Learn Sheffield Insight Report: Outcomes

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This Insight Report has been produced in response to trails in the Sheffield Performance Analysis 2023. It seeks to respond to the three questions below:

o   *Setting outcomes in the Sheffield primary phase are above national, whilst pupil outcomes are below national. What causes this disparity and what, if any, are the implications of this?*

o   *What is the impact of Sheffield's more challenging context on attainment outcomes, and does this provide insight into the disparity between pupil and setting outcomes?*

o   *Which pupil characteristics are associated with lower attainment and what impact do they have?*

This paper is also, alongside the performance analysis, one of the supporting documents for the Learn Sheffield Independent Evaluation 2015-23, which can be found on the Learn Sheffield website: https://www.learnsheffield.co.uk/Projects/Learn-Sheffield-Evaluation.

Introduction:

- In terms of Ofsted judgements, Sheffield finished the 2021/22 school year above national (as measured by the % of all schools judged good or outstanding) for the first time. In 2022/23 this position further improved and Sheffield was 0.9% points above the national average at the end of September 2023.
- In contrast, attainment outcomes across the majority of headlines performance measures (with the exception of Key Stage 5) remain 2-4 % points below the national average.
- This Insight Report adds more in-depth analysis of attainment outcomes, with the aim of trying to understand:
    - o   Which pupil characteristics are associated with low attainment?
    - o   If Sheffield's outcomes are better or worse than expected given the context of the City?
- A better understanding of these two points helps to respond to the three questions posed at the start of this report.

Methodology:

- The approach taken in this report is to apply regression analysis to pupil and LA level data.
- At pupil level, regression analysis helps to isolate the impact of each pupil characteristic on attainment outcomes. For example, given two pupils, one of whom is eligible for free school meals and one who is not (but they are otherwise identical), regression analysis can be used to estimate the average difference in attainment related to being eligible for free school meals.
- Applying similar techniques to LA level data provides an estimate of whether Sheffield's performance is better or worse than other LAs with similar characteristics.
- In both cases there are a number of caveats and limitations to be aware of when interpreting the results:
    - o   We cannot assume that one thing causes another, i.e. we may find that pupils who are eligible for free school meals have lower attainment (all other things being equal) but we cannot conclude from this that being eligible for free school meals causes low attainment.

