Cabinet Office

Annex A - Evaluation of measures of socio-economic background

May 2018

Contents

Summary

In summer 2016, Cabinet Office undertook a public engagement exercise to seek views to inform the development of a set of socio-economic background measures that could be used by both the Civil Service and other employers.

43 employers and other experts contributed their views on a long list of 26 measures of socio-economic background (see page 27 for the full list and the ratings each was given). This feedback was used to refine the measures to a short list of 12:

- The highest qualification of their parent/guardian/carer
- Whether their parent/guardian/carer had completed a degree
- The occupation of their parent/guardian/carer
- Their home postcode at age 14
- Self-assessment of their socio-economic background
- The type of secondary school they attended
- The tenure of accommodation they lived in as a child
- Whether they were eligible for free school meals
- The name of the school they attended
- Whether they spent time in care
- Whether they ever had refugee or asylum status
- Whether they were a registered as a carer as a child

Wordings used for each question are given on pages 27-31

These measures were piloted with the 4200 members of the Senior Civil Service (SCS). They were also asked how difficult they found answering each question and how comfortable they felt responding to the survey. Nearly 70% of SCS completed the survey.

We used the results of this pilot, feedback from partner organisations and other evidence to make our final recommendations.

Summary – evaluation criteria

We evaluated the 12 measures against 6 criteria, giving particular weight to whether they are likely to elicit a response and whether they are accurate measures of advantage / disadvantage. Two pairs of criteria were merged in our rating system due to their areas of overlap. A seventh measure, verifiability, was consulted on as part of the engagement exercise, but was not considered as important as the others.

We used a statistical technique called factor analysis to ascertain whether questions could be grouped into themes and to understand the structural relationship between questions. This allowed us to determine which questions were most associated with each theme.

The criteria were:

Likelihood of eliciting a response	Measures are not considered so sensitive or intrusive that they lead to a low response rate, or the information is not hard to recall. Answers to the measures could easily be recalled or obtained.
Accurate measure of advantage / disadvantage	Reflects what it purports to measure, i.e. socio-economic background, such that lower status can be reasonably assumed to have the potential to adversely affect educational progression and access or progression in the workplace.
Clarity of the measure	The measure is easily understandable, allowing consistent application by employers and consistent interpretation by employees.
Accessibility	Businesses, including those small in size, are able to collect and analyse measures for themselves, at reasonable cost.
Comparability	Measures can be compared across employers, by an employer over time, and against eligible candidate populations (e.g. populations in higher education).
Longevity of measure	The measure (and where applicable its underlying data) will be available and relevant in the foreseeable future.

Summary – suitability of measures

This table presents our final assessment for each of the 12 measures against the criteria and our recommendations. We based our recommendations on these assessments, other evidence from the consultation and feedback from partner organisations. More details on the rationale behind each recommendation are given on that measure's pages later in this document.

We recommend that employers collect:

- **Highest parental qualification**
- **Parental occupation**
- **Type of secondary school attended.**

Eligibility for free school meals should be considered for collection if a large enough proportion of staff were at school after 1980.

Use of these measures by employers is entirely voluntary, and we expect that the measures we are recommending in this report will be used in a similar fashion to the data employers gather on other characteristics of their employees, with the data used anonymously and never to form the basis of individual recruitment decisions.

Organisations may wish to collect other measures that are well suited to their workforce. The Civil Service will ask staff for a self assessment of their socio-economic background, but we are not recommending this as one of the common measures.

	Response likely / clear	Accessible	Comparable / Longevity	Accurate	Recommendation
Highest qualification of their parent/guardian/carer					Collect
Whether their parent/ guardian/carer had completed a degree					Do not collect
The occupation of their parent/guardian/carer					Collect
The home postcode of the individual at age 14					Do not collect
Self assessment of socio-economic background					Civil Service will collect; wider collection not recommended
The type of secondary school they attended					Collect
Whether they were eligible for free school meals					Collect if appropriate
The tenure of accommodation they lived in as a child					Do not collect
The name of the school they attended					Do not collect
Whether they spent time in care					Do not collect
Whether they ever had refugee or asylum status					Do not collect
Whether they were a carer as a child					Do not collect

Summary - SCS pilot results

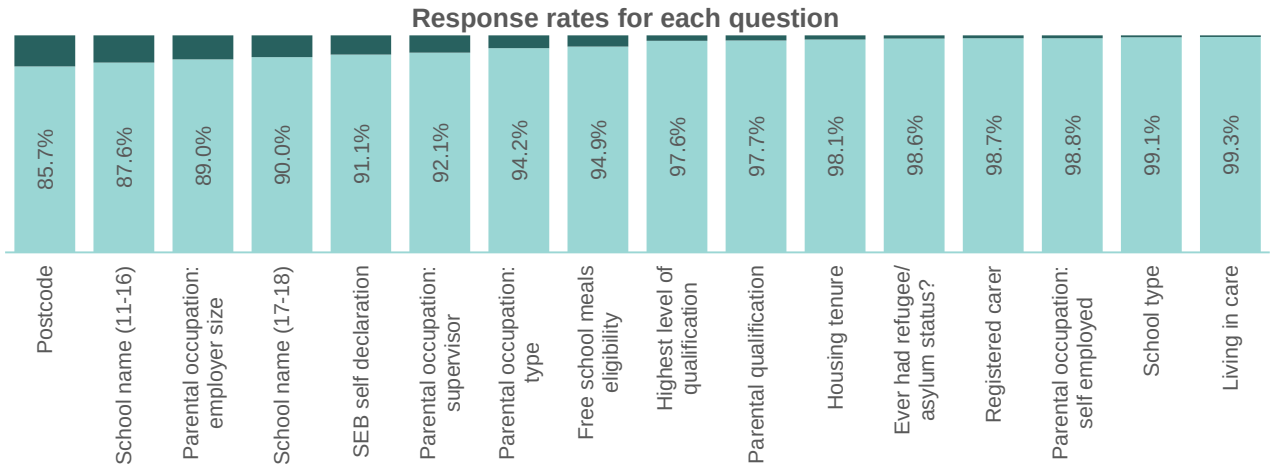
Each question was answered by at least 85% of people who took part in the survey. The lowest responses rates were for postcode at age 14 (85.7%), and school name (87.6%). School type and whether the individual was living in care prior to the age of 18 had response rates over 99%.

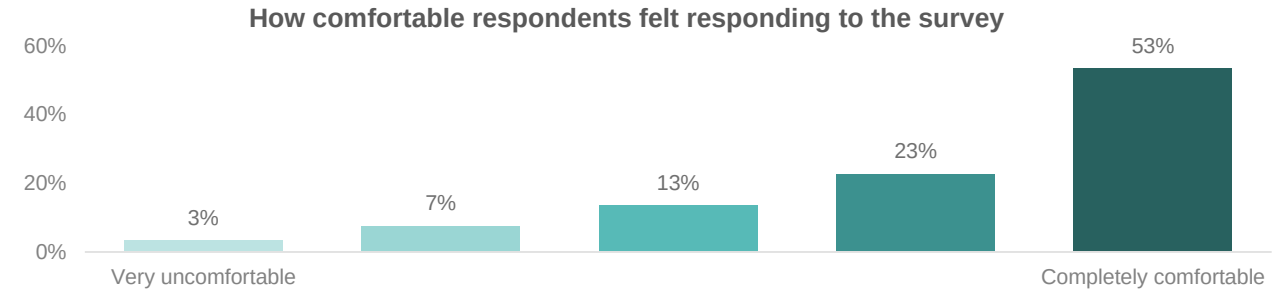
Most respondents (2,361 of 2,896, 82%) did not have any difficulty answering any of the questions, although three questions were difficult to respond to for over 5% of people.

