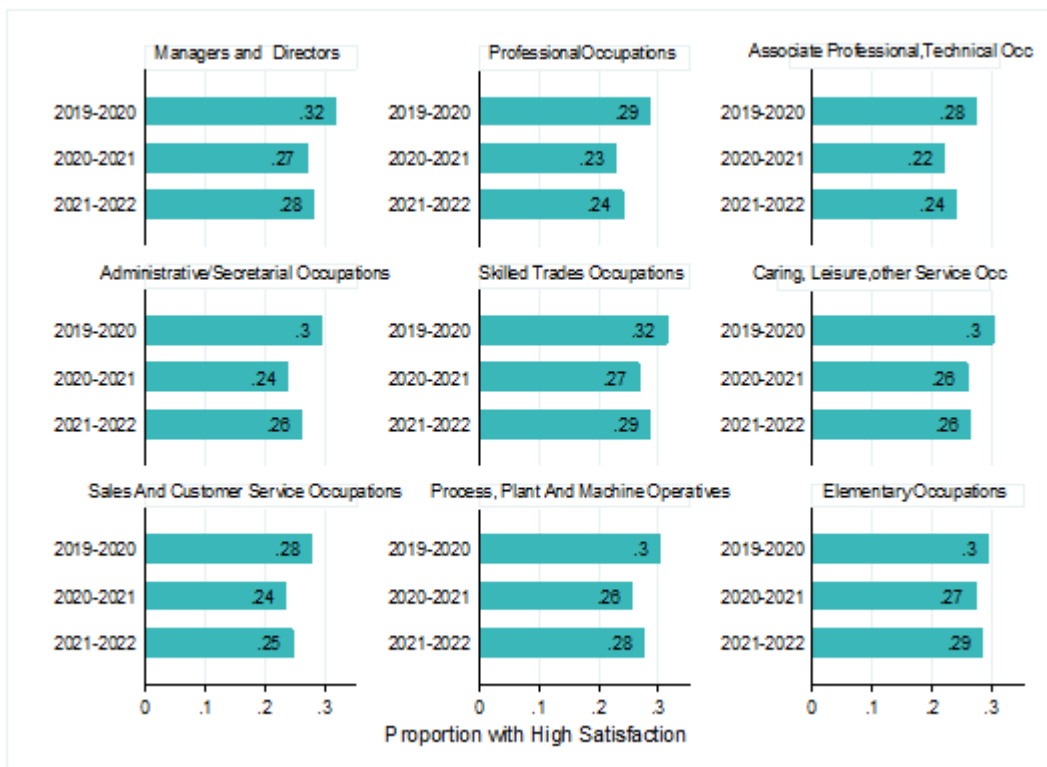
The wholesale and retail sector had the most jobs supported by the CJRS with a total of 2.25 million jobs on furlough during the lifetime of the scheme¹².

To understand how the pandemic has led to a change in wellbeing for different occupations, we calculated high and low scores of wellbeing for 2019-2020, 2020-2021 and 2021-2022.

As we can see from figure 10 the proportions of individuals showing high life satisfaction rates decreased for all occupations in the period 2020-2021. This corresponds to the first lockdown. Wellbeing started to improve again in the period immediately after. The opposite trend occurred for the proportions of high anxiety, which increased in the 2020-2021 and decreased in the following period (figure 11).

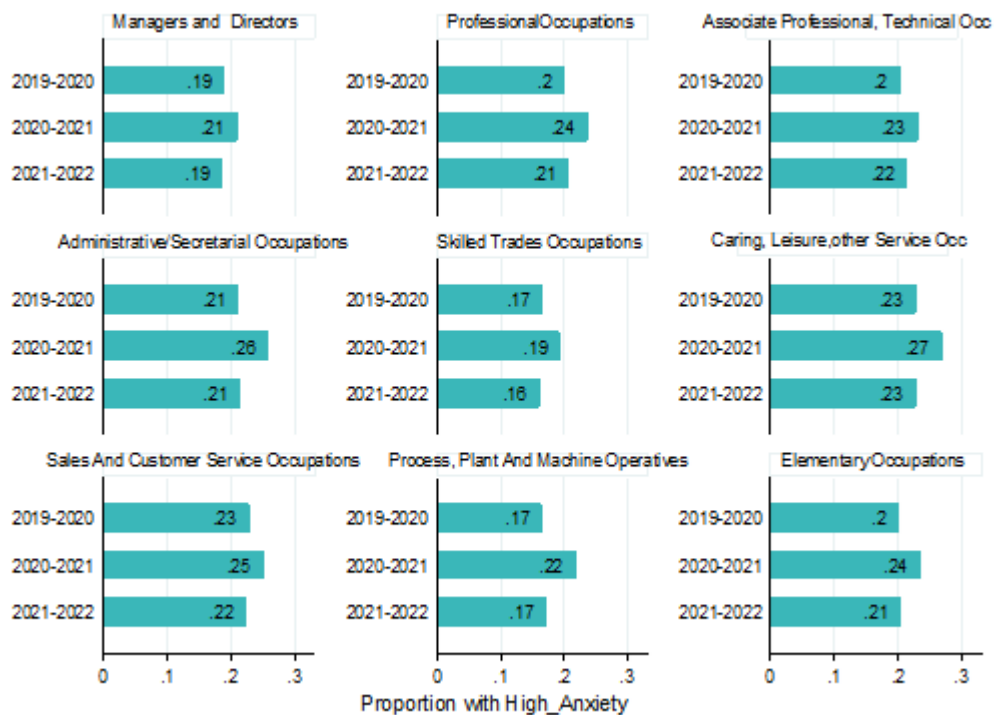
Professional Occupations, Associate Professional and Technical Occupations and Administrative and Secretarial Occupations are those that saw a higher drop in high life satisfaction scores. Administrative and Secretarial Occupations are also those that saw the higher increase in high anxiety scores with Process, Plants and Machine Operatives Occupations, followed by Caring Leisure and other Services Occupations, Elementary Occupations and Professional Occupations.

Figure 10: High life satisfaction in 2019-2022



¹² These data are taken from <https://www.gov.uk/government/statistics/coronavirus-job-retention-scheme-statistics-16-december-2021/coronavirus-job-retention-scheme-statistics-16-december-2021>

Figure 11: High anxiety in 2019-2022



Life satisfaction and job quality aspects

We will now look at subjective wellbeing in relation to some job quality aspects for different occupations. Our interest in these variables is due to the fact that to be satisfied with a job or with other aspects of our lives produce some bottom-up spillovers on overall life satisfaction. Several analyses show how subjective wellbeing can be explained and predicted from the overall feelings you hold in relation to the different life domains (Chen, Ye, Chen, and Tung, 2010; Gonzalez, Coenders, Saez, & Casas, 2010).

The variables considered are the average gross annual salary, the type of job (permanent or not permanent in some way) and the place where the work is mainly carried out (Own home, Same grounds or buildings, Different places with home as a base, Separate from home). These variables measure elements that are parts of the [five drivers of well-being in the workplace](#) (Health, Relationship, Security, Environment, Purpose). For example, in addition to providing greater financial security (Security driver), having a permanent job can encourage workers to stay in the workplace. This offers employees greater training and career opportunities (Purpose driver).