- o There are many factors that are likely to impact on educational attainment for which there is no data available (for example, parental engagement). The models used are not perfect and can never fully capture the relationship between pupil or LA characteristics and attainment.
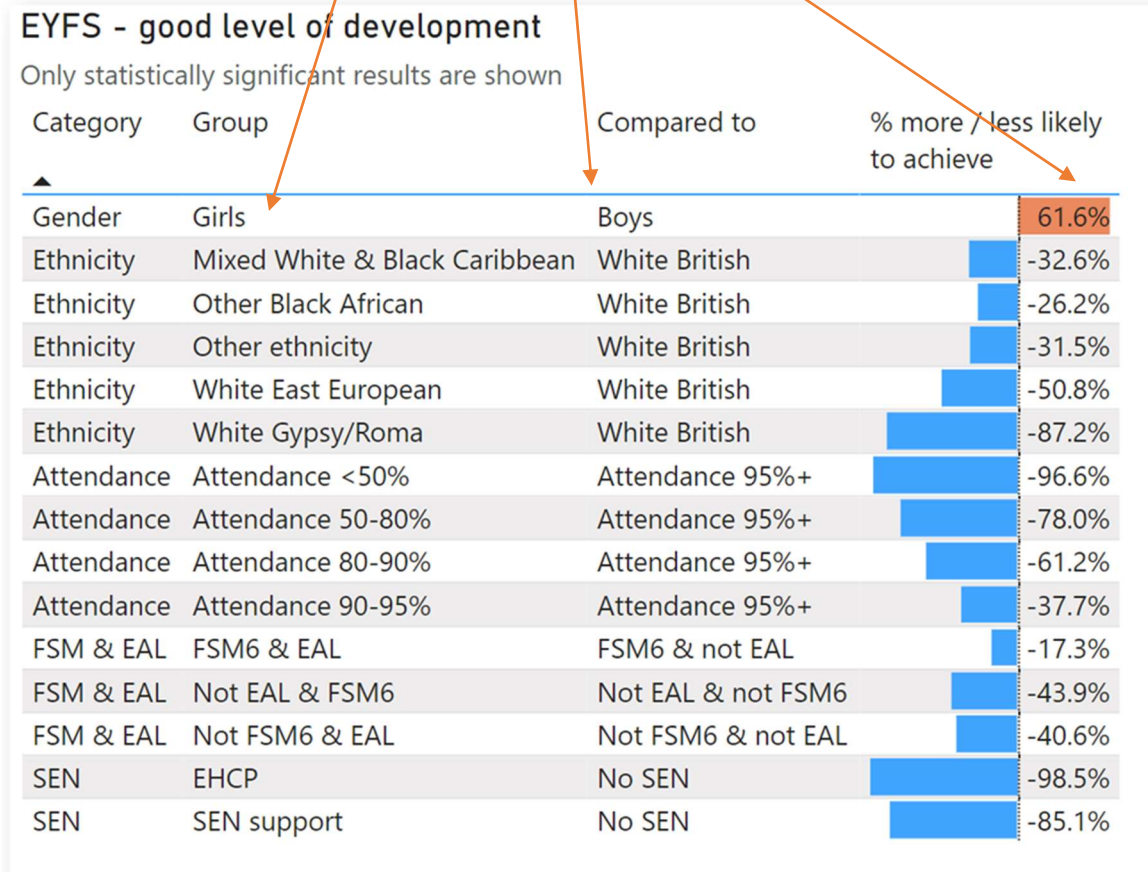

Modelling pupil level outcomes in Sheffield:

- This section presents the results of regression analysis (logistic regression models were used) for headline measures from Foundation Stage to Key Stage 4. The pupil characteristics that were included in the models are: gender; ethnicity; first language; special educational needs status; pupil premium eligibility (PP); ethnicity; attendance and prior attainment (where available).
- For each headline outcome results are presented in a table that shows the characteristics that are statistically significant (at the 95% level).
- For each pupil group the results can be interpreted as how more or less likely the group is to achieve the outcome compared to a pupil in the reference group (assuming all other pupil characteristics are the same). The reference group is shown in the column labelled 'Compared to' in each table of results. An example of how to interpret the results is presented on the next page.
- It was found that the relationship between first language and eligibility for the PP was slightly more complex. Essentially the impact of PP with English as a first language (EAL) is not the same as the impact of PP for pupils whose first language is not English. The results for these groups are slightly harder to interpret and so each table includes a note on interpreting the results for pupils with PP and EAL.

Results – Early Years Foundation Stage:

- Gender, ethnicity, attendance, PP, EAL and SEN status are all significant.
- Pupils in the 80-90% attendance band are 61% less likely to achieve a good level of development compared to pupils with 95%+ attendance.
- For pupils eligible for pupil premium (PP), EAL reduces the chance by 17%, the impact of EAL on pupils who are not eligible for PP increases to 41%.
- For pupils who are not EAL, being eligible for PP reduces their chance by 44%.
- For EAL pupils there is no significant impact of being eligible for PP.

The results here show that girls are 62% more likely to achieve a good level of development compared to boys (all other things being equal)

EYFS - good level of development
Only statistically significant results are shown

Category	Group	Compared to	% more / less likely to achieve
Gender	Girls	Boys	61.6%
Ethnicity	Mixed White & Black Caribbean	White British	-32.6%
Ethnicity	Other Black African	White British	-26.2%
Ethnicity	Other ethnicity	White British	-31.5%
Ethnicity	White East European	White British	-50.8%
Ethnicity	White Gypsy/Roma	White British	-87.2%
Attendance	Attendance <50%	Attendance 95%+	-96.6%
Attendance	Attendance 50-80%	Attendance 95%+	-78.0%
Attendance	Attendance 80-90%	Attendance 95%+	-61.2%
Attendance	Attendance 90-95%	Attendance 95%+	-37.7%
FSM & EAL	FSM6 & EAL	FSM6 & not EAL	-17.3%
FSM & EAL	Not EAL & FSM6	Not EAL & not FSM6	-43.9%
FSM & EAL	Not FSM6 & EAL	Not FSM6 & not EAL	-40.6%
SEN	EHCP	No SEN	-98.5%
SEN	SEN support	No SEN	-85.1%