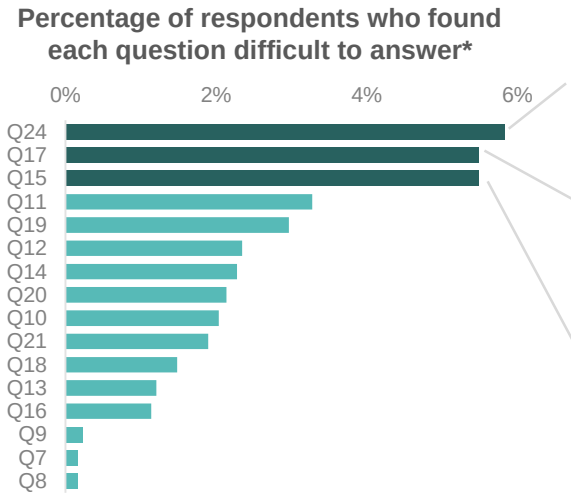
Most respondents were comfortable providing answers to the survey, with 1,532 (53%) being 'completely comfortable'. Core reasons raised for being uncomfortable with the survey included:

- Feeling the questions were intrusive
- Concerns about data protection
- Questioning the measures' relevance
- The use that will be made of the data

It is likely that some of those who did not complete the survey did so as they were not comfortable answering questions on their socio-economic background.







Core reasons given for difficulty in responding

Q24: Do you consider yourself to be from a lower socio-economic background?

Question can seem subjective.

Uncertainty about relative context – lower than who?

Q17: Thinking back to when you were aged about 14, which best describes the sort of work the main/highest income earner of your household did in their main job?

Categories are not applicable to all generations.

Don't know the answer.

Doesn't cover complexity of non-nuclear families or changing situations.

Q15: What was the postcode of the house you grew up in at age 14?

Unable to remember.

Uncomfortable with providing the information due to privacy concerns (particularly when family are still living at the address).

* Question numbers given on pages 28-31

Each measure in detail

Highest parental qualification/parental degree

These two questions relate to the highest qualification that either parent or guardian received. They are commonly used measures of socio-economic background, aiding in understanding of differences in educational attainment across generations and the impact that level of education can have on upbringing, due to its effect on salary[1].

Longitudinal work from the Department for Education – the Longitudinal Study of Young People in England and the Effective Pre-School, Primary and Secondary Education Project – provides good evidence on the enduring importance of parental qualifications on life outcomes.

Rationale for inclusion in the pilot:
This received the **joint fourth highest ranking** of the original 26 measures that were consulted on. It was also rated as highly suitable in a joint response to the engagement exercise by a group of academics. This is due to its simplicity and it being able to provide a range instead of being a binary measure when the "highest qualification" form is used.

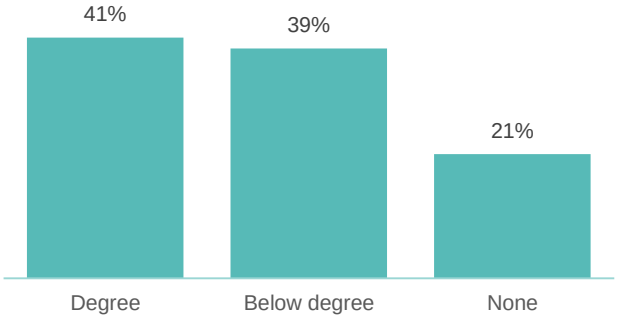
Headline findings from the pilot and other surveys:
59% of respondents to the SCS pilot had parents who either had no qualifications or were educated to below degree level. This figure is broadly consistent with previous smaller surveys of the SCS[2].

Issues with the data:
There are few issues with the usability of the data, given categorisation is usually straightforward. A small number of respondents provided free text answers instead of selecting one of the main categories, which would create some burden on analysis of results.

Average score from the engagement exercise*

3.4

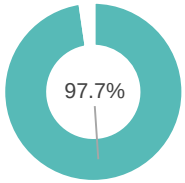
Findings from the SCS survey: Parental qualification level



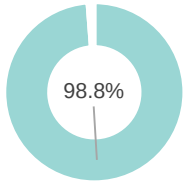
*Respondents to the engagement exercise were asked the rate each measure on a scale of 1 (not at all suitable) to 5 (highly suitable)

Highest parental qualification/ parental degree

SCS pilot completion rate



SCS respondents who didn't have difficulty answering



Recommend to be used. This measure was strongly associated with one of the themes uncovered in the factor analysis of the pilot measures. Other information should be collected alongside this to ensure it would be more interpretable. As highest parental qualification provides a more nuanced picture than whether parent has a degree, we recommend that the former is used.

Criteria	Evidence	RAG rating
Likely to elicit response/ Clarity of the measure	This had a very high reporting rate, is easy to understand and to collect. Some respondents had recall issues or did not know the educational level of their parents. Some did not know both of their parents or were not raised by both of them and consequently did not see the relevance of this question in relation to their circumstances. However, issues around ability to respond were not as widespread as for other questions.	
Accessibility	Would be easy to collect and analyse. As educational levels have changed over time, to maximise value this would have to be assessed in combination with people's age.	
Comparability/Longevity of the measure	There are no clear population comparators to benchmark against, although overall education levels of the population could be used as a proxy for this. There are also longevity issues; participation in higher education has widened significantly over time[6], therefore making cross comparison amongst different age groups potentially challenging.	
Accurate measure of advantage / disadvantage	This was found to be strongly associated with one of the themes identified by the factor analysis. On this basis, it would a good variable to retain to explain this particular theme. There has been a persistent wage differential between those that are educated to a higher level and those that were not[1].	

Parental occupation

The most commonly used measure of parental occupation was collected as part of the pilot: these are four questions used to derive the "National Statistics Socio-Economic Classification" (NS-SEC)[3]. Texts of the questions are given on page 29.

This is used by various employers already, as well as the Fast Stream[4] and the Higher Education Statistics Agency[5]. Parental occupation is a good proxy for parental income, which has been found to be linked to future attainment[7].

There is much academic literature on the link between an individual's outcomes and their parent's occupation[7]. The Office for National Statistics has also published analysis on this topic, and it has been summarised in State of the Nation reports from the Social Mobility Commission.

Rationale for inclusion in the pilot:
Although this was only the **eighth highest ranking** of the 26 measures in the engagement exercise, it is widely used and was highly rated by our academic partners due to its ability to produce a distribution of socio-economic background.

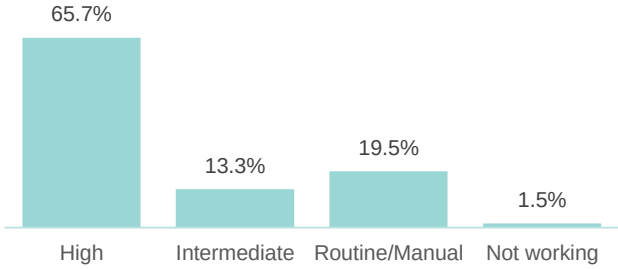
Headline findings from the pilot and other surveys:
Almost 20% of respondents were identified as being from a routine/manual background. This is higher than previous estimates of the SCS which ranged between 10-14%*. The proportion of SCS from routine/manual backgrounds generally increases with age. In 2015, only 7.9% of Fast Stream applicants, and 4.4% of those who were successful, were from a routine or manual background.

Issues with the data:
Deriving National Statistics Socio-Economic Classification (NS-SEC), the measure frequently used for parental occupation, requires individuals to answer four separate questions, creating respondent burden and making it difficult for employers to analyse this measure.