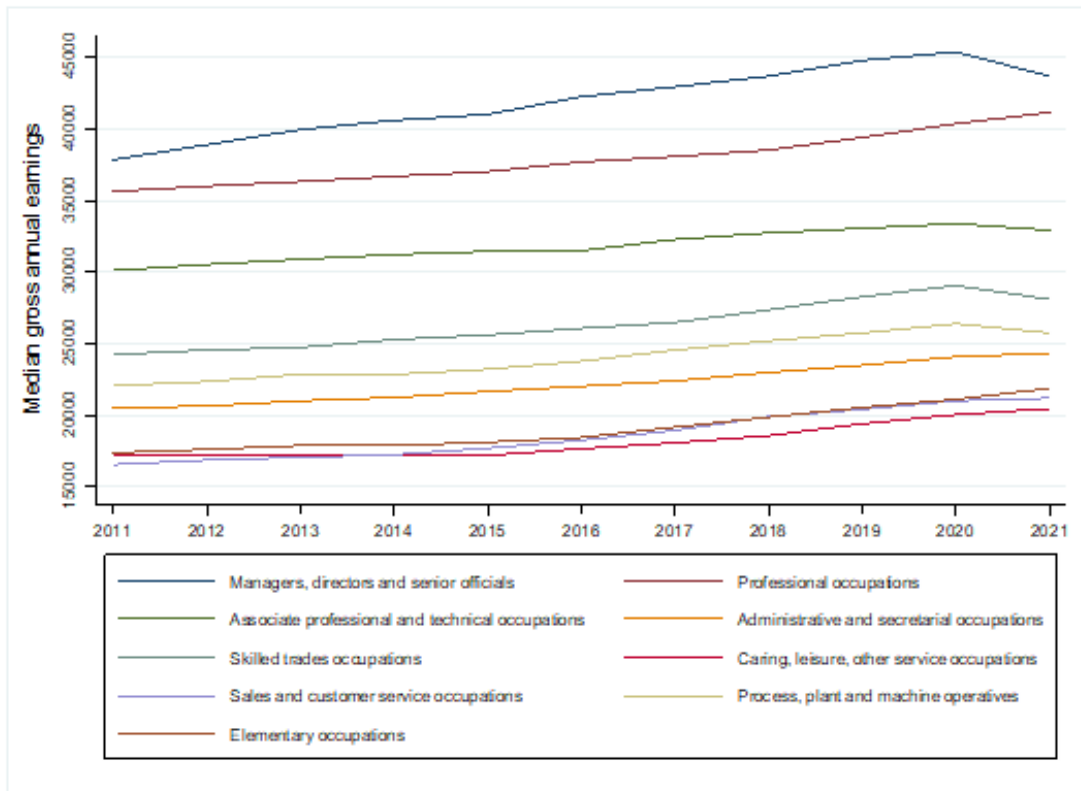
Another example is where the ability to work from home reduces commuting time (Environment driver). Even if a consistent link between commuting and life satisfaction overall has not been established yet, [some evidence](#) shows that life satisfaction decreases with duration of commute. Regardless of the mode of transport used and the activities after the journey is completed, the commute experience “spills over” into how people feel and perform at work and home.

Annual mean gross pay and wellbeing

In this part of the analysis we use ASHE data on the average gross annual salary in 2020 and APS data on life satisfaction over the period 2015-2020 for the different occupations. We want to understand what the relationship is between the two variables. We use the minor groups classification (corresponding to 90 groups in SOC 2010). This piece of research updates the analysis realised by the [What Work Centre for Wellbeing](#) in 2016.

Looking first at the trend of the median annual pay over the period 2011- 2021, we can see that it is upward for all occupations, with Care, Leisure and other Services Occupations, Elementary Occupations and Process, Plant and Machinery Occupations showing the lowest level over time (figure 12).

Figure 12: Median¹³ gross annual earnings by occupations over the period 2011-2021



Source: ONS, ASHE data¹⁴

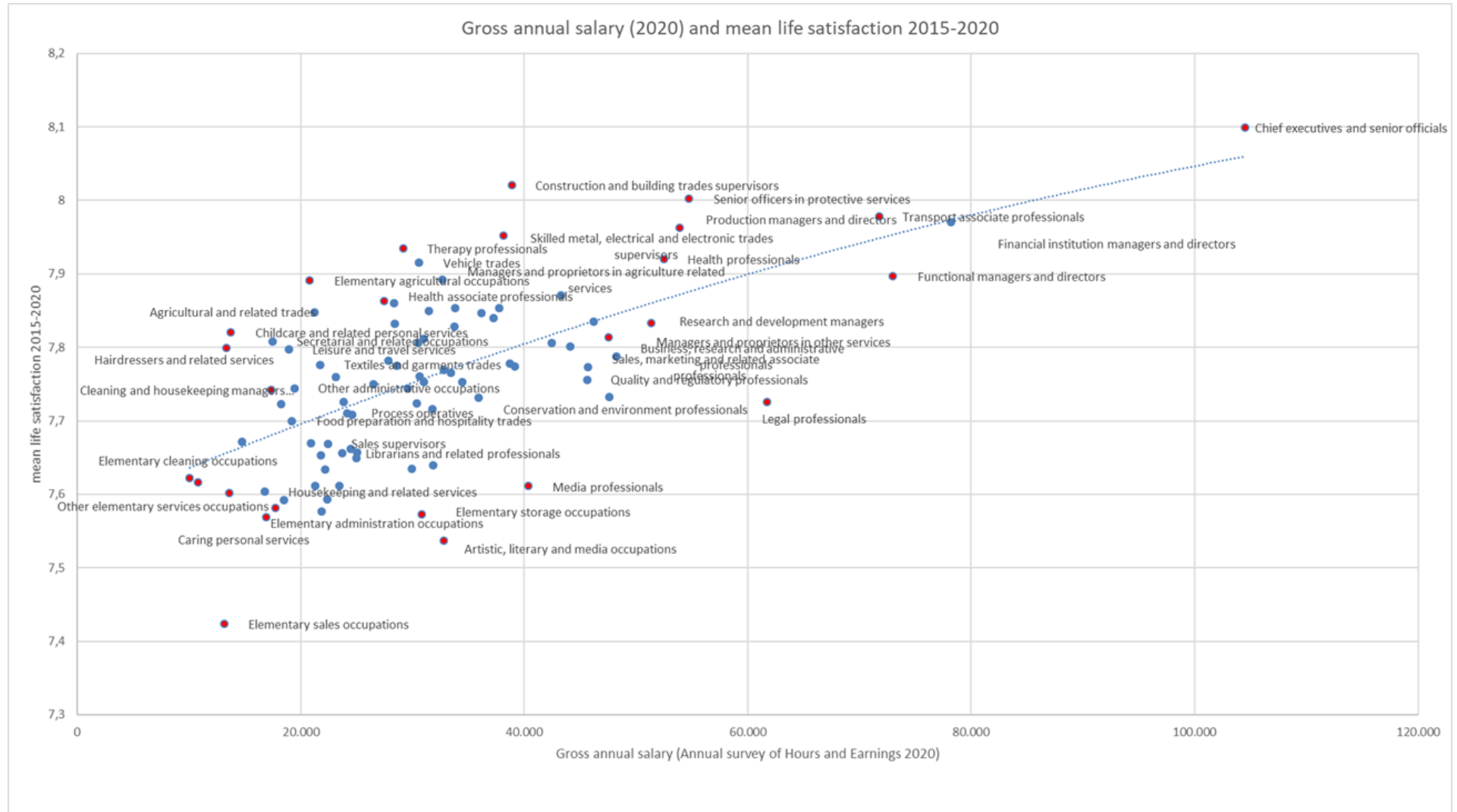
Then looking at the relationship between gross annual salary and mean life satisfaction, it is positive with a Pearson correlation coefficient of 0.52 (moderate correlation between the two variables). This result is in line with what already found the [previous analysis](#). In the upper right quadrant there are several Managerial or Professional Occupations, while in the lower left quadrant there are a number of Elementary occupations.

¹³ The median is the data value at which 50% of data values are above it and 50% of data values are below it. The ONS uses the median because the distribution of earnings is skewed, with more people earning lower salaries than higher salaries. When using the mean to calculate the average of a skewed distribution, it is highly influenced by those values at the upper end of the distribution and thus may not be truly representative of the average earnings of a typical person. By taking the middle value of the data after sorting in ascending order, the median avoids this issue and is consequently considered a better indicator of typical "average" earnings.

¹⁴ ASHE data are available on the ONS website:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digit soc2010ashtable14>

Figure 13: Gross annual salary (ASHE-2020) and mean life satisfaction 2015-2020



Source: ONS ASHE selected estimates¹⁵

¹⁵ The ASHE data used are downloaded here:

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/ashe1997to2015selectedestimates>

Types of job and life satisfaction

The APS questionnaire includes the following question on the type of job: "Leaving aside your own personal intentions and circumstances was your job: 1 a permanent job; 2 or was there some way that it was not permanent".

As we can see from table 4, 94% of people in employment were in permanent work in their main job and 6% were in temporary work. When we look at permanent jobs by different occupations, we find some variability ranging from 90% of permanent jobs for Elementary occupations to 98% for Managers and Directors. Caring, Leisure and Other Services occupations show a particular low percentage value of permanent jobs (92,5%).

When we look at the mean life satisfaction and mean anxiety by job type for the major groups of occupations, we can see that all occupations show higher mean levels of life satisfaction if employees have a permanent job and higher mean levels of anxiety if the job is not permanent in some way (figure 14 and 15).