Results – Y1 phonics:

- Ethnicity, attendance, PP, SEN status and prior attainment are all significant.
- Pupils in the 80-90% attendance band are 48% less likely to achieve a good level of development compared to pupils with 95%+ attendance.
- For pupils who are not EAL, being eligible for PP reduces their chance by 30%.
- EAL doesn't have a significant impact on attainment in Y1 phonics and PP is not significant for pupils with EAL.
- Each additional point at Foundation Stage improves the chances of achieving the expected level in Y1 phonics by 35%.

Y1 phonics - % working at the expected level

Only statistically significant results are shown

Category	Group	Compared to		% more / less likely to achieve
Ethnicity	Asian Other	White British		208.6%
Ethnicity	Bangladeshi	White British		150.2%
Ethnicity	Chinese	White British		442.9%
Ethnicity	Indian	White British		116.4%
Ethnicity	Other Black	White British		141.4%
Ethnicity	Other Black African	White British		93.6%
Ethnicity	Other ethnicity	White British		102.1%
Ethnicity	Pakistani	White British		42.7%
Ethnicity	White East European	White British		78.5%
Ethnicity	White Gypsy/Roma	White British		-63.9%
Attendance	Attendance <50%	Attendance 95%+		-84.7%
Attendance	Attendance 50-80%	Attendance 95%+		-67.6%
Attendance	Attendance 80-90%	Attendance 95%+		-48.3%
Attendance	Attendance 90-95%	Attendance 95%+		-20.5%
FSM & EAL	Not EAL & FSM6	Not EAL & not FSM6		-30.2%
SEN	SEN support	No SEN		-22.6%
Prior attainment	Each additional point in EYFS			35.3%

Results – Key Stage 1:

- Gender, ethnicity, attendance, PP, SEN status and prior attainment are all significant.
- Pupils in the 80-90% attendance band are 38% less likely to achieve a good level of development compared to pupils with 95%+ attendance.
- For pupils who are not EAL, being eligible for PP reduces their chance by 30%.
- EAL doesn't have a significant impact on attainment at KS1 and PP is not significant for pupils with EAL.
- Each additional point in Y1 phonics improves the chances of achieving the expected level at KS1 by 29%.

KS1 - % expected level in reading, writing & maths

Only statistically significant results are shown

Category	Group	Compared to	% more / less likely to achieve
Gender	Girls	Boys	19.7%
Ethnicity	Mixed White & Asian Other	White British	69.1%
Ethnicity	Mixed White & Black Caribbean	White British	-29.6%
Ethnicity	White Gypsy/Roma	White British	-73.2%
Ethnicity	Yemeni	White British	-47.2%
Attendance	Attendance 50-80%	Attendance 95%+	-66.7%
Attendance	Attendance 80-90%	Attendance 95%+	-38.2%
Attendance	Attendance 90-95%	Attendance 95%+	-18.8%
FSM & EAL	Not EAL & FSM6	Not EAL & not FSM6	-29.7%
SEN	EHCP	No SEN	-91.5%
SEN	SEN support	No SEN	-58.3%
Prior attainment	Each additional point in Y1 phonics		28.5%

Results – Key Stage 2:

- Ethnicity, attendance, PP, EAL, SEN status and prior attainment are all significant.
- Pupils in the 80-90% attendance band are 51% less likely to achieve a good level of development compared to pupils with 95%+ attendance.