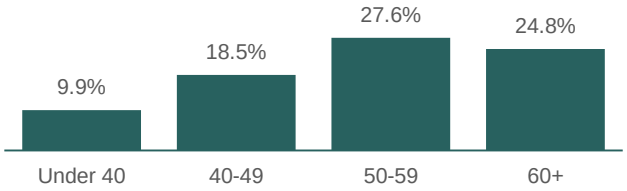
Average score from the engagement exercise

3.3

Findings from the SCS survey: NS-SEC background of SCS

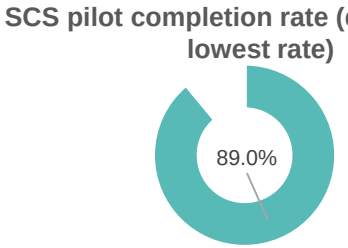


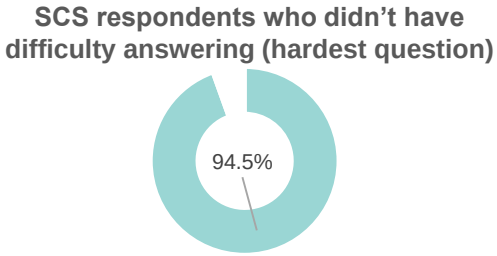
SCS with 'routine/manual' or non-working NS-SEC background by age



*10% of respondents to the survey of new entrants to the SCS in 2013/14 were from a routine/manual background, whilst 14% of new entrants at the SCS 'Basecamp' events for new entrants from 2010 to 2011 were from a routine/manual background

Parental occupation





Recommend to be used. This is a measure that is used widely, can be compared to other sources, and was found to be strongly associated with one of the themes found in the factor analysis of the pilot measures. However, being four questions, it can be burdensome to collect.

Criteria	Evidence	RAG rating
Likely to elicit response/ Clarity of the measure	89% of respondents provided an answer to parent's employer size. This was the lowest response to any of the four questions required to derive NS-SEC and the third lowest reporting rate of the 12 measures. Some respondents did not know the answer to some of the questions and some felt unsure which occupation their parent fitted into, suggesting that guidance would need to accompany any questions on occupation to improve reporting rates for possible future exercises.	
Accessibility	This data does not need to be linked to other sources to derive a socio-economic measure of parental occupation. However, detailed guidance is needed to derive NS-SEC, which would need to be simplified for employers to use easily.	
Comparability/Longevity of the measure	Occupation classifications change over time, as they are derived through ONS' Standard Occupational Classification. Moreover, some respondents to the engagement exercise considered NS-SEC outdated and not reflective of the current labour market with a risk that it will become more obsolete as the labour market evolves. Nonetheless, a subset of respondents are asked about parental occupation in the Labour Force Survey[8], meaning that there is comparator data that can be used at present.	
Accurate measure of advantage / disadvantage	This measure provides some sense of scale of disadvantage, and parental occupation is a strong determinant of one's life chances[7]. It has widespread support as a measure of socio-economic background (although it has been criticised in some academic circles)[9]. This measure was strongly associated with one of the themes uncovered in the factor analysis of pilot measures, suggesting that there is value in collecting it.	

Home postcode at age 14

As part of the SCS pilot survey we asked for home postcode at age 14. The aim was to link to measures of deprivation to see whether this was an accurate measure of disadvantage and to understand the relationship between it and other measures included within the pilot.

The Social Mobility Commission has demonstrated the link between where children grow up and their chances of doing well in adult life[10].

The Higher Education Funding Council for England produce the POLAR index which shows how higher educational participation differs substantially between areas[11]. Various government datasets such as Level 2 and 3 attainment by young people report against the Index of Multiple Deprivation (or Income Deprivation Affecting Children Index, a subset of this).

Rationale for inclusion in the pilot:
This measure received the **sixth highest ranking** for the original 26 measures that were consulted on. It was rated as highly suitable in a joint response to the engagement exercise by a group of academics, as that it can be linked to a geographical deprivation measures.

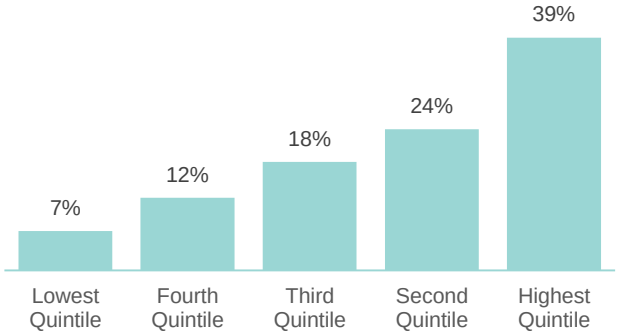
Headline findings from the pilot and other surveys:
Given challenges in sourcing historical geographical deprivation data, it wasn't possible to link postcode to historic measures of deprivation as part of the pilot analysis. Nonetheless, current Index of Multiple Deprivation (IMD) data can be used as a proxy for area deprivation in a respondent's childhood. 7% of respondents lived in areas that are currently in the lowest quintile, in comparison to 39% of individuals living in the highest quintile. However, given that areas experience changes in deprivation over time, this limits the usefulness of these findings. There appears to be a link between IMD and some of the other questions that were tested.

Issues with the data:
It wasn't possible to link postcodes to historical data on area deprivation as part of the pilot analysis. Consequently, employers would likely find it challenging to perform analysis on this measure.

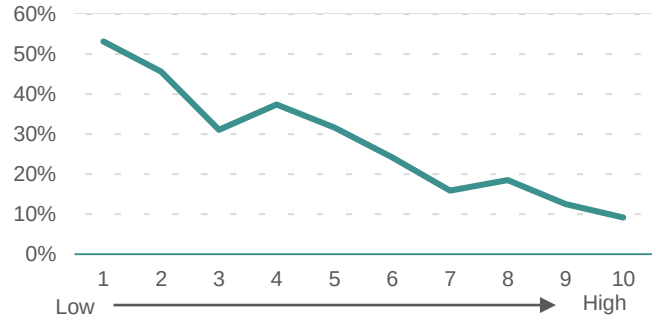
Average score from the engagement exercise

3.4

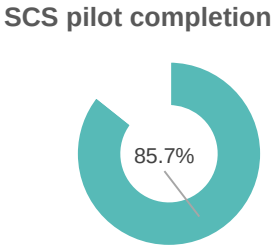
Findings from the SCS Survey: Current IMD quintile of home postcode

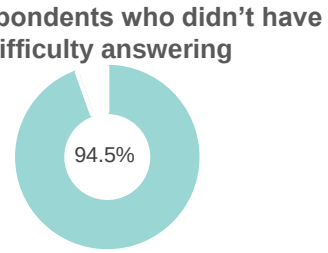


Percentage with routine/manual/not working NS-SEC by current IMD decile



Home postcode at age 14





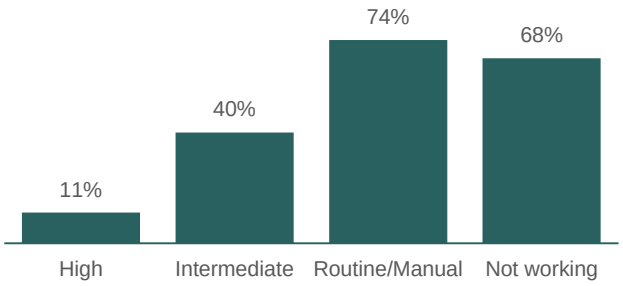
Do not recommend to be used. Whilst this did form a secondary cluster within the factor analysis of the pilot survey, a number of respondents expressed strong concerns around this measure and felt it was particularly intrusive. Moreover, it is less useful as it is not a measure of individual disadvantage. A less intrusive option, to collect just the first half of respondent's postcode, would be less accurate.