Table 4: Types of job by occupations

	Permanent	Not permanent in some way	Total	Permanen t	Not permanen t in some way	Total
	No.	No.	No.	%	%	%
Managers and Directors	94722	1905	96627	98.0	2.0	100.0
ProfessionalOc cupations	202872	13427	216299	93.8	6.2	100.0
Associate Professional	132700	6723	139423	95.2	4.8	100.0
Administrative, Secretarial	117045	6468	123513	94.8	5.2	100.0
Skilled Trades Occupations	75416	2621	78037	96.6	3.4	100.0
Caring, Leisure, Other services	93900	7587	101487	92.5	7.5	100.0

Sales And Customer Services	82446	4504	86950	94.8	5.2	100.0
Process, Plant And Machine operatives	61036	3678	64714	94.3	5.7	100.0
Elementary Occupation	103342	11510	114852	90.0	10.0	100.0
Total	963479	58423	1021902	94.3	5.7	100.0

Figure 14: Mean life satisfaction (2012-2022) by occupations and types of job

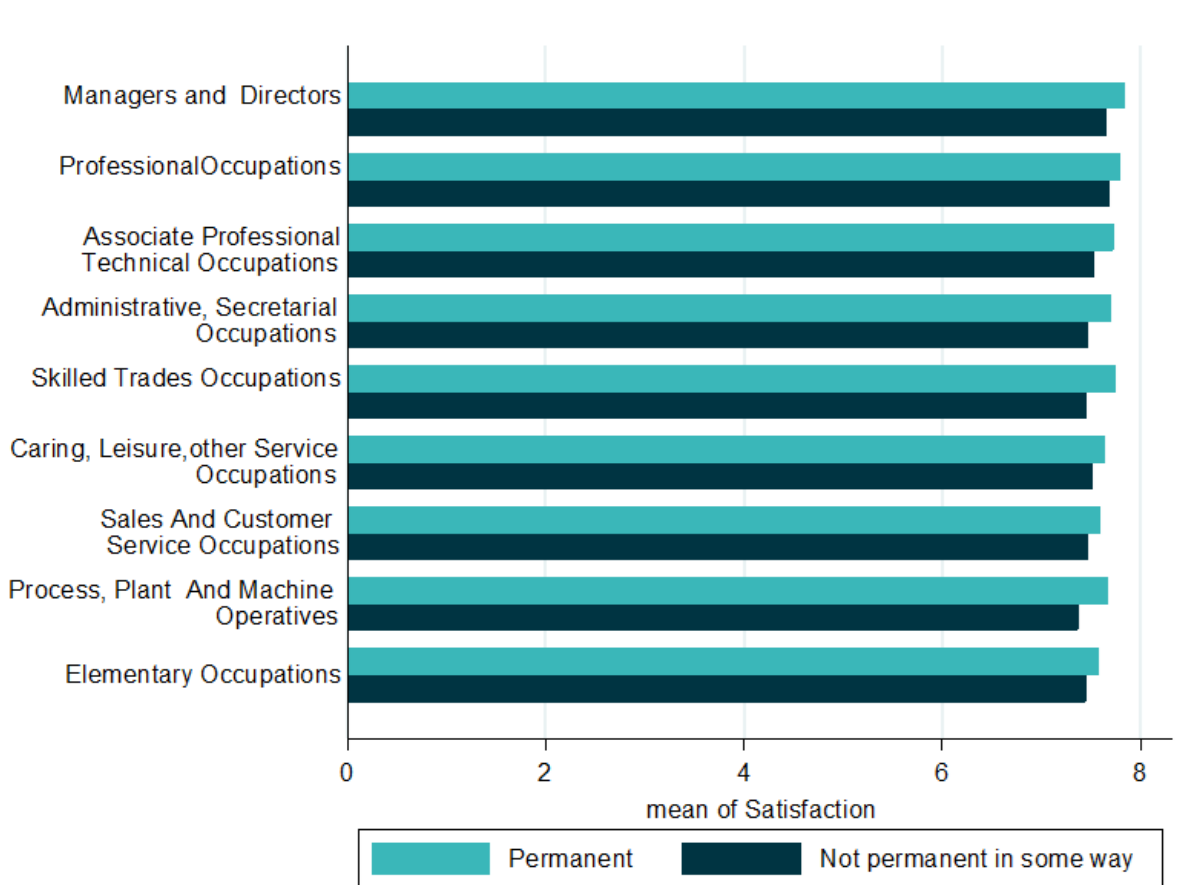
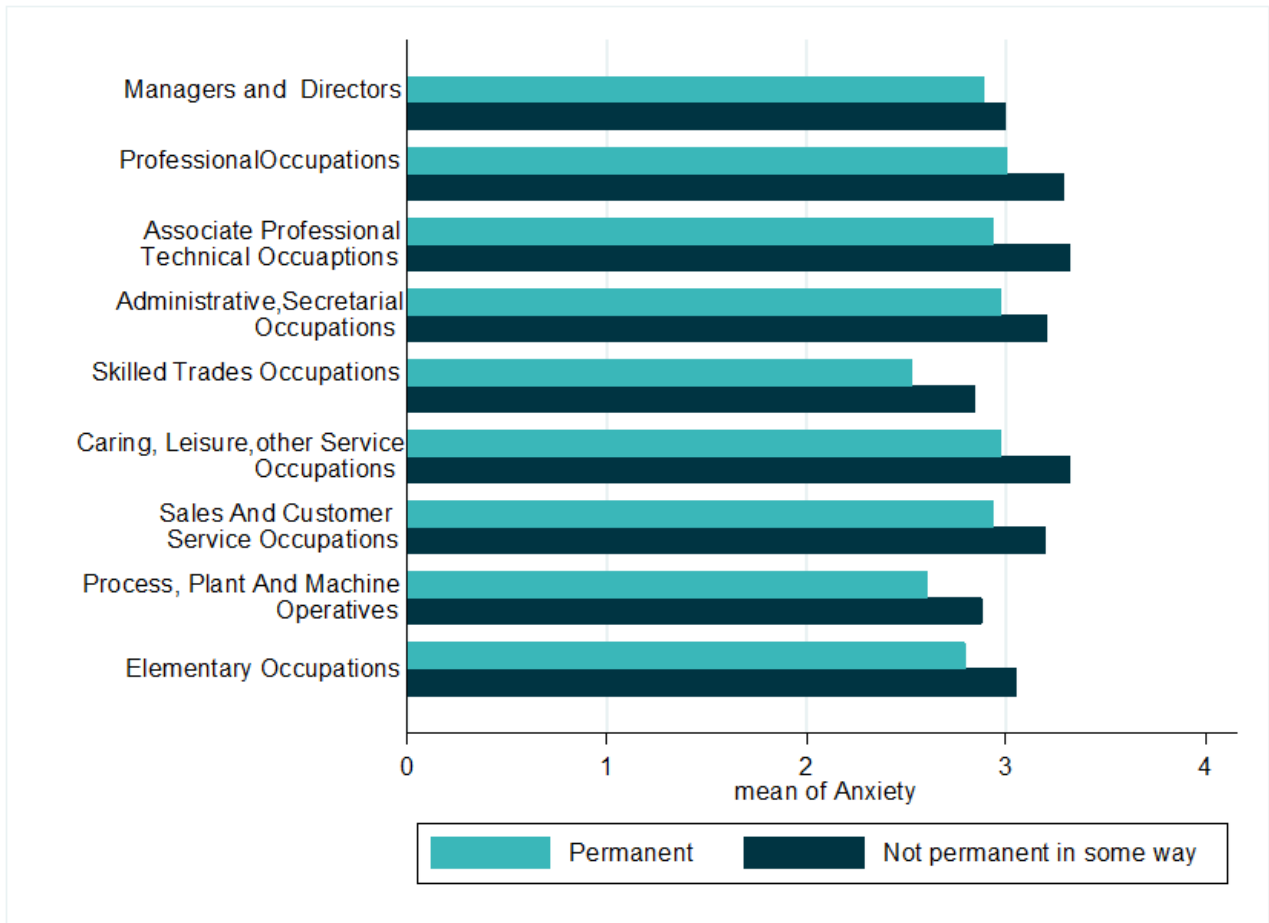


Figure 15: Mean anxiety (2012-2022) by occupations and types of job



Place of work and life satisfaction

One relevant job quality aspect is the place of work. The APS data tells us that 84% of employed people work in a place separate from home while 8.5% work in a different place with home as a base (table 5). Managers and Directors, Associate and Professional Occupations and Administrative, Secretarial Occupations show the highest percentages of those working at home. Sales and Customer Service Occupations, Elementary Occupations and Process, Plant and Machine Operatives Occupations show the highest percentages of workers who carry out their job in a separate location from their home.

