

Cleaning Civil Service People Survey Departmental Level Data for Analysis of Trends in Wellbeing.

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The UK Civil Service People Survey is administered annually, and since 2011 has contained questions relating to the wellbeing of civil servants. Specifically, it has consistently asked the “ONS 4” wellbeing questions, which are shown in table 1, below.

Although the full civil service people survey data is not available at the individual level, it is published annually at the departmental/organisational level, for a panel of organisations (see appendix A for a full list).

The What Works Centre for Wellbeing is interested in trends in these measures over time, and how they changed during the COVID-19 Pandemic and its aftermath. To this end, we have published a report on this topic.²

Alongside this we have published the Stata Do Files which can be used to analyse the relevant datasets. This technical document supports those do files.

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

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

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² Cite here for this paper.

The data used in this analysis consists of 11 datasets, one for each of the last eleven years (2011-2021), publicly available from gov.uk. These datasets are also posted to the WWCW Github depository in which the code itself can be found.

Cleaning Annual Data

For each year in the data, a number of activities are performed;

- 1) The data (in csv format) are opened in Stata
- 2) A categorical indicator is created indicating which year the data refers to
- 3) The Four Wellbeing questions are;
 - a) Renamed for consistency to W01 W02, W03 and W04
 - b) Truncated to remove text entries
 - c) Destrined, turning them into numerical variables
 - d) Where necessary, rescaled to a scale of 1-100 (where this is the proportion with a “high” level of the outcome, which is positive for the first three questions and negative for the fourth.
 - e) Saved into a stata dataset

In some years, other variables are also transformed to make them consistent and useable.

Unified dataset

These datasets are then brought together into a single dataset through appending. Once this is done;

- 1) Data relating to the civil service as a whole (mean and median) are removed.
- 2) Binary indicators of the year being 2020 and 2021 (the 2 pandemic years) are created
- 3) OLS regression is conducted to understand trends over time and how trends changed during the pandemic.
- 4) Graphs are produced showing average wellbeing over time
- 5) The data is established as a panel dataset with Organisation as the cross-sectional unit and year as the temporal period.
- 6) First second and third differences of the four wellbeing questions are created for all organisation/year pairs for which this is possible.
- 7) The distribution of these changes are mapped using kernel density plots
- 8) Organisations which show positive or negative changes on all indicators in a given year are identified.
- 9) The top ten performing organisations are then displayed in a table format.

If this code is of use to anyone, they are welcome to use it freely, as long as this technical note is cited in the bibliography.

Appendix A: Panel Data Structure

Organisation	2014	2015	2016	2017	2018	2019	2020	2021	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Acas	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Accountant in Bankruptcy	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Animal and Plant Health Agency	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Attorney General's Office	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Cabinet Office	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Centre for Environment, Fisheries and Aquaculture Science	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0
Centre for Environment, Food and Aquaculture Science	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Charity Commission	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Civil Service HR	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	3.0
Civil Service benchmark (median)	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	5.0
Companies House	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Companies House	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	5.0
Competition and Markets Authority	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Criminal Injuries Compensation Authority	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Crown Commercial Service	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Crown Office and Procurator Fiscal Service	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Crown Prosecution Service	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Debt Management Office	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Defence Electronics and Components Agency	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0
Defence Equipment & Support	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	5.0
Defence Equipment and Support	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Defence Support Group	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Department for Business, Energy & Industrial Strategy	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	3.0
Department for Business, Energy and Industrial Strategy	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Department for Business, Innovation & Skills	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Department for Communities and Local Government	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	4.0
Department for Culture, Media & Sport	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0
Department for Digital, Culture, Media & Sport	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
Department for Digital, Culture, Media and Sport	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	4.0

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HM Prison and Probation Service (HQ)	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	2.0
HM Prison and Probation Service Headquarters	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
HM Revenue & Customs	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	5.0
HM Revenue and Customs	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
HM Treasury	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Health and Safety Executive	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Her Majesty's Inspectorate of Constabulary and Fire and Rescue Services	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Highways Agency	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Historic Scotland and the Royal Commission on the Ancient and Historic Monuments of Scotland	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Home Office	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Home Office group	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	4.0
Home Office group (combined results)	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	2.0
Home Office: Border Force	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	7.0
Home Office: HM Passport Office	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	2.0
Home Office: Immigration Enforcement	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	7.0
Home Office: Policy and Enablers	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	3.0
Home Office: Policy and Enablers (formerly known as Home Office HQ)	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	4.0
Home Office: UK Visas and Immigration	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	7.0
Institute for Apprenticeships and Technical Education	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0
Institute for Apprenticeships and Technical Education	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Intellectual Property Office	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Land Registry	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	4.0
Legal Aid Agency	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Maritime and Coastguard Agency	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Medicines and Healthcare Products Regulatory Agency	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	5.0
Medicines and Healthcare products Regulatory Agency	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Met Office	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Ministry of Defence	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Ministry of Housing, Communities and Local Government	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Ministry of Housing, Communities and Local Government (excluding agencies)	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
Ministry of Justice	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Ministry of Justice (HQ)	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	4.0
Ministry of Justice (including agencies)	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	4.0
Ministry of Justice Arm's Length and Other Bodies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Ministry of Justice Arm's Length and Other Bodies	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0
Ministry of Justice Arm's Length and Other Bodies	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0
Ministry of Justice Headquarters	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Ministry of Justice group (including agencies)	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0

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Scottish Tribunals Service	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Serious Fraud Office	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Skills Funding Agency	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0
Social Security Scotland	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Student Awards Agency Scotland	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Student Awards Agency for Scotland	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	5.0
Submarine Delivery Agency	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	4.0
TSol	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
The Insolvency Service	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
The National Archives	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
The Royal Parks	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0
Transport Scotland	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
UK Debt Management Office	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0
UK Export Finance	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
UK Health Security Agency	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
UK Hydrographic Office	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
UK Space Agency	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
UK Statistics Authority	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0
UK Statistics Authority (including ONS)	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	4.0
UK Statistics Authority group (including ONS)	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
UK Trade and Investment	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Valuation Office Agency	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Vehicle Certification Agency	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Veterinary Medicines Directorate	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Water Regulation Services Authority (Ofwat)	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	3.0
Welsh Government	1.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	5.0
Welsh Revenue Authority	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	4.0
Wilton Park	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
Total	102.0	99.0	102.0	102.0	106.0	109.0	109.0	103.0	832.0