Criteria	Evidence	RAG rating
Likely to elicit response/ Clarity of the measure	This question had the lowest reporting rate (although, at 86%, was still relatively high) and was one of only three questions that over 5% felt was difficult to answer. Some of this was due to recall issues and the fact that postcodes did not exist until the late 1960s. Some respondents felt that this question was extremely intrusive and had privacy concerns, especially if they had family still living at the address. Using only the first half of a postcode may lead to a higher reporting rate.	
Accessibility	Analysing on an historical basis has proved challenging. Different UK nations define deprivation indices in different ways, making standardised comparison difficult. Employers may find it very difficult to analyse without assistance due to the difficulty of data linking. However this measure may be more usable for younger intakes (such as the Fast Stream) given that this will not necessarily need to be linked to historic data.	
Comparability/Longevity of the measure	Deprivation of an area can change with time - this data would need to be first linked to age-specific questions and then linked to deprivation in the appropriate time period to allow robust measurement. Historical data is not readily available and is not necessarily comparable over time. This could nonetheless be compared to the overall deprivation indices for the current population as a whole.	
Accurate measure of advantage / disadvantage	If full postcodes are used, when linked to other datasets this is an accurate measure of advantage. Using partial postcodes would be less accurate, as not all those in the area will have the same characteristics. This could provide a rich source of information if used alongside other measures and appears to be a secondary cluster within factor analysis of the results. This suggests there would be value in collecting it to retain this insight that this data would bring.	

Self assessment of socio-economic background

Near the end of the SCS pilot survey, respondents were asked “Do you consider yourself to be from a lower socio-economic background?”. No definitions or guidance were provided.

Findings from the SCS survey: Self-assessment as lower socio-economic background by parental NS-SEC



Rationale for inclusion in the pilot:
Both open (where respondents give a free text response) and closed (where respondents choose from a list of backgrounds) self assessment ranked lower in the engagement exercise than other measures that were tested. However, a cross-government group suggested that open self assessment be tested as part of the pilot.

Headline findings from the pilot and other surveys:
28% of respondents to the SCS pilot reported that they were from a lower socio-economic background, and there was a clear link between this and other indicators. However, a number of respondents had difficulty with this question, as they felt there was no benchmark to compare against or did not understand the definition of “socio-economic background”. Some respondents felt that the other measures tested in the pilot did not accurately reflect their circumstances. This question gives them an opportunity to take their personal factors into account.

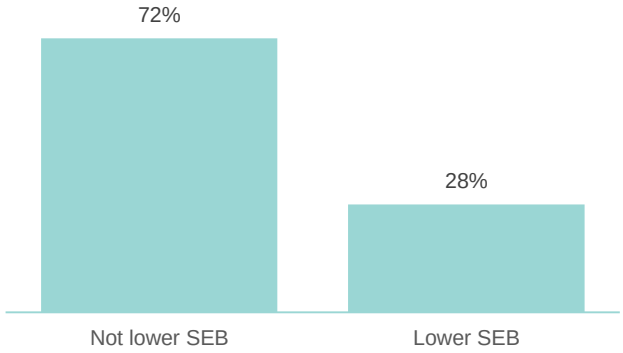
Issues with the data:
As this was tested as a binary measure (lower or not), data were simple to analyse, although difficulties could arise if results conflicted with other characteristics collected. Some respondents found the question too subjective and consequently struggled to answer meaningfully.

Average score from the engagement exercise

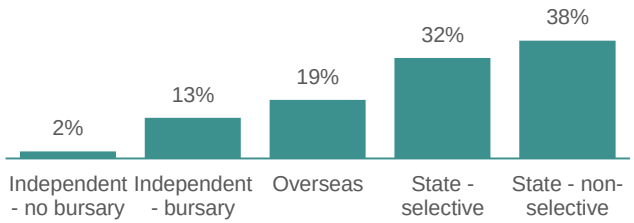
2.8 Closed Self Assessment

2.0 Open Self Assessment

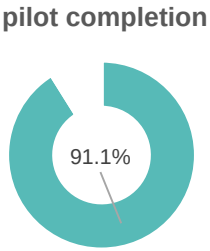
Findings from the SCS survey: self assessment

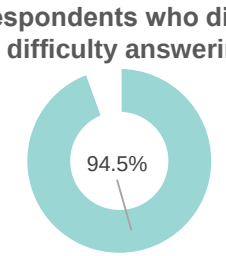


Findings from the SCS survey: Self assessment as lower socio-economic background by school type attended



Self assessment of socio-economic background





Collect in the Civil Service, but do not recommend to be used more widely. It may help to appease concerns voiced by respondents that other questions did not wholly represent their circumstances and will allow them to take more of ownership of how they are defined. However, as this measure received mixed feedback externally and that the question is subjective, we are only recommending this for use within the Civil Service. As a number of respondents struggled to understand or answer this question, we will be asking: "Compared to people in general, would you describe yourself as coming from a lower socio-economic background?"

Criteria	Evidence	RAG rating
Likely to elicit response/ Clarity of the measure	This had a relatively low response rate, and some people struggled to understand what was meant by lower socio-economic background. Some SCS felt it was not clear whether the question was about their current circumstances or those of when they were growing up.	
Accessibility	This would be easy for employers to both collect and analyse. However, it would likely need to be collected in combination with other metrics of socio-economic background to be useful, given the need to provide wider context to any answer provided.	
Comparability/Longevity of the measure	There are no easy comparators that employers could use to understand whether or not they are drawing from a diverse pool of candidates.	
Accurate measure of advantage / disadvantage	Respondents to the engagement exercise (including academics) felt that this was too subjective and consequently would not be accurate. Nonetheless, other diversity characteristics are often self-assessments (e.g. “Do you consider yourself to be disabled?”). Given many respondents felt that the questions asked in the pilot were too narrow and did not accurately reflect their circumstances, asking this would allow individuals a degree of ownership of how they are defined. Moreover, factor analysis of the pilot showed that self assessment was strongly associated with one of the themes found in the pilot questions.	

Secondary school type

The type of the main secondary school that an individual mainly attended between the ages of 11 to 16 is a commonly used measure of advantage, given the high proportion of independent school educated individuals at top universities and across elite professions[12].

Educational experience has been shown to be linked to outcomes and career progression – see, for example, Department for Education destinations data[13].

Rationale for inclusion in the pilot:
This received the **joint fourth highest ranking** for the original 26 measures that were consulted on, and was rated as highly suitable in a joint response to the engagement exercise by a group of academics.

Headline findings from the pilot and other surveys:
Over 20% of the SCS were educated at an independent school between the ages of 11 and 16, in comparison to just 7% of the English school population[14].

In 2015, only 66% of Fast Stream appointees attended a state secondary school.

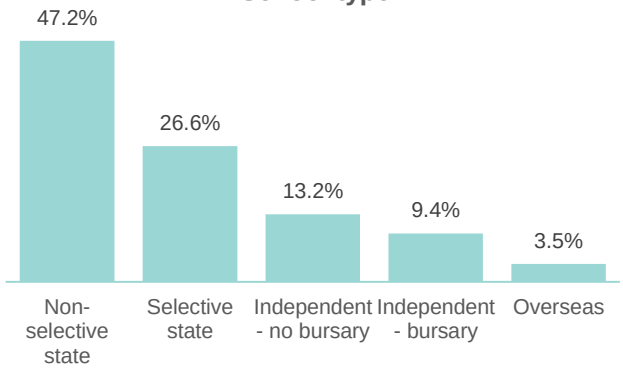
Issues with the data:
There were few issues with the data, although definitional issues can present problems - some respondents did not feel the categories reflected their type of school (e.g. different types of funding for independent schools or if they went to a grammar school).

The Department for Education routinely publishes figures on the make up of the school population, allowing straightforward comparison.