Table 5: Places where work is mainly carried out 2012-2022

	Own home		Same grounds or building		Different places with home as a base		Separate from home		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Managers and Directors	14343	11.1	3366	2.6	12916	10.0	98160	76.2	128785	100.0
Professional Occupations	19040	7.7	981	0.4	17964	7.3	208223	84.6	246208	100.0
Associate Professional, Technical Occupations	15189	9.1	984	0.6	18985	11.4	131578	78.9	166736	100.0
Administrative, Secretarial Occupations	11260	8.6	681	0.5	2590	2.0	116177	88.9	130708	100.0
Skilled Trades Occupations	3451	2.8	5609	4.5	26661	21.3	89373	71.4	125094	100.0
Caring, Leisure, other Service Occupations	5279	4.6	840	0.7	6731	5.9	102152	88.8	115002	100.0
Sales and Customer Service Occupations	1920	2.1	199	0.2	2435	2.7	86312	95.0	90866	100.0
Process, Plant and Machine Operatives	901	1.1	244	0.3	7466	9.4	70733	89.1	79344	100.0
Elementary Occupations	860	0.7	1,221	1.0	6552	5.2	117659	93.2	126292	100.0
Total	72243	6.0	14125	1.2	102300	8.5	1020367	84.4	1209035	100.0

If we look at the frequencies for different workplaces over time, we can see that working from home increased starting from 2020 onward, while work in place separated from home decreased (Table 6).

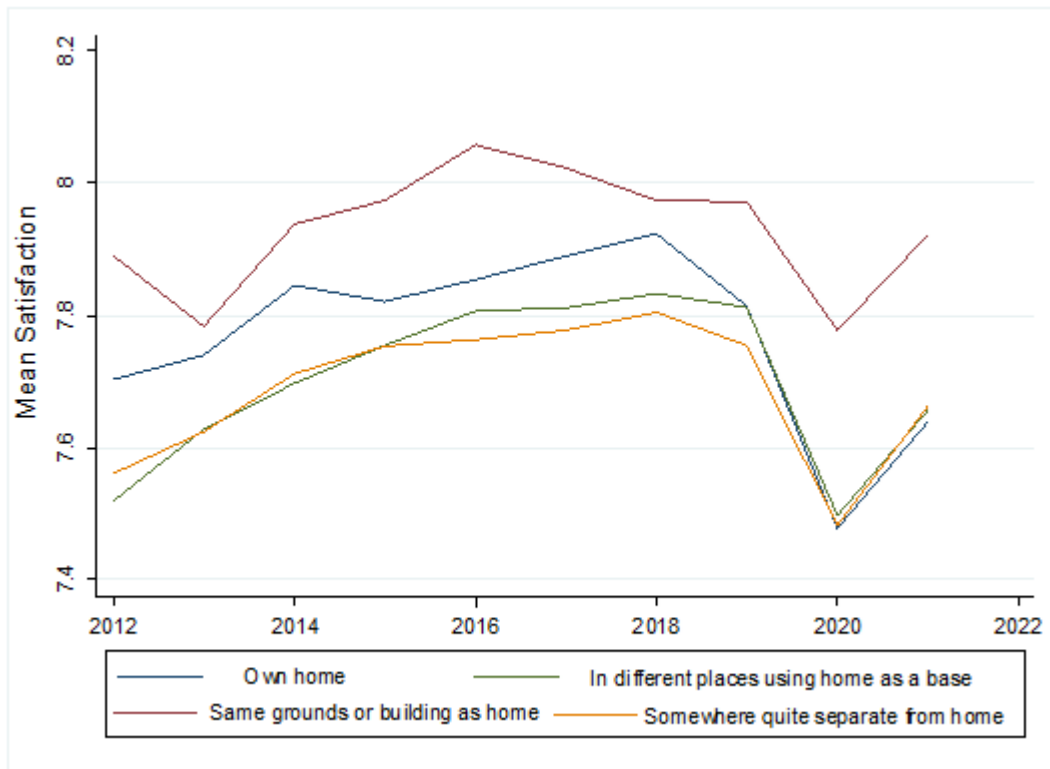
Table 6: Places where work is mainly carried out over 2012-2022 (%)

	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Own home	4,04	4,06	4,42	4,67	4,85	4,87	5,12	5,29	10,60	17,60
Same grounds or building as home	1,20	1,18	1,21	1,16	1,18	1,18	1,14	1,07	1,20	1,15
In different places using home as a base	8,71	8,85	8,73	8,62	8,49	8,35	8,29	8,17	8,30	7,56
Somewhere quite separate from home	86,05	85,91	85,64	85,55	85,48	85,60	85,45	85,46	79,90	73,69
Total	100	100	100	100	100	100	100	100	100	100

If we look at the mean level of satisfaction over the period 2012-2022 according to the place where the work is mainly carried out (figure 16), it can be seen that starting from 2019 there was a drop in life satisfaction for all places followed by a recovery in 2021¹⁶. Then looking at the different locations, the highest levels of life satisfaction are present for those who work at the same grounds or building as home, followed by those who work in their own homes. If we look at life satisfaction by places where work is mainly carried out and by occupations, the highest values for all occupations are those for work carried out in the same ground or building as home.

¹⁶ The sample is relatively small.

Figure 16: Mean life satisfaction by places where work is mainly carried out



The regression analysis

In this section we present the results of two OLS regression analyses where the dependent variables are the subjective wellbeing measures (happiness, life satisfaction, worthwhileness and anxiety) and the independent variables are personal conditions and circumstances (age, sex, ethnicity, marital status, level of education, economic activity status), and the types of occupation, (including gross weekly earnings). We use this statistical technique because it allows us to look at the relationship of each characteristic or circumstances to personal wellbeing while holding all other possible influences on wellbeing equal.

What we get are only correlations and not causal effects. When interpreting the results, it is also necessary to consider that:

1. individuals are doing very different works;
2. there is the influence of several socio-demographic characteristics;
3. the analysis uses survey data, namely APS data from 2012-2022.

We want to estimate two models: one for the whole population and one selecting only employees. The results of the regressions analysis are summarised in the table 6 and 7. A table with summary statistics is in the Appendix 2.

Regressions results

We run a first regression using all observations (table 7). In all regressions the F-test and P-values confirm that all dependent variables have explanatory value¹⁷.

Age

The relationship between age and the four subjective wellbeing variables is statistically significant. After controlling for other factors, personal wellbeing is highest among young people and older people and is lowest among middle age people. This result is in line with ONS and other research findings that show a U shaped relationship between age and personal wellbeing.

Sex

Holding other factors equal, women are more satisfied, happier and find things they are doing more worthwhile than men. They are also more anxious than men. One explanation for this result is that women experience stronger emotions than men, both positive and negative because they are socialised to be more expressive or because they are more involved in social relationships (Diener et al. 1985). Other studies found that women are twice as likely to become depressed as men, 50% more likely to suffer from anxiety or neurosis and experience more negative emotions in everyday life (Argyle 2001).

Ethnicity

Findings suggest that there is a relationship between ethnicity and personal wellbeing once other factors are controlled. The size of the relationship is however small. Findings of note are that, after controlling for individual characteristics, Whites show the second highest level of Life satisfaction after Other Asian and the highest level of Worthwhile. If we look at happiness, those who self-identify as Indian, Bangladeshi, Other Asian, Chinese, and Black, African, Caribbean and Black English rate their happiness higher than White. For anxiety, those who self-identify as Bangladeshi, Chinese and Black, African, Caribbean and Black English rated their level of anxiety lower on average than those who self-identify as White. It should be noted that coefficients are very small.

These differences may be in part due to a cultural bias: people from different cultures may interpret the question scales in different ways or may give more extreme or moderate ratings when asked to make an assessment of their life.

¹⁷ Given the F-test and P-values, it is possible to reject the null hypothesis that all coefficients are jointly equal to zero.

Qualification level

People with no qualifications show lower levels of life satisfaction, happiness and worthwhileness and higher levels of anxiety than those having all other qualifications. This result differs to some extent from other analyses (Oguz et al 2013) where people with high qualifications show higher levels of anxiety. The authors also suggest that education may not be directly related to personal wellbeing, but only indirectly via the relationship with income and health, as shown in the work of Dolan et al (2008).

Civil status

All other things being equal, those who are married or in a civil relationship show higher Life satisfaction, happiness and worthwhileness than those who are legally single. Married people also have lower levels of anxiety than legally single. Those who are separated, divorced or widowed show lower levels of life satisfaction and happiness than those who are legally single. It seems then that being in a married couple or in a civil relationship is associated with higher wellbeing.

Employment status

Employees show higher life satisfaction and lower anxiety compared with all other categories. After controlling for all other factors, those who are unemployed have almost 0.5 points lower life satisfaction and worthwhileness on average than employees.