KS2 - % expected in reading, writing & maths

Only statistically significant results are shown

Category	Group	Compared to	% more / less likely to achieve
Ethnicity	Other White	White British	195.7%
Ethnicity	Somali	White British	-53.8%
Ethnicity	White Gypsy/Roma	White British	130.7%
Ethnicity	Yemeni	White British	-39.6%
Attendance	Attendance 50-80%	Attendance 95%+	-75.7%
Attendance	Attendance 80-90%	Attendance 95%+	-50.8%
FSM & EAL	Not EAL & FSM6	Not EAL & not FSM6	-46.1%
FSM & EAL	Not FSM6 & EAL	Not FSM6 & not EAL	-32.0%
SEN	EHCP	No SEN	-87.3%
SEN	SEN support	No SEN	-62.2%
Prior attainment	Achieved expected level in RWM at KS1		661.3%
Prior attainment	Each additional point in Y1 phonics		7.0%

- For pupils who are not EAL, being eligible for PP reduces their chance by 46%.
- For pupils who are not eligible for PP, EAL reduces their chance by 32%.
- For EAL pupils there is no significant impact of being eligible for PP and for pupils eligible for PP, having EAL does not have a significant impact.
- Pupils who achieved the expected standard in reading, writing and maths at KS1 are 6 times more likely to achieve the expected standard in all subjects at KS2.

Results – Key Stage 4:

- Gender, ethnicity, attendance, PP, EAL, SEN status and prior attainment are all significant.
- Pupils in the 80-90% attendance band are 75% less likely to achieve a good level of development compared to pupils with 95%+ attendance.
- For pupils who are eligible for PP, EAL increases the chance of achieving by 18%
- For pupils who are not EAL, PP decreases the chance of achieving by 51%
- For EAL pupils there is no significant impact of being eligible for PP and for pupils not eligible for PP, having EAL does not have a significant impact.
- Each additional point at KS2 (reading and maths average scaled score) improves the chances of achieving a grade 4+ in English & maths by 11%.

KS4 - grade 4+ in English & maths
Only statistically significant results are shown

Category	Group	Compared to	% more / less likely to achieve
Gender	Girls	Boys	33.6%
Ethnicity	Indian	White British	774.9%
Ethnicity	Mixed White & Black African	White British	95.8%
Ethnicity	Mixed White & Black Caribbean	White British	-35.1%
Ethnicity	Other White	White British	125.7%
Ethnicity	White Gypsy/Roma	White British	-80.5%
Attendance	Attendance <50%	Attendance 95%+	-97.4%
Attendance	Attendance 50-80%	Attendance 95%+	-91.5%
Attendance	Attendance 80-90%	Attendance 95%+	-74.7%
Attendance	Attendance 90-95%	Attendance 95%+	-47.2%
FSM & EAL	FSM6 & EAL	FSM6 & not EAL	17.6%
FSM & EAL	Not EAL & FSM6	Not EAL & not FSM6	-51.4%
SEN	SEN support	No SEN	-45.4%
Prior attainment	Each additional point in KS2 scaled score (reading & maths)		11.2%

Modelling pupil level outcomes – summary:

- Prior attainment and attendance are significant factors at every key stage (and things that can be influenced whereas pupil context is fixed).
- There are particular ethnic groups that often have low achievement even after taking into account other differences (Gypsy Roma, Mixed White & Black Caribbean).
- After taking account of context, the achievement of pupils with EAL and pupils from many BAME groups is similar to or better than that of White British pupils.
- Even though having EAL significantly reduces the chance of a child achieving a good level of development at Foundation Stage this impact disappears for the later outcome measures (once prior attainment is controlled for).
- The impact of attendance is stark. At each key stage a child in the 80-90% attendance band is around 40-75% less likely to achieve the headline outcome compared to a child with 95%+ attendance.