Average score from the engagement exercise

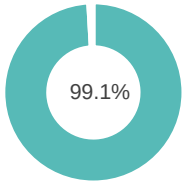
3.5

Findings from the SCS survey: School type

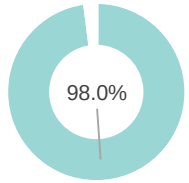


Secondary school type

SCS pilot completion rate



SCS respondents who didn't have difficulty answering



Recommend to be used. This measure is used widely in educational research, was highly recommended by respondents to the engagement exercise, would be relatively simple to collect and benchmark against, was perceived as less intrusive than other measures and provides more stability than other measures over time. It was not as strongly associated with each of the themes as some of the other measures and school type is not a granular measure. However, when collected alongside other measures it will help give a well rounded picture of an individual's socio-economic background.

Criteria	Evidence	RAG rating
Likely to elicit response/ Clarity of the measure	This measure had a very high completion rate, is easy to understand and to collect. It may be considered less intrusive than other measures, as individuals often have to provide information on their educational background as part of job applications. However, some respondents felt that their parents had worked hard and made sacrifices to pay for their education. They worried that independently educated individuals may be disadvantaged in selection processes in future were this measure to be used, possibly impacting future response rates.	
Accessibility	This would be easy to collect and analyse.	
Comparability/Longevity of the measure	Information on the school population is published regularly and time series data are readily available, enabling easy benchmarking. School type is likely to continue to be available and relevant in the future. However the prevalence of different school types has changed over time, which could complicate analysis of different age groups.	
Accurate measure of advantage / disadvantage	Secondary school is a good measure of advantage. It is a weaker measure of disadvantage, as state schools encompass over 90% of the school population. This means that employers will not be able to distinguish between stronger and weaker performing state schools. Using secondary school as a binary variable (state school educated vs not state school educated) was not found to have as strong an association with other measures from the pilot as using the full range of categories.	

Free school meals eligibility

Receipt of free school meals is a common measure of disadvantage, because eligibility criteria are narrow. Eligibility was used, instead of whether respondents had actually received free school meals, as there is a gap between the number of those who receive them and the number who are eligible for them[16].

Rationale for inclusion in the pilot:
This had the **joint sixth highest ranking** in the engagement exercise and is a standard measure used to illustrate disadvantage.

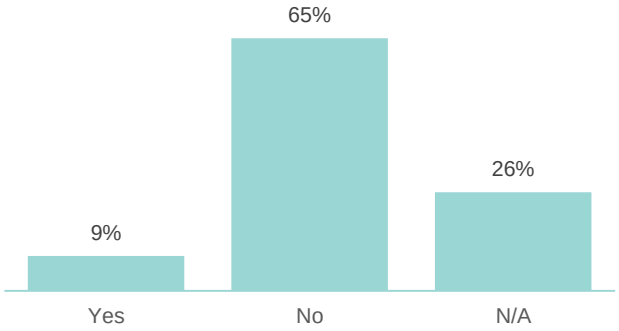
Headline findings from the pilot and other surveys:
12% of respondents were eligible for free school meals as a child (excluding responses of 'not applicable'), broadly consistent with other surveys of the SCS[1].

Issues with the data:
Prior to 1980 there was universal entitlement to free school meals[17] and there have been various policy changes over time, making comparison across generations challenging. This is exemplified by the fact that 26% of respondents stated that this question was not applicable, suggesting that this is not a useful measure for the workforce as a whole, and may be more appropriate for recent recruits or younger workforces. There are also known issues with this measure in relation to both disclosure and awareness of eligibilty.

Average score from the engagement exercise

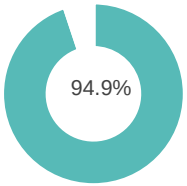
3.4

Findings from the SCS Survey: Free school meals eligibility

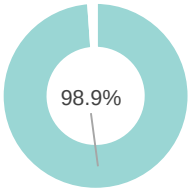


Free school meals eligibility

SCS pilot completion rate



SCS respondents who didn't have difficulty answering



Recommend to be considered for use. Given the narrow set of criteria required to be eligible for free school meals, this will allow measurement of disadvantage for younger Civil Servants. It will be particularly relevant for the Fast Stream and Fast Track programmes. Due to eligibility changes over time, some employers may wish to not collect this if a large enough proportion of staff were at school after 1980. This should be analysed alongside data on age.

Criteria	Evidence	RAG rating
Likely to elicit response/ clarity of the measure	Around 95% of respondents answered this question and few had difficulty with it. However some did not know whether they were eligible for free school meals when at school and there can also be a stigma around free school meals (analysis by the Department for Education in 2012 showed that 14% of pupils eligible for free school meals were not claiming them)[15]. Additionally, this question was not applicable to around one quarter of respondents, many of whom finished school prior to 1980[16]. Therefore this may not be such a useful measure for the existing workforce as it is not relevant to older staff.	
Accessibility	This would be easy to collect and analyse.	
Comparability/Longevity of the measure	Any data collected on receipt of free school meals could be compared to wider DfE figures on receipt, with time series data available since 2001[16]. This policy was first introduced for low income households only in 1980 and further policy changes could have an impact on the proportion of pupils in receipt of free school meals, meaning that this may not be applicable to future workforce intakes.	
Accurate measure of advantage / disadvantage	As a binary measure, eligibility for free school meals does not distinguish between those who are from very low income families, nor does it show the difference in income among those who do not receive free school meals. Moreover, eligibility criteria has changed over time, making comparison difficult. Nonetheless, it has been identified as a potential replacement measure for Teach First in their measurement of educational disadvantage[17].	

Housing tenure

Housing tenure during childhood is measured by the type of accommodation that individuals lived in at age 14. In the SCS pilot survey, the main categories were owned outright, owned with a mortgage, rented and social housing. Previous research has found that there is a link between housing tenure during childhood and outcomes in life. It can also be used as a high level proxy for parental income[19].

Rationale for inclusion in the pilot:
This scored lower than many of the other measures in the pilot, but was considered highly suitable in a joint response by academics.

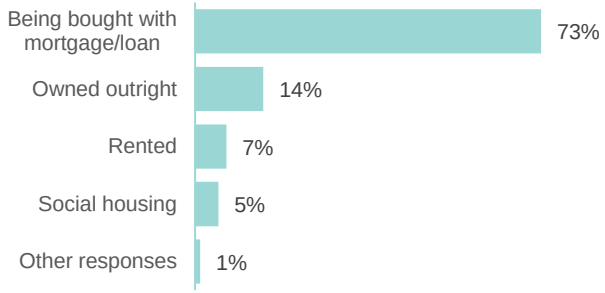
Headline findings from the pilot and other surveys:
Around 5% of the SCS were in social housing at the age of 14. This compares to around 17% of the population currently in rented social housing, which rises to 20% for those who have dependent children[19].

Issues with the data:
There are few usability issues with this data. However providing an open text field (for those who selected 'other' housing type where they felt that the categories did not reflect their circumstances) meant data cleansing would have to be built in prior to analysis. This would likely place more burden on employers wishing to collect this data.

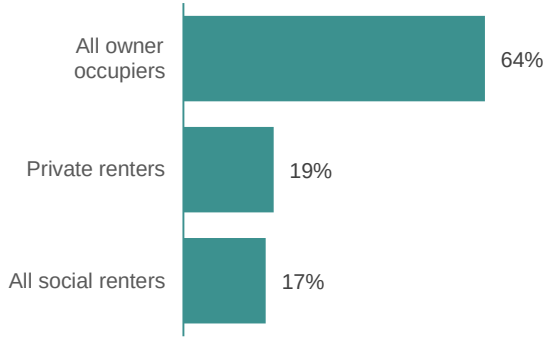
Average score from the engagement exercise

2.8

Findings from the SCS survey: Housing tenure at age 14

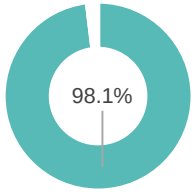


Housing tenure at age 14 (overall UK population)[20]

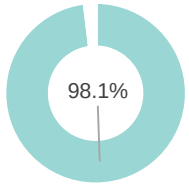


Housing tenure

SCS pilot completion rate



SCS respondents who didn't have difficulty answering



Do not recommend to be used. This was not as strongly associated with the themes found within the factor analysis as other questions, and overlaps with other measures that can be used in place of it. Additionally, some respondents did not know their housing tenure during childhood. Nonetheless, given that research has found that there is a link between housing type and future attainment, some organisations may still wish to collect this.