Occupation type

Managers and Directors present the highest levels of life satisfaction. They also show the second highest levels of happiness, after Skilled Trades Occupations, and worthwhileness, after Caring, Leisure and Other Services Occupations and Professional Occupations. Workers in Managerial and Professional occupations are also those who show the highest levels of anxiety. It is worth noting that all coefficients are small or very small, even if significant.

Table 8 presents the results for the regression that considers only employees. We did this selection to introduce the variable gross weekly pay that is available for them. The results are quite similar to the first regression (table 7 page 27) . Other things being equal, higher gross weekly earnings are associated with higher levels of Life satisfaction, happiness and worthwhileness and lower levels of anxiety. The coefficients are very small.

Table 7: Regressions Results - all observations

	Satisfied with your life	How happy did you feel yesterday	How worthwhile things done in life are felt to be (overall)	How anxious yesterday
Age	-0.121***	-0.0978***	-0.0812***	0.0878***
	(0.000883)	(0.00108)	(0.000861)	(0.00146)
Age squared	0.00130***	0.00111***	0.000925***	-0.000992***
	0.00001	0.000012	0.00001	0.00002
SEX				
Reference group: male				
Female	0.129***	0.102***	0.291***	0.289***
	(0.00370)	(0.00452)	(0.00359)	(0.00618)
Ethnicity				
Reference group: white				
Mixed	-0.215***	-0.125***	-0.0683***	0.179***
	(0.0193)	(0.0243)	(0.0191)	(0.0325)
Indian	-0.0391***	0.154***	-0.0503***	0.0678***
	(0.0119)	(0.0141)	(0.0112)	(0.0202)
Pakistani	-0.0863***	-0.0226	-0.0379**	0.0361
	(0.0182)	(0.0210)	(0.0169)	(0.0279)
Bangladeshi	-0.123***	0.0984***	-0.0687**	-0.0370
	(0.0302)	(0.0336)	(0.0277)	(0.0451)
Chinese	-0.112***	0.0324	-0.203***	-0.0981**
	(0.0230)	(0.0284)	(0.0229)	(0.0411)
Other asian	0.0161	0.187***	-0.0150	0.0144
	(0.0192)	(0.0226)	(0.0182)	(0.0322)
Black/African/Caribbean /Black British	-0.259***	0.0545***	-0.0228*	-0.115***

	(0.0135)	(0.0154)	(0.0123)	(0.0203)
Other ethnic groups	-0.0976***	-0.000655	-0.0340**	0.150***
	(0.0169)	(0.0201)	(0.0160)	(0.0270)
Qualification level				
Reference group: no qualification				
Degree or equivalent	0.194***	0.262***	0.217***	-0.131***
	(0.00863)	(0.0100)	(0.00829)	(0.0131)
Higher education	0.217***	0.294***	0.258***	-0.291***
	(0.00923)	(0.0108)	(0.00882)	(0.0143)
GCE, A-level or equivalent	0.185***	0.241***	0.215***	-0.236***
	(0.00863)	(0.0100)	(0.00828)	(0.0131)
GCSE grades A*-C or equivalent	0.151***	0.198***	0.182***	-0.237***
	(0.00875)	(0.0102)	(0.00838)	(0.0132)
Other qualifications	0.145***	0.225***	0.171***	-0.153***
	(0.0104)	(0.0121)	(0.00993)	(0.0157)
Marital status				
Reference group: single, never married				
Married living together	0.652***	0.539***	0.515***	-0.354***
	(0.00452)	(0.00553)	(0.00438)	(0.00753)
Married separated	-0.249***	-0.153***	0.000294	0.196***
	(0.0113)	(0.0133)	(0.0105)	(0.0173)
Divorced	-0.0299***	-0.0101	0.0519***	0.0246**
	(0.00719)	(0.00858)	(0.00688)	(0.0113)
Widowed	-0.242***	-0.174***	0.00535	-0.00729

	(0.0128)	(0.0148)	(0.0119)	(0.0188)
Civil partnership now or before	0.450***	0.275***	0.356***	0.0237
	(0.0313)	(0.0388)	(0.0289)	(0.0536)
Employment status				
Reference group: Employee				
self employed	-0.0561***	0.0286***	0.0566***	0.0537***
	(0.00537)	(0.00662)	(0.00501)	(0.00923)
all inactive	-0.130***	-0.163***	-0.318***	0.218***
	(0.0145)	(0.0167)	(0.0135)	(0.0237)
unemployed	-0.520***	-0.251***	-0.499***	0.320***
	(0.0199)	(0.0226)	(0.0189)	(0.0308)
Government emp & training programmes	-0.645***	-0.404***	-0.455***	0.742***
	(0.0643)	(0.0724)	(0.0621)	(0.0942)
Unpaid family worker	-0.237***	-0.154***	-0.110***	0.322***
	(0.0259)	(0.0316)	(0.0243)	(0.0436)
Major occupation group				
Reference group: Managers and Directors				
Professional Occupations	-0.0724***	-0.0500***	0.0360***	0.0450***
	(0.00630)	(0.00822)	(0.00602)	(0.0118)
Associate Professional/Technical Occupations	-0.112***	-0.0609***	-0.0774***	0.0409***
	(0.00674)	(0.00884)	(0.00646)	(0.0126)

Administrative/Secretarial Occupations	-0.154***	-0.0794***	-0.214***	-0.00904
	(0.00757)	(0.00983)	(0.00722)	(0.0140)
Skilled Trades Occupations	-0.0366***	0.00214	-0.0209***	-0.192***
	(0.00842)	(0.0108)	(0.00797)	(0.0148)
Caring, Leisure, other Service Occupations	-0.167***	-0.0488***	0.0545***	-0.0380***
	(0.00827)	(0.0105)	(0.00763)	(0.0147)
Sales And Customer Service Occupations	-0.269***	-0.147***	-0.284***	0.00893
	(0.00928)	(0.0118)	(0.00889)	(0.0164)
Process, Plant And Machine Operatives	-0.0988***	-0.0168	-0.133***	-0.162***
	(0.00991)	(0.0126)	(0.00947)	(0.0169)
Elementary Occupations	-0.199***	-0.0419***	-0.212***	-0.0950***
	(0.00881)	(0.0111)	(0.00839)	(0.0151)
Constant	9.872***	8.975***	9.029***	1.327***
	(0.0211)	(0.0261)	(0.0207)	(0.0353)
Observations	989,419	989,177	987,534	988,643
R-squared	0.069	0.032	0.054	0.017
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Table 4: regression results- only employed people

	Satisfied with your life	How happy did you feel yesterday	How worthwhile things done in life are felt to be (overall)	How anxious yesterday
Age	-0.0957***	-0.0673***	-0.0557***	0.0523***
	(0.00119)	(0.00154)	(0.00115)	(0.00214)
Age squared	0.00100***	0.000758***	0.000645***	-0.000551***
	(0.00001)	(0.00001)	(0.00001)	(0.00002)
SEX				
Reference group: male				
Female	0.139***	0.0827***	0.267***	0.270***
	(0.00466)	(0.00607)	(0.00454)	(0.00855)
Ethnicity				
Reference group: white				
Mixed	-0.234***	-0.125***	-0.0931***	0.181***
	(0.0226)	(0.0302)	(0.0227)	(0.0413)
Indian	-0.0845***	0.129***	-0.0676***	0.125***
	(0.0149)	(0.0180)	(0.0140)	(0.0262)
Pakistani	-0.135***	-0.0396	-0.0259	0.123***
	(0.0259)	(0.0313)	(0.0237)	(0.0420)
Bangladeshi	-0.238***	0.0570	-0.126***	0.189***
	(0.0421)	(0.0487)	(0.0391)	(0.0664)
Chinese	-0.289***	-0.0517	-0.327***	0.00350
	(0.0312)	(0.0383)	(0.0302)	(0.0572)
Other asian	0.0458*	0.223***	0.0325	0.0328
	(0.0248)	(0.0295)	(0.0234)	(0.0434)