Modelling local authority level outcomes:

- To understand if Sheffield's outcomes are worse or better than expected given the context of the City, a model is run using LA level characteristics. This estimates if Sheffield's outcomes at LA level are better or worse than other LAs with similar characteristics.
- The LA level characteristics used in the model are: gender; ethnicity; FSM eligibility; SEN (EHCP and SEN support); EAL and attendance. At Foundation Stage term of birth is also included and, from Key Stage 1, a measure of prior attainment is also included in the model.
- The model is used to create a predicted outcome at each key stage based on local context. This is done by creating a model relating context to outcomes for all LAs.
- The predicted and actual result are compared. Some LAs will do better than expected and some will do worse. The difference between predicted and actual result is ranked so the top performing LA is ranked 1 (the LA that has the largest difference between predicted and actual where the actual result is better than the predicted result). This rank can be thought of as a 'contextualised' rank i.e. it tries to rank LAs based on performance by removing the impact of context.
- The table on the next page shows the results for Sheffield. It should be noted that the model does not explain all the variation in results between LAs as there are many factors that might impact on outcomes that cannot be modelled because there is no data (such as parental engagement for example).

Key Stage	2023 result	2023 predicted	Above / below predicted?	National rank	National contextualised rank
Foundation Stage (% GLD)	64.9	63.4	+1.5% points	117	39
Key Stage 1 (% expected in reading)	64.1	64.3	-0.2% points	136	83
Key Stage 1 (% expected in writing)	55.2	55.1	+0.1% points	139	76
Key Stage 1 (% expected in maths)	67.0	66.4	+0.6% points	136	55
Key Stage 2 (% expected in reading)	70.4	69.0	+1.4% points	123	27
Key Stage 2 (% expected in writing)	67.6	67.9	-0.3% points	139	88
Key Stage 2 (% expected in maths)	70.9	70.1	+0.8% points	117	47
Key Stage 4 (% grade 4+ in English & maths)	61.6	59.9	+1.6% points	111	38

Results – modelling local authority level outcomes:

- In all cases Sheffield's contextualised rank is better than the actual rank. This confirms that Sheffield's context impacts on performance and attainment outcomes would most likely be higher if Sheffield's contextual profile was closer to the national average.
- For two outcome measures (KS1 reading and KS2 writing), Sheffield's performance is slightly below the expected level given the City's context (contextualised rank is in the lower half of the distribution).
- For one outcome measures (KS1 writing), Sheffield's performance is in line with expectations (the contextualised rank in the middle of the distribution).
- For the remaining five outcomes (EYFS, KS1 & KS2 maths, KS2 reading & KS4 E&M) Sheffield's performance is better than expected.
- Overall, the analyses suggest that Sheffield's performance is in line or slightly better than expectations, given the City's context.

Summary of findings:

The analyses presented in the Insight Report inform a deeper understanding of the three questions posed at the start of the report:

- o *Setting outcomes in the Sheffield primary phase are above national, whilst pupil outcomes are below national. What causes this disparity and what, if any, are the implications of this?*

- o *What is the impact of Sheffield's more challenging context on attainment outcomes, and does this provide insight into the disparity between pupil and setting outcomes?*

o *Which pupil characteristics are associated with lower attainment and what impact do they have?*

- Modelling of LA outcomes confirms that Sheffield's context is more challenging than the national average and that this does impact on performance. Compared with other LAs with similar characteristics, Sheffield performs in line with or slightly better than expectations. Sheffield's average contextualised rank across 8 selected headline measures is 61 which is similar to the Ofsted rank (% of all schools judged good or outstanding), 73. This suggest that Sheffield's Ofsted judgements are in line with the City's performance.
- Modelling of attainment outcomes at pupil level show the significant impact that prior attainment and attendance has at every key stage. Further work is needed to understand why pupils from particular ethnic groups have lower attainment even after controlling for other differences such as prior attainment and attendance.
- Pupil group data in the Sheffield Performance Analysis highlights that EAL pupils tend to be a low attaining group at every key stage. These analyses show that after Foundation Stage EAL is not a significant factor once prior attainment is controlled for. This suggests that although EAL pupils tends to have lower starting points, they make good progress once in school. There may be significant potential to improve attainment for pupils with EAL by focussing on school readiness for this group.