Criteria	Evidence	RAG rating
Likely to elicit response/ Clarity of the measure	The completion rate for housing tenure was quite high, with 98% of respondents providing an answer to the question and the same proportion having no difficulty with the question. Of those who did have difficulty, some did not know what type of housing they lived in.	
Accessibility	This measure would be easily understood by employers and employees and would be relatively simple to analyse. However, due to the variety of different housing circumstances, inclusion of free text fields for 'other' housing types could make interpretation and cleansing of the data labour intensive.	
Comparability/Longevity of the measure	This would be easy to compare across employers and population wide data exists through regular publications by the Department for Communities and Local Government. However there are wide variations across different areas and over time: the number of households privately renting has more than doubled since 1980, whilst the number that are in social housing has seen a fall of almost 30%, causing difficulty in understanding changes in circumstances over time[20].	
Accurate measure of advantage / disadvantage	There is evidence that housing tenure during childhood is correlated with later outcomes in life[18]. Moreover, individual's likelihood of home ownership is linked to whether their parents owned a home[19]. This measure was shown to be relatively strongly associated with one of the themes identified by the factor analysis of pilot data, although other questions had a stronger association with this. However, it overlaps with other measures, which could be used in its place. In future, this measure could be difficult to interpret due to changes in the type of housing that people are occupying over time, and the large variations by region.	

Secondary school name

As part of the pilot we asked for the names of respondents' secondary schools at ages 11-16 and 17-18. These can be linked to data on the schools' performance.

A wide variety of datasets, such as Department for Education's destinations data, demonstrate how educational experience is linked to life outcomes and career progression[14].

Rationale for inclusion in the pilot:
Although this did not receive a particularly high ranking in the engagement exercise, it was designated as highly suitable in a joint response to the engagement exercise by a group of academics. It has also been collected as part of the Fast Stream application process and could be linked to schools' data on recent graduates.

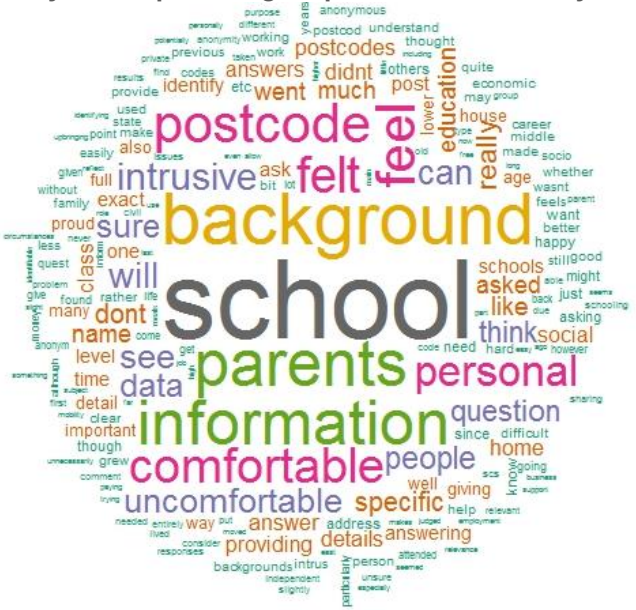
Headline findings from the pilot and other surveys:
Many respondents did not see the need to collect this information and felt it was too difficult to recall the exact name or was too intrusive. This is demonstrated by analysis of open text questions. School was one of the most frequently used words in each. We have not linked up to historical data, but recent data on schools' "value added" show that 37% of the SCS went to a school currently ranked as being in the top 25% of schools*.

Issues with the data:
Whilst there are datasets of current school performance readily available, linking to historical data series is challenging. In addition, in order to ensure an accurate reflection of school performance, each respondent's age would be required.
A straightforward matching linked to under 50% of schools. This implies that this measure may create significant burden on employers if it were to be used.

Average score from the engagement exercise

Findings from the SCS Survey: Respondents with schools in value added lowest/highest quartiles

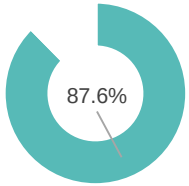
Findings from the SCS survey: How comfortable did you feel providing responses to the survey?



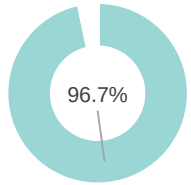
* Based on a sample of around a third of respondents.

Secondary school name

SCS pilot completion rate



SCS respondents who didn't have difficulty answering



Do not recommend to use. Due to the burden this measure would place on employers when analysing data and the intrusiveness felt by some respondents to this question, we recommend not using this measure. It may, however, be more relevant to new graduate intakes, but given that this would likely have to be an open text field, analysing this data this may create substantial burden on employers.

Criteria	Evidence	RAG rating
Likely to elicit response/ clarity of the measure	88% of respondents provided a response to this question, lower than other metrics captured. Additionally, many did not see why this was relevant, could not recall the name of their school or felt that this was an intrusive question.	
Accessibility	Datasets on value added of different schools exist back to 2010 so it should be possible to link up data for recent graduates. However, it is not easy to link to historic data, and fewer than half of respondents' school names were linked to current data. Even if a historical dataset was compiled, any responses would likely have to be free text given the various changes to school names, which would make any analysis of data very challenging. This suggests that school name would not be usable for existing staff without incurring large costs.	
Comparability/Longevity of the measure	School performance can change significantly over time, meaning that a historical dataset would need to be established for this to be usable and linked to an individual's background in a robust manner. Should one exist, it would still be difficult to benchmark against eligible candidate pools or apply to an existing workforce. The focus of school performance is linked to education policy so the measures currently used such as 'value added' may not be historically relevant.	
Accurate measure of advantage / disadvantage	Value added did not strongly categorise with other measures as part of the factor analysis, suggesting that there was a separate theme in the dataset without clear meaning, and therefore may not be that beneficial to collect for the existing workforce. Much more detailed work would be required to understand this better.	

Time in care, carer as a child, and refugee / asylum status

These three questions ask whether an individual was in care as a child, whether they were a registered carer as a child, or whether they had refugee or asylum status as a child. Given the low proportion of the population to which these measures may apply[21,22], they could be considered measures of extreme deprivation.

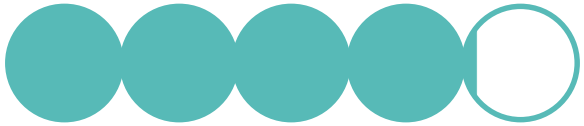
Rationale for inclusion in the pilot:
These three measures received the **highest rankings** of the original 26 that were consulted on.

Headline findings from the pilot and other surveys:
Less than 1 percent of the SCS either lived in care, have ever had refugee or asylum status, or were a registered carer as a child, on a par with the wider population[21,22].

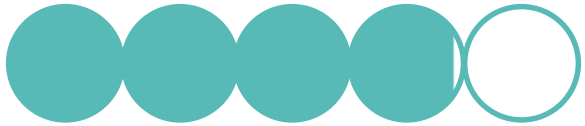
Issues with the data:
There were few usability issues with the data. Each had very high completion rates. Given the small number that these categories apply to, smaller workforces could have issues with disclosure and the reporting of small numbers.