Black/African/Caribbean/Black British	-0.326***	0.00799	-0.0517***	-0.00347
	(0.0172)	(0.0202)	(0.0153)	(0.0271)
Other ethnic groups	-0.101***	0.0248	-0.0274	0.171***
	(0.0220)	(0.0271)	(0.0210)	(0.0376)
Qualification level				
Reference group: no qualification				
Degree or equivalent	-0.153***	-0.0454***	-0.0630***	0.266***
	(0.0134)	(0.0164)	(0.0125)	(0.0221)
Higher education	-0.0801***	0.00601	-0.00206	0.0313
	(0.0139)	(0.0171)	(0.0129)	(0.0231)
GCE, A-level or equivalent	-0.0752***	-0.0158	-0.0172	0.0382*
	(0.0132)	(0.0162)	(0.0123)	(0.0216)
GCSE grades A*-C or equivalent	-0.0673***	-0.0273*	-0.0266**	9.26e-05
	(0.0133)	(0.0162)	(0.0123)	(0.0217)
Other qualifications	-0.0301**	0.0455**	-0.00491	0.0588**
	(0.0153)	(0.0187)	(0.0142)	(0.0249)
Marital status				
Reference group: single, never married				
Married living together	0.518***	0.397***	0.399***	-0.199***
	(0.00520)	(0.00676)	(0.00504)	(0.00948)
Married separated	-0.245***	-0.141***	0.0352***	0.185***
	(0.0134)	(0.0166)	(0.0120)	(0.0221)
Divorced	-0.00949	0.0198*	0.0801***	0.0114
	(0.00860)	(0.0109)	(0.00808)	(0.0148)
Widowed	-0.308***	-0.205***	-0.000950	0.0610**

	(0.0194)	(0.0231)	(0.0170)	(0.0300)
Civil partnership now or before	0.393***	0.197***	0.312***	0.137**
	(0.0349)	(0.0480)	(0.0327)	(0.0686)
Major occupation group				
Reference group: Managers and Directors				
Professional Occupations	-0.0634***	-0.0356***	0.0521***	0.0135
	(0.00721)	(0.00976)	(0.00702)	(0.0142)
Associate Professional/Technical Occupations	-0.110***	-0.0682***	-0.101***	0.0230
	(0.00778)	(0.0106)	(0.00762)	(0.0152)
Administrative/Secretarial Occupations	-0.108***	-0.0776***	-0.205***	-0.0362**
	(0.00881)	(0.0118)	(0.00852)	(0.0168)
Skilled Trades Occupations	-0.0654***	-0.0610***	-0.0885***	-0.176***
	(0.0107)	(0.0143)	(0.0103)	(0.0196)
Caring, Leisure, other Service Occupations	-0.124***	-0.0728***	0.0652***	-0.0421**
	(0.0101)	(0.0132)	(0.00941)	(0.0185)
Sales And Customer Service Occupations	-0.212***	-0.159***	-0.281***	-0.00994
	(0.0108)	(0.0142)	(0.0105)	(0.0198)
Process, Plant And Machine Operatives	-0.113***	-0.0774***	-0.180***	-0.144***
	(0.0118)	(0.0155)	(0.0114)	(0.0208)
Elementary Occupations	-0.169***	-0.0764***	-0.247***	-0.0908***
	(0.0107)	(0.0139)	(0.0103)	(0.0192)

Gross weekly pay in main job	0.000439***	0.000141***	0.000154***	-0.000305***
	0.000012	(1.52e-05)	0.000015	0.0000215
Constant	9.520***	8.653***	8.739***	1.759***
	(0.0275)	(0.0359)	(0.0269)	(0.0495)
Observations	551,311	551,260	550,599	551,043
R-squared	0.044	0.014	0.034	0.009
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Discussion

Occupations differ in terms of salary, skillset, environment and experiences. By looking at APS data 2012-2022 by occupation, we can see how these differences relate to wellbeing to better inform employment policy and support. This will help ensure we have the highest performing workers across all key sectors.

Some occupations show higher levels of wellbeing in both cross-sectional and over-time analysis, for example Managers and Directors showed the highest mean levels of life satisfaction. Managers and Directors are those with the highest percentage of permanent jobs, highest median gross annual earnings, and are those who more frequently work at home. In contrast, Caring, Leisure and Other Services Occupations presented the highest level of Worthwhile and, during the pandemic, the highest level of anxiety. Caring, Leisure and other Services Occupations, Elementary Occupations and Sales and Customer Service Occupations are less able to work from home, have lower median gross annual earnings and lower percentage of permanent jobs.

While Caring, Leisure and other Services Occupations provide a sense of purpose, they also present a high risk of stress and less financial stability. This raises the question of how we make core services sustainable and attractive careers.

We can use wellbeing data to learn from professions that are doing well, and to help identify high-risk professions and create sector-wide wellbeing strategies. This is particularly important for growth industries to support productivity and drive the UK economy. An existing example of this is Seafarers wellbeing.

Beyond the type of job we do, where we work and how permanent our job is has an impact on wellbeing. The data showing higher life satisfaction when employees have a permanent job compared to non-permanent. Not only do employees in non-permanent employment experience lower life satisfaction, but also higher mean levels of anxiety. When we looked at life satisfaction by different places of work over time, we saw that the highest levels are present when people work in the same building or ground as home.

It should be noted that the findings are only correlational and it is not possible to infer anything about causation.

We started this work because people have a lot of information on salaries, working hours and fringe benefits. Less widespread is the information on the wellbeing linked to each career type. The dissemination and use of this type of metric by business, non-profit organisations and the public sector (which already happens within the Civil Service) will allow everyone to have relevant information on the different careers. Employers and policy makers can also benefit from this type of measurement, as they can devise interventions aimed at promoting the wellbeing of different groups of workers. In this sense, there is ample room for deepening this type of analysis, for example by including in the analysis additional variables measuring job quality in relation to all five drivers of well-being in the workplace and by making an even more granular analysis of different types of employment to account for their heterogeneity.

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Appendix 1 - APS and ASHE surveys and SOC classification

The Annual Population Survey (APS) is a continuous household survey, covering the UK. The purpose of the APS is to provide information on important social and socio-economic variables at local levels. The topics covered include employment and unemployment, as well as housing, ethnicity, religion, health and education. It has been taking place since 2004, but the ONS4 questions on wellbeing are included in the APS as National Statistics from 2013 onwards. The sample size for the personal well-being responses on the Annual Population Survey is over 150,000 adults (aged 16 years and over) per year.

The Annual Survey of Hours and Earnings (ASHE) is the most comprehensive source of information on the structure and distribution of earnings in the UK. The ASHE provides information about the levels, distribution and make-up of earnings and paid hours worked for employees in all industries and occupations. The ASHE tables contain estimates of earnings for employees by sex and full-time or part-time status and other breakdowns such as region, occupation, industry, age group and public or private sector.

As mentioned before, occupations are grouped using the Standard Occupational Classification (SOC)¹⁸, where jobs are classified into groups according to the concepts of "skill level" and "skill specialisation". Within the broad structure of the classification (major groups and sub-major groups¹⁹) reference is made to four skill levels.

The first skill level equates with the competence associated with a general education, usually acquired by the time a person completes his compulsory education and signalled via a set of school-leaving examination grades, with an appropriate knowledge of the health and safety regulations and a short periods of work-related training (i.e. postal workers, hotel porters, cleaners and catering assistants)

The second skill level covers a large group of occupations, all of which require the knowledge provided via a good general education as for occupations at the first skill level, but with a longer period of work-related training or work experience (i.e. machine operation, driving, caring occupations, retailing, and clerical and secretarial occupations).

The third skill level applies to occupations that normally require a knowledge associated with a period of post-compulsory education but not normally to degree level. Several

¹⁸ In 2020 there has been the ten year revision of SOC classification.

<https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassificationsoc/soc2020/soc2020-volume1structureanddescriptionsunitgroups>

¹⁹ The major group structure is a set of broad occupational categories that are designed to be useful in bringing together unit groups, which are similar in terms of the qualifications, training, skills and experience commonly associated with the competent performance of work tasks. The divisions between major groups also reflect the important aim of aligning SOC as far as possible with the [International Standard Classification of Occupations 2008 \(ISCO-08\)](#), in which major groups are distinguished on similar criteria. SOC 2010 had nine major groups, 25 sub-major groups, 90 minor groups and 369 unit groups. SOC 2020 has nine major groups, 26 sub-major groups, 104 minor groups and 412 unit groups.

technical occupations fall into this category, as do a variety of trades occupations and proprietors of small businesses. In the latter case, educational qualifications at sub-degree level or a lengthy period of vocational training may not be a prerequisite for competent performance of tasks, but a significant period of work experience is typical.

The fourth skill level relates to what are termed “professional” occupations and high-level managerial positions in corporate enterprises, or national or local government.

Occupations at this level normally require a degree or equivalent period of relevant work experience.

In this analysis we will use the major group structure, which is a set of broad occupational categories that bring together units similar in terms of the qualifications, training, skills and experience commonly associated with the performance of work tasks.

