

## The University of Manchester methodology behind the contextual data indicators

### Indicator 1: Social – Geo-demographic indicator of disadvantage and low progression to higher education (HE).

In order to provide a reliable indicator of disadvantage and low progression to HE, CACI ACORN data and HEFCE POLAR4 Low Participation Neighbourhood (LPN) data is used.

CACI ACORN provides the smallest granulation of analysis, on the full postcode with detailed descriptors for each type (ACORN reduces each postcode area to around 10-15 households rather than other systems that cover whole wards or 'super-output' areas). ACORN data consists of 6 categories, 18 groups and 62 types.

HEFCE POLAR4 data assigns all electoral wards into quintiles based on progression to HE. Those wards in the lowest quintile according to HE progression are classified as Low Participation Neighbourhoods.

Applicants with a home postcode that falls into either ACORN categories 4 and 5 (indicating the highest levels of disadvantage) OR within LPN wards (category 1) meet the geo-demographic indicator.

### Indicator 2: Experience of being looked after / in care prior to application.

Applicants who indicate on their UCAS form that they have been in care for more than three months prior to application receive an in care indicator.

### Indicator 3: Educational - Average School Performance at Level 2 (GCSE or equivalent).

Country	Data Source	Data
England	Department for Education (DfE)	Percentage of pupils achieving 5 or more GCSEs at grades A*-C including English and Mathematics compared to the national average* for England.
Wales	Welsh Government	Percentage of pupils achieving the level 2 threshold including English/Welsh and Mathematics compared to the national average* for Wales.
Scotland	Scottish Government	Percentage of leavers achieving 5 or more awards at SCQF level 5, 6 or 7 compared to the national average* for Scotland.
Northern Ireland	Department of Education Northern Ireland (DENI)	Percentage of pupils achieving 5 or more GCSEs at grades A*-C including English and Mathematics compared to the national average* for Northern Ireland.

### Indicator 4: Educational - Average School/College Performance at Level 3 (A level or equivalent).

Country	Data Source	Data
England	Department for Education (DfE)	Average point score per academic entry at level 3 compared to the national average for England*. Qualifications included in this data are A and AS levels, Extended Project, Cambridge Pre-U, IB.
Wales	Welsh Government	Percentage of pupils entering 2 or more A levels or equivalent and achieving the level 3 threshold compared to the national average* for Wales.
Scotland	Scottish Government	Percentage of leavers achieving one or more awards at SCQF level 7 compared to the national average* for Scotland.
Northern Ireland	Department of Education Northern Ireland (DENI)	Percentage of pupils achieving 3 or more A levels at grades A*-C compared to the national average* for Northern Ireland.

\*The national average is calculated internally based on the data available as opposed to the published national average

## **Aggregation of school/college performance data for two or more years**

In order to ensure that data for indicators 3 and 4 are valid and reliable, they are based on three years of data where available, standardised and aggregated for comparison purposes.

### **Standardising data**

Standardisation or normalisation is required before aggregating any data or indicators with different measurement units. Although within the different administrations of the UK, school/college performance data are likely to have the same measurement units, normalisation of this data is likely to:

- 'future-proof' any year-on-year changes in the methodology of producing the data e.g. changes in recognised qualifications, inclusion or exclusion of certain subjects
- enable the ability to compare or equate the school/college performance data for the different UK administrations, which are compiled using different indicators with different measurement units and scales.

### **Normalisation using z-scores**

A widely-used normalisation method is the use of z-scores. In statistics, a standard or z- score indicates how many standard deviations an observation is above or below the mean e.g. if a z score equals 3, the score is three standard deviations higher than the average score; if a z score is -2, the score is two standard deviations below the average score etc .

Z-scores are a commonly used statistical approach in research; they are also used to combine indicators in a range of university league tables. They reflect position or performance relative to some group (rather than relative to an absolute standard).

Calculation of the z-score is straightforward:  $z\text{-score} = (\text{actual value} - \text{mean of criterion}) / \text{standard deviation of criterion}$ .

### **Mean and Standard Deviation of school/college performance data**

It is not possible to replicate the published National average achievement and attainment data because:

- the average values that the agencies (e.g. DfE in England) publish at Local Authority and National level are from the aggregated raw pupil level data;
- decisions are made at agency-level about which schools to include/exclude in the national average calculations; this information is not always made available to us;
- the percentage values published are rounded to the nearest whole number.

The Mean and Standard Deviation are therefore calculated from the available data.

### **Presenting the aggregated school performance data**

Aggregated data is therefore presented as a z-score relative to the calculated Mean for the 2013 admissions cycle onwards. A national average for each country is calculated based on the data available and this is given its own z-score relative to individual schools.

Applicants who have attended a school whose calculated z-score falls below that of the calculated national average for their Level 2 or Level 3 education (as applicable) meet the educational indicator.

## **Complexities in the data**

Where comparative attainment data is not available or is unusually low, it has been inferred that this could be due to schools offering alternative qualification systems that are not comparable to national data sets. In such cases, the attainment data for that year is flagged as N/A (not applicable) in the University's system of analysis, and further research is undertaken where necessary.

Data collected from government agencies does not include independent schools in Scotland and Northern Ireland. These schools therefore cannot be given a flag and applicants will therefore receive a 'Missing' flag next to the relevant indicator.

Similarly, schools which have recently changed name or merged may be given a 'Missing' flag at the relevant level if no decision can be made on the school's performance at that level.

## **Further Information**

For further information on the University's use of contextual data, please refer to our website: [www.manchester.ac.uk/contextualdata](http://www.manchester.ac.uk/contextualdata)

If you have any further questions please email [contextualdata@manchester.ac.uk](mailto:contextualdata@manchester.ac.uk).