Average score from the engagement exercise

4.1 Time spent in care

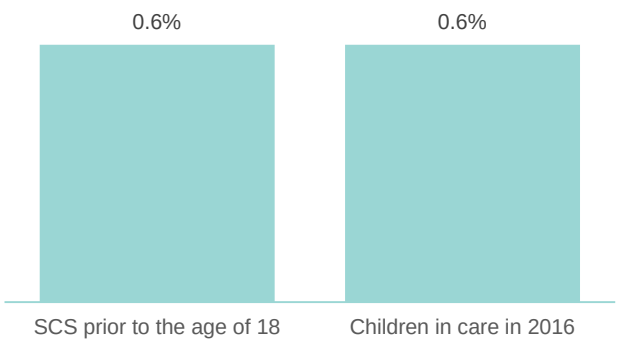


3.9 Carer as a child

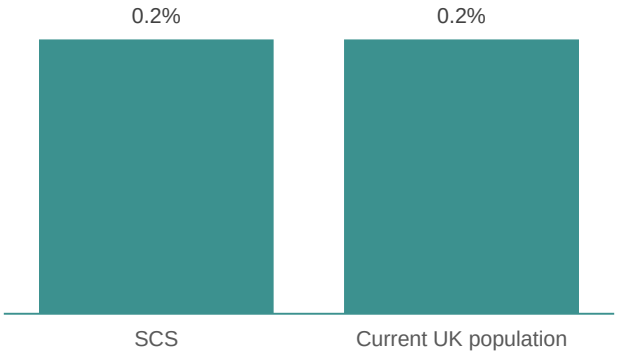


3.9 Ever had refugee/asylum status

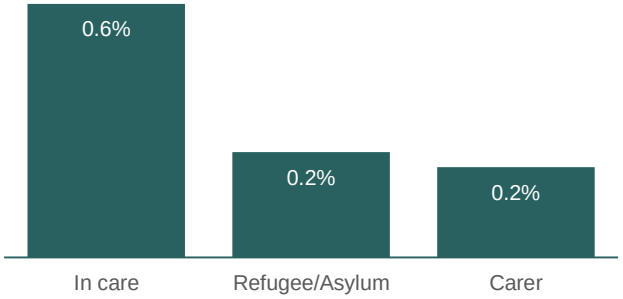
Proportion in care



Proportion refugees/asylum seekers

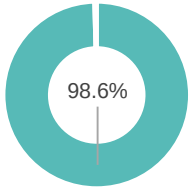


Findings from SCS survey

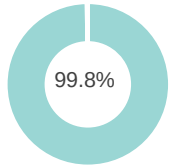


Time in care, carer as a child, and refugee status

SCS pilot completion rate (question with lowest response)



SCS respondents who didn't have difficulty answering (hardest question)



Do not recommend to be used. Whilst these may be accurate ways of measuring disadvantage, given the narrow subset of the population that these measures apply to, we do not recommend their use.

Criteria	Evidence	RAG rating
Likely to elicit response/ Clarity of the measure	Each of the three questions had a very high response rate and they are easy to understand, although being a registered carer could be misinterpreted as being a parent. There were concerns raised during the engagement exercise that these were highly sensitive measures which would lead to a poor completion rate. This was not seen in the SCS pilot, possibly as so few people answered yes to one of the questions.	
Accessibility	This would be easy for employers to both collect and analyse. However, given the small proportion of the population that these measures are applicable to[21,22], employers may find this difficult to use as one of their measures.	
Comparability/Longevity of the measure	Whilst there is little data on eligible candidate populations, any figures could be compared against the total proportion of children in care or the number of refugees or asylum seekers in the country. These metrics are likely to be applicable in future, but trends and context could change over time; for example, the number of children in care has increased by 5% from 2012 to 2016[22].	
Accurate measure of advantage / disadvantage	Findings from the engagement exercise suggested that these measures would apply to only a very small number of people, which was borne out in the SCS pilot: less than 1% of the respondents responded positively to any of the questions. Refugees represent around 0.2% of the UK population[22] and just 0.6% of English children are in care[22]. Whilst these measures are likely to correlate strongly with disadvantage, it may be too narrow a measure to use.	

Measures tested in the engagement exercise and wording of measures used in SCS pilot survey

List of questions on longlist

An online engagement exercise was conducted in summer 2016 to consider a longlist of 26 measures.

The 43 individuals and organisations who responded were asked to rate each measure from 1 (not at all suitable) to 5 (highly suitable). Average scores are given in the table.

These scores were the main factor used to determine which measures should be piloted. More detailed reasons for the inclusion of each are given on that measure's page.

Measure (shortlisted measures in bold)	Average score
Whether time has been spent in care	4.1
Whether ever had refugee or asylum status	3.9
Whether was a carer	3.9
Type of secondary school attended (state, state selective, independent. If independent, whether over 75% of fees were a government assisted or funded via a bursary/scholarship)	3.5
Parental/guardian/carer completion of degree	3.5
Home postcode at age X	3.4
Respondent was eligible for free school meals	3.4
Highest parental/guardian/carer qualification	3.3
Respondent received free school meals	3.3
Parent/guardian/carer's occupation	3.3
Parents/guardian/carer eligible for income support	3.0
Type of primary school attended (state, state selective, independent) If independent, whether over 75% of fees were a government assisted or funded via a bursary/scholarship)	3.0
Name of school attended (primary, secondary and further education institution)	3.0
Parents/guardian/carer received income support	2.9
Level of university maintenance loan	2.8
Parent/guardian/carer unemployed for more than 6 months	2.8
Type of institution completed further education (age 16-18)	2.8
Closed self-assessment of socio-economic background	2.8
Housing tenure	2.8
Working during term time at university to support own living costs	2.7
Parental income or wealth	2.6
Proficiency in English (or language educated in)	2.4
Parent/guardian/carer's job title	2.3
Open self-assessment of socio-economic background	2.3
Access to Internet at home whilst at secondary school	2.0
Amenities such as central heating, facilities shared with other households and home possessions	1.8

Questions asked in SCS pilot survey

All members of the Senior Civil Service (SCS) were invited to participate in an online survey, where they were asked to provide answers on a set of 12 measures designed to assess socio-economic background.

The wording of each question is provided below, along with their numbering in the survey.

Survey questions on parental qualifications

Parental qualifications

Q14: What is the highest level of qualifications achieved by either of your parent(s) or guardian(s) by the time you were 18?

- Degree level or Degree equivalent or above (for example first or higher degrees, postgraduate diplomas, NVQ/SVQ level 4 or 5, etc)
- Qualifications below degree level (for example an A-level, SCE Higher, GCSE, O-level, SCE Standard/Ordinary, NVQ/SVQ, BTEC, etc)
- No qualifications
- Do not know or cannot remember
- Prefer not to say
- Not applicable

Parental degree

Q13: Had any of your parent(s) or guardian(s) completed a university degree course or equivalent (eg, BA, BSc or higher) by the time you were 18?

- Yes
- No
- I don’t know
- Prefer not to say

Survey questions on parental occupation

The socio-economic background survey used the ONS's self-coded method for calculating socio-economic status against their National Statistics Socio-Economic Classification scheme (NS-SEC).

The NS-SEC self coding system requires answers to the following question areas: employment status, size of employer, supervisory status and occupation.

Parent/guardian/carer occupation

Q17: Thinking back to when you were aged about 14, which best describes the sort of work the main/highest income earner in your household did in their main job?