Table A1: General nature of qualifications, training and tasks in SOC 2020 classification

SOC 2020 Major Group	SOC 2020 Sub-Major Group	SOC 2020 Group Title	Groups Classified Within Sub-Groups	Group description of qualification and tasks
1		Managers, directors and senior officials	11 Corporate managers and directors 12 Other managers and proprietors	<p>Most occupations in this major group will require a significant amount of knowledge and experience of the production processes, administrative procedures or service requirements associated with the efficient functioning of organisations and businesses.</p> <p>This major group covers occupations whose tasks consist of planning, directing and coordinating resources to achieve the efficient functioning of organisations and businesses.</p>
	11	Corporate managers and directors	111 Chief executives and senior officials 112 Production managers and directors 113 Functional managers and directors 114 Directors in logistics, warehousing and transport 115 Managers and directors in retail and wholesale 116 Senior officers in protective services 117 Health and social	<p>Job holders in this sub-major group formulate government policy; direct the operations of major organisations, local government, government departments and special interest organisations organise; and direct production, processing, maintenance and construction operations in industry; formulate, implement and advise on specialist functional activities within organisations; direct the operations of branches of financial institutions; organise and co-ordinate the transportation of passengers, the storage and distribution of freight, and the sale of goods; direct the operations of the emergency services, revenue and customs, the</p>

			services managers and directors	prison service and the armed forces; and co-ordinate the provision of health and social services.
	12	Other managers and proprietors	121 Managers and proprietors in agriculture related services 122 Managers and proprietors in hospitality and leisure services 123 Managers and proprietors in health and care services 124 Managers in logistics, warehousing and transport 125 Managers and proprietors in other services	Job holders in this sub-major group, either as employees or proprietors, manage agriculture related services; manage and coordinate the operations of health service general practices, residential and day care establishments and domiciliary care services; coordinate and direct the activities of businesses such as restaurants, hotels, entertainment establishments, sports and leisure facilities, travel and property agencies, independent shops, garages, waste disposal and environmental services, hairdressing establishments, the creative industries, betting and gambling establishments, hire services, consultancy services and agencies providing services outsourced by other organisations.
2		Professional occupations	21 Science, research, engineering and technology professionals 22 Health professionals 23 Teaching and other educational professionals 24 Business, media and public service professionals	Most occupations in this major group will require a degree or equivalent qualification, with some occupations requiring postgraduate qualifications and/or a formal period of experience-related training. This major group covers occupations whose main tasks require a high level of knowledge and experience in the natural sciences, engineering, life sciences, social sciences, humanities and related fields. The main tasks consist of the practical application of an extensive body of theoretical knowledge, increasing the stock of knowledge by means of research and communicating such knowledge by teaching methods and other means.
	21	Science, research, engineering and technology professionals	211 Natural and social science professionals 212 Engineering professionals 213 Information technology professionals 214 Web and multimedia design professionals 215 Conservation and environment professionals 216 Research and development (R&D) and other research professionals	Professionals in this sub-major group undertake research and consultancy activities within the physical and social sciences and in the humanities; technically supervise the development, installation and maintenance of mechanical, chemical, structural and electrical systems; advise upon and direct the technical aspects of production programmes; provide consultancy and development services in the provision and utilisation of information technology; direct and advise upon the conservation and protection of the environment; design and develop websites, use illustrative, sound, visual and multimedia techniques in marketing, film, computer games and other areas, and direct and advise upon

				the research and development operations of an organisation.
	22	Health professionals	221 Medical practitioners 222 Therapy professionals 223 Nursing professionals 224 Veterinarians 225 Other health professionals	Health professionals provide medical treatments and diagnosis for people and animals, conduct research into treatment and drugs, dispense pharmaceutical compounds, provide therapeutic treatments for medical conditions, and administer nursing and midwifery care.
	23	Teaching, other educational professionals	231 Teaching professionals 232 Other educational professionals	Teaching and educational professionals plan, organise and undertake teaching and research activities within educational establishments and plan, organise, direct and co-ordinate the administrative work and financial resources of these establishments.
	24	Business, media and public service professionals	241 Legal professionals 242 Finance professionals 243 Business, research and administrative professionals 244 Business and financial project management professionals 245 Architects, chartered architectural technologists, planning officers, surveyors and construction professionals 246 Welfare professionals 247 Librarians and related professionals 248 Quality and regulatory professionals 249 Media professionals	Jobholders in this sub-major group advise and act on behalf of clients in legal matters, preside over judicial proceedings, collect and analyse financial information, perform accounting duties, advise on business and management matters, and perform a variety of other professional occupations within the public, welfare, regulatory and voluntary sectors, and within the media.
3		Associate professional occupations	31 Science, engineering and technology associate professionals 32 Health and social care associate professionals 33 Protective service occupations 34 Culture, media and sports occupations 35 Business and public service associate	This major group covers occupations whose main tasks require experience and knowledge of principles and practices necessary to assume operational responsibility and to give technical support to Professionals and to Managers, Directors and Senior Officials. An associated high-level vocational qualification, often involving a substantial period of full-time training or further study. Some additional task-related training is usually provided through a formal period of induction. The main tasks involve the operation and maintenance of complex equipment; legal, business, financial and design services; the provision of information technology services;

				providing skilled support to health and social care professionals; and serving in protective service occupations. Culture, media and sports occupations are also included in this major group.
	31	Science, engineering and technology associate professionals	311 Science, engineering and production technicians 312 CAD and drawing technicians 313 Information technology technicians	Science, engineering and technology associate professionals perform a variety of technical support functions to scientists, biomedical technologists, engineers architects, Chartered architectural technologists prepare technical drawings, undertake building inspections, provide technical support for IT operations and users.
	32	Health and social care associate professionals	321 Health associate professionals 322 Welfare and housing associate professionals 323 Teaching and childcare associate professionals 324 Veterinary nurses	Health and social care associate professionals provide a variety of technical support functions and services for health professionals in the treatment of patients to assist physical and psychological recovery, assist teachers in the education of young people, and provide social care and related community services.
	33	Protective service occupations	331 Protective service occupations	Workers in protective service occupations serve in the armed forces, the police force, fire service, prison service and perform other protective service roles.
	34	Culture, media and sports occupations	341 Artistic, literary and media occupations 342 Design occupations 344 Sports and fitness occupations	Workers in this sub-major group create and restore artistic works; write, edit and evaluate literary material; perform in acts of entertainment; arrange and perform musical compositions; produce television, film and stage presentations; present television and radio broadcasts; operate camera, sound and lighting equipment; design commercial and industrial products; compete in sporting events for financial reward; and provide training and instruction for sporting and recreational activities.
	35	Business and public service associate professionals	351 Transport associate 352 Legal associate 353 Finance associate 354 Business associate 355 Sales, marketing and related associate 356 Public services associate professionals 357 HR, training and other vocational guidance associate 358 Regulatory associate	Business and public service associate professionals command and control the movement of air and sea traffic; organise the administrative work of legal practices; deal in commodities, stocks and shares, underwrite insurance and perform specialist financial tasks; estimate the value or cost of goods, services and projects; assist in planning and organising projects; analyse and interpret data; purchase goods and materials; provide technical sales advice to clients; order stock and set prices for stores; arrange for the trading and leasing of

			professionals	property on behalf of clients; organise conferences and related events; undertake recruitment, training and industrial relations activities; perform administrative functions in government; and undertake statutory inspections of health and safety.
4		Administrative and secretarial occupations	41 Administrative occupations 42 Secretarial and related occupations	<p>Most job holders in this major group will require a good standard of general education. Certain occupations will require further additional vocational training or professional occupations to a well-defined standard.</p> <p>Occupations within this major group undertake general administrative, clerical and secretarial work, and perform a variety of specialist client-orientated administrative duties. The main tasks involve retrieving, updating, classifying and distributing documents, correspondence and other records held electronically and in storage files; typing, word-processing and otherwise preparing documents; operating other office and business machinery; receiving and directing telephone calls to an organisation; and routing information through organisations.</p>
	41	Administrative occupations	411 Administrative occupations: government and related organisations 412 Administrative occupations: finance 413 Administrative occupations: records 414 Administrative occupations: office managers and supervisors 415 Other administrative	Workers in this sub-major group undertake administrative and clerical work in national and local government departments and non-governmental organisations; perform specialist clerical tasks in relation to financial records and transactions, the administration of pension and insurance policies, the storage and transportation of freight, the activities of libraries and of human resources operations; and perform other general administrative tasks. They also coordinate and oversee the day-to-day running of offices and supervise office staff.
	42	Secretarial and related occupations	421 Secretarial and related occupations	Secretarial occupations perform general secretarial, clerical and organisational duties in support of management and other workers and provide specialist secretarial support for medical and legal activities.

5		Skilled trades occupations	51 Skilled agricultural and related trades 52 Skilled metal, electrical and electronic trades 53 Skilled construction and building trades 54 Textiles, printing and other skilled trades	<p>Most occupations in this major group have a level of skill commensurate with a substantial period of training, often provided by means of a work-based training programme.</p> <p>This major group covers occupations whose tasks involve the performance of complex physical duties that normally require a degree of initiative, manual dexterity and other practical skills. The main tasks of these occupations require experience with, and understanding of, the work situation, the materials worked with and the requirements of the structures, machinery and other items produced.</p>
	51	Skilled agricultural and related trades	511 Agricultural and related trades	Skilled agricultural and related trades cultivate crops, raise animals and catch fish for consumption, grow plants and trees for sale, tend gardens, parks, sports pitches and other recreational areas, and maintain areas of forestry.
	52	Skilled metal, electrical and electronic trades	521 Metal forming, welding and related trades 522 Metal machining, fitting and instrument making trades 523 Vehicle trades 524 Electrical and electronic trades 525 Skilled metal, electrical and electronic trades supervisors	Workers in this sub-major group shape and join metal, erect and maintain metal structures and fixtures; set up and operate metal working machinery and install and repair industrial plant and machinery; assemble parts in the manufacture of metal goods; make and calibrate precision instruments; install, test and repair air conditioning systems; maintain and repair motor vehicles; and install, test and repair industrial, domestic and commercial electrical and electronic equipment.
	53	Skilled construction and building trades	531 Construction and building trades 532 Building finishing trades 533 Construction and building trades supervisors	Skilled construction and building trades erect steel frames, lay stone, brick and similar materials, construct and repair roofs, install heating, plumbing and ventilating systems, fit windows, doors and other fixtures, and apply coverings and decorative material to walls, floors and ceilings.
	54	Textiles, printing and other skilled trades	541 Textiles and garments trades 542 Printing trades 543 Food preparation and hospitality trades 544 Other skilled trades?	Workers in this sub-major group weave fabrics, make articles of clothing, soft furnishings and leather goods, upholster vehicle interiors, set and operate printing machines, prepare meat, poultry and fish, bake bread and flour-based confectionery products, prepare food and manage catering and bar operations within hotels, restaurants and other establishments, and perform a variety of other skilled trades.

6		Caring, leisure and other service occupations	61 Caring personal service occupations 62 Leisure, travel and related personal service occupations 63 Community and civil enforcement occupations	<p>Most occupations in this major group require a good standard of general education and vocational training. To ensure high levels of integrity, some occupations require professional qualifications or registration with professional bodies or relevant background checks.</p> <p>This major group covers occupations whose tasks involve the provision of a service to customers, whether in a public protective or personal care capacity. The main tasks associated with these occupations involve the care of the sick, the elderly and infirm; the care and supervision of children; the care of animals; and the provision of travel, personal care and hygiene services.</p>
	61	Caring personal service occupations	611 Teaching and childcare support 612 Animal care and control services 613 Caring personal services	Workers in this sub-major group assist health professionals in the care of patients; undertake caring personal services within the community; supervise the activities of pre-school age children and assist teachers with non-teaching duties; provide technical assistance to veterinarians and provide other services in the care of animals; provide funeral services; and control pests hazardous to public health.
	63	Community and civil enforcement occupations	631 Community and civil enforcement occupations	Workers in this sub-major group assist the local police in patrolling the streets and tackling a range of crime and disorder problems and enforce parking regulations.
7		Sales and customer service occupations	71 Sales occupations 72 Customer service occupations	<p>Most occupations in this major group require a general education and skills in interpersonal communication. Some occupations will require a degree of specific knowledge regarding the product or service being sold but are included in this major group because the primary task involves selling.</p> <p>This major group covers occupations whose tasks require the knowledge and experience necessary to sell goods and services, accept payment in respect of sales, replenish stocks of goods in stores, provide information to potential clients and additional services to customers after the point of sale. The main tasks involve knowledge of sales techniques, a degree of knowledge regarding the product or service being sold, familiarity with cash and credit handling procedures and a certain amount of record keeping associated with those tasks.</p>

	71	Sales occupations	711 Sales assistants and retail cashiers 712 Sales related occupations 713 Shopkeepers and sales supervisors	Workers in this sub-major group sell goods and services in retail and wholesale establishments, accept payment in respect of sales, obtain orders and collect payments for goods and services from private households, replenish stocks of goods in stores, create displays of merchandise and perform other sales related occupations.
	72	Customer service occupations	721 Customer service occupations 722 Customer service supervisors	Customer service occupations receive and respond to enquiries regarding products or services, deal with customer complaints and perform a variety of tasks in the provision of additional services to customers after the point of sale; operate switchboards and receive and direct calls in a variety of establishments; operate telecoms equipment to transmit and receive messages; conduct market research interviews; and perform other customer service tasks.
8		Process, plant and machine operatives	81 Process, plant and machine operatives 82 Transport and mobile machine drivers and operatives	Most occupations in this major group do not specify that a particular standard of education should have been achieved but will usually have a period of formal experience-related training. Some occupations require licences issued by statutory or professional bodies. This major group covers occupations whose main tasks require the knowledge and experience necessary to operate and monitor industrial plant and equipment; to assemble products from component parts according to strict rules and procedures and to subject assembled parts to routine tests; and to drive and assist in the operation of various transport vehicles and other mobile machinery.
	81	Process, plant and machine operatives	811 Process operatives 812 Metal working machine operatives 813 Plant and machine operatives 814 Assemblers and routine operatives 815 Construction operatives 816 Production, factory and assembly supervisors	Process, plant and machine operatives operate and attend machinery to manufacture, process or otherwise treat foodstuffs, beverages, textiles, chemicals, glass, ceramics, rubber, plastic, metal, synthetic and other products, operate plant and machinery to produce paper, wood and related products, extract coal and other minerals from the earth, attend and operate power generation and water treatment systems, perform routine operations in the manufacture of motor vehicles, metal goods, electrical and electronic products, clothing and other goods, and perform a variety of tasks in relation to the construction and repair of buildings, public highways, underground piping systems, railway tracks and other structures.

	82	Transport and mobile machine drivers and operatives	821 Road transport drivers 822 Mobile machine drivers and operatives 823 Other drivers and transport operatives	Transport and mobile machine drivers and operatives drive motor vehicles to transport goods and people; drive trains and guide and monitor the movement of rail traffic; operate mechanical equipment on board boats, ships and other marine vessels; assist in the boarding, fuelling and movement of aircraft at airports; operate lifting, earth moving and earth surfacing equipment, agricultural equipment and other mobile machinery.
9		Elementary occupations	91 Elementary trades and related occupations 92 Elementary administration and service occupations	Most occupations in this major group do not require formal educational qualifications but will usually have an associated short period of formal experience-related training. This major group covers occupations which require the knowledge and experience necessary to perform mostly routine tasks, often involving the use of simple hand-held tools and, in some cases, requiring a degree of physical effort.
	91	Elementary trades and related occupations	911 Elementary agricultural occupations 912 Elementary construction occupations 913 Elementary process plant occupations	Occupations in this sub-major group perform agricultural, fishing and forestry related tasks, undertake general labouring duties, assist building and construction trades workers, and perform a variety of duties in foundry, engineering and other process plant related trades.
	92	Elementary administration and service occupations	921 Elementary administration occupations 922 Elementary cleaning occupations 923 Elementary security occupations 924 Elementary sales occupations 925 Elementary storage occupations 926 Other elementary services occupations	Workers in this sub-major group collect, sort and deliver written correspondence, undertake elementary clerical tasks within offices, undertake elementary cleaning tasks, protect and supervise people and property, perform elementary sales related tasks, assist in the storage and transportation of goods, and perform a variety of carrying, preparation and serving tasks within hospitals, catering, domestic and other establishments.

Source: ONS

Appendix 2 - Summary statistics: mean, standard deviation, min max

	Count	Mean	SD	Min	Max
Satisfaction	1459305	7,61	1,81	0	10
Happiness	1458679	7,48	2,14	0	10
Worthwhileness	1455077	7,85	1,74	0	10
Anxiety	1457538	2,96	2,87	0	10
Gross week pay	804416	444	234,666	1	788
Age	2768154	42	2,41	0	99
Agesq	2768154			0	9801
Sex (Dummy)	2768154			0	1
Ethnicity	2766317			1	9
Level of education	1752712			1	7
Marital status	2768154			1	6
Employment	2768154			1	6
Type of occupations	1211767			1	10
Type of job	1043274			1	2
Place where work is mainly carried out	1234110			1	4
N. Observations	2768154				