- Modern professional occupations such as: teacher/lecturer, nurse, physiotherapist, social worker, welfare officer, artist, musician, police officer (sergeant or above), software designer
- Clerical and intermediate occupations such as: secretary, personal assistant, clerical worker, office clerk, call centre agent, nursing auxiliary, nursery nurse
- Senior managers and administrators usually responsible for planning, organising and co-ordinating work and for finance such as: finance manager, chief executive
- Technical and craft occupations such as: motor mechanic, fitter, inspector, plumber, printer, tool maker, electrician, gardener, train driver
- Semi-routine manual and service occupations such as: postal worker, machine operative, security guard, caretaker, farm worker, catering assistant, receptionist, sales assistant
- Routine manual and service occupations such as: HGV driver, van driver, cleaner, porter, packer, sewing machinist, messenger, labourer, waiter/waitress, bar staff
- Middle or junior managers such as: office manager, retail manager, bank manager, restaurant manager, warehouse manager, publican
- Traditional professional occupations such as: accountant, solicitor, medical practitioner, scientist, civil/mechanical engineer
- Long term unemployed (claimed Jobseeker's Allowance or earlier unemployment benefit for more than a year)
- Retired
- Don't know
- Not applicable (e.g. grew up in care)
- Prefer not to say

Employment status

Q18: Thinking back to when you were aged about 14, did the main/highest income earner in your household work as an employee or self-employed?

- Employee
- Self-employed with employees
- Self-employed/freelancer without employees
- Not working

Size of employer

Q19: If the highest income earner in your household was employed when you were aged 14, how many worked for their employer? If they were self-employed and employed other people, how many people did they employ?

- 1-24
- 25 or more

Supervisory status

Q20: If the highest income earner in your household was employed when you were aged 14, did they supervise any other employees? A supervisor is responsible for overseeing the work of other employees on a day-to-day basis

- Yes
- No

Survey questions on school type, school name and free school meals eligibility

Name of school attended

Q10: In which school did you spend most of your education aged 11 to 16? If you attended school outside of the UK please select this option in the question on type of secondary school.

Type of secondary school attended

Q11: What type of school did you mainly attend between the ages of 11 and 16?

- A state-run or state-funded school that was non-selective (e.g. a comprehensive, secondary modern, Scottish High School/ Secondary School/Academy)
- A state run or funded school that selected on the basis of academic ability, faith or other grounds
- An Independent or fee-paying school but your fees were paid in part or full by a bursary.
- An independent school, and your fees were not paid in part by a bursary
- Attended school outside of the UK
- Prefer not to say

Further education establishment name

Q12: In which school/college did you spend most of your education aged 17 to 18?

Whether respondent was eligible for free school meals

Q16: If you finished school after 1980, were you eligible for Free School Meals at any point during your school years?
Free School Meals are a statutory benefit available to school- aged children from families who receive other qualifying benefits and who have been through the relevant registration process. It does not include those who receive meals at school through other means (e.g. boarding school)

- Yes
- No
- Don’t know
- Prefer not to say
- Not applicable

Survey questions on home postcode and tenure of their home

Home postcode

Q15: What was the postcode of the house you grew up in at age 14?
If time was split between households, please put the household where you spent the majority of your time.
Please enter postcode in the following format SW1 6AA

Tenure of house

Q21: What was the tenure of the house you lived in at age 14? (If you split your time between houses, please answer for the house where you spent the majority of your time)

- Owned outright
- Being bought with mortgage or loan
- Partly owned through shared ownership
- Rented
- Belonging to extended family (e.g. grandparents)
- Social housing
- Squatting (please note that no action will be taken as a result of answering squatting to this survey)
- Homeless
- Don't know
- Prefer not to say

Survey questions on carer, in care and refugee status

Time spent in care

Q7: Prior to the age of 18, did you spend time living in care?

- Yes
- No
- Prefer not to say

Registered carer

Q9: Prior to the age of 18, were you a registered carer?

- Yes
- No
- Prefer not to say

Refugee or Asylum status

Q8: Have you ever had refugee or asylum status?

- Yes
- No
- Prefer not to say

Survey questions on self-assessment of socio-economic background

Self Assessment – survey question

Q24: Do you consider yourself to be from a lower socio-economic background?

- Yes
- No
- Don't know
- Prefer not to say

Self Assessment – as recommended for collection in the Civil Service

Compared to people in general, would you describe yourself as coming from a lower socio-economic background?

- Yes
- No
- Don't know
- Prefer not to say

More detail and sources

Background and issues in interpreting pilot survey results

About the survey

Cabinet Office ran a survey for all substantive (excluding those on temporary promotion) Senior Civil Service (SCS) level staff from 15 August to 16 September 2016. This survey asked some general demographic questions as well as 12 questions related to respondent's socio-economic background. The survey received 2,896 responses from SCS level staff, a response rate of almost 70%.

Factor Analysis

Factor analysis was used to understand potential groupings within the data. Factor analysis is a statistical technique that can group questions into themes and explores the structural relationship between them and underlying aspects called factors. This allows us to see which questions within a group are dominant in determining the theme.

Issues in measuring socio-economic background and interpreting the results of questions used

Two of the questions ask about home postcodes and school name when they were aged 14. The answers to these questions in themselves say nothing about the respondents' backgrounds, and require linking to other datasets in order to be used in a meaningful way. With respect to linking of home postcode, local measures of deprivation have existed since the 1970s, which could be used to link to a respondent's home postcode at the age of 14, thereby enabling understanding of the relative deprivation of respondent's local area at the time.

As an alternative, we linked home postcode at age 14 of individual respondents to *current* area deprivation measures, using the underlying data from the English Indices of Deprivation. This measures relative levels of deprivation in 32,844 small areas or neighbourhoods, called "Lower-layer Super Output areas". These have an average population size of approximately 1,500 residents. This allowed us to see whether there was a link between area deprivation and other measures.

Similarly, we did not have access to an historic school database, so have instead used current characteristics of schools that are available as a preliminary step instead. We used school "value added", which measures whether pupils at that school, on average, made more or less progress than similar pupils nationally.

Given the above, a degree of caution is advised in interpretation of any outputs relating to home postcode or school name (in particular).

Caution should also be taken in interpreting results from the pilot, given that this was not a census and the fact that a number of questions asked people to recall information from when they were 14 years old about their own or their parents' circumstances (these may be pieces of information that individuals may never have known, may have forgotten, or may misremember).

This has particular implications for the coding of socio-economic classification which relies on answers to multiple questions to produce a classification – all questions generally need to be answered.

We also considered findings from some other organisations and analysis from other employers that have surveyed their staff, alongside considering some of the academic literature on this topic.

More detail on deriving NS-SEC

The National Statistics Socio-Economic Classification (NS-SEC) is a multi-layered classification scheme. In its most detailed form it has 17 different groups, but can be collapsed down to five and three category versions. The self-coded method uses the information from four questions to approximate an individual's position in the NS-SEC scheme.

The questions on employment status, employer size and supervisory status are used to derive an individual's overall employment position. This derived position variable is then combined with the question on occupation to identify which of the following five NS-SEC classes the individual belongs to:

- Higher managerial, administrative and professional occupations
- Intermediate occupations
- Small employers and own account workers
- Lower supervisory and technical occupations
- Semi-routine and routine occupations

An NS-SEC position can then be calculated for each of the respondent's highest earning parent, guardian or carer. If information is missing for one or more of the questions, then no NS-SEC position is calculated.

For the purpose of the analysis of the pilot survey, we generally used the reduced three-class NS-SEC scheme:

- Higher managerial, administrative and professional occupations
- Intermediate occupations ("Intermediate occupations" and "Small employers and own account workers")
- Routine and manual occupations ("Lower supervisory and technical occupations" and "Semi-routine and routine occupations")

The ONS advise caution when interpreting the three-class and that it should not be directly interpreted as a hierarchy like the older schemes of Social Grade and Social Class. The meaning of the "intermediate occupation" class is not the same as in older classification schemes because it includes the self-employed. Similarly "routine and manual occupations" class should not be considered to replicate the older distinction between "manual" and "non-manual" work, as "changes in the nature and structure of both industry and occupations have rendered this distinction outmoded and misleading".

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