

Understanding the experience of girls from disadvantaged backgrounds and girls with SEND in single-sex schools



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About ImpactEd

ImpactEd is a social enterprise that exists to improve pupil outcomes by addressing the evaluation deficit in education. We support schools and education organisations to evaluate their impact, learn from it, and prioritise what is working best to improve outcomes for young people.

ImpactEd is a winner of the 2018 Teach First Innovation Award and the 2020 Fair Education Alliance's Scaling Award, and was named a finalist for 'Supplier of the Year' in the Education Resources Awards. We partner with a number of the UK's leading school groups and education organisations to support high-quality monitoring and evaluation

How we work



Platform

We use our unique digital platform to make monitoring and evaluation easier and more effective, providing access to reliable measures of impact on both academic and non-academic outcomes, and automating data analysis.



Partnership

We provide a tailored support and training programme that helps partners identify what it is they are trying to improve, how they are trying to do it, and ways in which they might measure this. Our training and ongoing consultation builds staff capacity for research and evaluation.



Impact

Through this process we help our partners – both schools and education organisations – to identify where and how they can make the biggest difference for young people, and prioritise accordingly to achieve the greatest impact.

About The Girls' Schools Association (GSA)

GSA represent the Heads of a diverse range of UK girls' schools, among which are some of the top-performing schools in the UK. GSA undertakes research on behalf of the sector, particularly research that enhances our understanding of educating girls, helping to inform and influence the national education debate. GSA run programmes & events for girls, particularly in areas where girls are often underrepresented, such as STEM, finance & male dominated sports, as well as professional development courses for head teachers and school staff through a wide range of collaborative conferences and courses. GSA works closely with education organisations across the UK and internationally, in the interest of girls' education worldwide.

About this research project

Over the past few years, and particularly in the wake of the Covid-19 pandemic, several research projects have revealed that teenage girls can often have worse non-cognitive outcomes than their male peers. For example, research by Halldorsdottir et al. in Iceland revealed that the Covid-19 pandemic had a greater negative impact on girls on a wide variety of indicators of wellbeing and behavioural change, and their depressive symptoms were above the expected nationwide scores.¹ Further, ImpactEd's national research projects ([Lockdown Lessons](#) and our [Impact in Practice](#) series) continually show that, in England, female pupils have substantially lower levels of wellbeing and higher levels of anxiety than male pupils. Wellbeing differences due to gender were more than twice as large as those associated with disadvantage or Special Educational Needs or Disabilities (SEND).²

In light of these findings, the Girls' Schools Association, in partnership with ImpactEd, sought to better understand outcomes for girls and how different educational environments can impact upon these outcomes. Thus, this research will investigate how outcomes for girls vary in single-sex and co-educational schools in England, with a particular focus on disadvantaged girls and girls with SEND.

It is hoped that this research will add to a growing evidence base that seeks to understand how different educational environments can impact on a child's development, happiness, and success at school.

¹ Halldorsdottir, T., Thorisdottir, I. E., Meyers, C. C. A., Asgeirsdottir, B. B., Kristjansson, A. L., Valdimarsdottir, H. B., Allegrante, J. P., & Sigfusdottir, I. D. (2021). Adolescent well-being amid the COVID-19 pandemic: Are girls struggling more than boys? *JCPP Advances*, e12027. <https://doi.org/10.1111/jcv2.12027>, p. 1

² ImpactEd (Autumn 2021), *Impact in Practice: Lessons from schools in support pupil learning and wellbeing*, https://drive.google.com/file/d/12vXwHb0eJwEwDnutTkxBm_2EnLAC-T8N/view, p.7

Executive Summary

This research goes some way to exploring how pupil outcomes can vary by their different educational contexts. In particular, this research focuses on how outcomes for girls in secondary schools in England vary depending on if they attend single-sex or co-educational schools, with a particular emphasis on girls with SEND and disadvantaged girls. It is important to note that there are limitations to this research project (which are outlined in the methodology section), so any findings should be interpreted with these limitations in mind.

This research reveals that, for the most part, the **difference in girls' social & emotional (S&E) outcomes at single-sex and co-educational schools is small**, with the largest difference observed across all pupils and all outcomes being 5.1% points in metacognition (often defined as 'learning to learn'). Looking in more detail at these results reveals that, on average, **disadvantaged girls and girls with SEND at single-sex schools had higher wellbeing, metacognition, and self-efficacy than disadvantaged girls and girls with SEND at co-educational schools**. Girls with SEND at single-sex schools also had higher motivation than girls with SEND at co-ed schools.

Further, **disadvantaged girls at single-sex schools had metacognition and wellbeing that was higher than their more advantaged peers at co-ed schools**. This was also the case for girls with SEND in metacognition; **girls with SEND at single-sex schools had higher metacognition than girls without SEND at co-educational schools**. This suggests that attending a single-sex school is associated with higher metacognition, particularly for disadvantaged girls and girls with SEND. Qualitative analysis revealed that **girls at girls' schools reflected positively on the academic support available at school, particularly for those pupils that need extra and specialist support**. Pupils' thought that their schools offered a **wide-range of learning styles** to suit different needs.

Single-sex or co-educational schools appear to have a limited association with girls' self-efficacy and motivation, with small differences seen between girls at the two types of schools, overall. However, the **single-sex environment appears to be associated with higher self-efficacy for disadvantaged girls, and higher motivation for girls with SEND**.

Whilst girls in single-sex schools on average had higher anxiety than their peers in co-educational schools, the gap in anxiety levels for disadvantaged girls and their more advantaged peers at single-sex schools was minimal, **suggesting that it is not socio-economic factors that are causing increased anxiety at single-sex schools**. At both single-sex and co-educational schools, girls with SEND had higher anxiety than their non-SEND peers. There was a **larger difference at single-sex schools in anxiety levels between girls with and without SEND, than at co-educational schools**. In the qualitative research, girls reflected on academic pressures that could be contributing to this higher anxiety. Girls also seemed to be quite attuned to societal inequalities and worried about mixing with boys once they had left the single-sex environment.

Thus, this research has shown that, whilst there appears to be only slight differences in social & emotional outcomes for girls at single-sex and co-educational schools on average, there are clearer differences when taking into account socio-economic background and special educational needs. Qualitative research analysed by GSA reveals more about what could be contributing to these differences, including the higher metacognition and higher anxiety observed at girls' schools. To further develop this research, GSA may wish to investigate conducting further

qualitative research with girls at co-ed schools to get a better understanding of the changes observed between girls in single-sex and co-ed schools.

Key Findings

1 How do girls' outcomes differ in single-sex schools as compared with co-educational schools?

- Girls at single-sex schools, on average, had higher wellbeing, self-efficacy, motivation, and metacognition than their peers at co-educational schools.
- Conversely, girls at single-sex schools also had higher anxiety. As anxiety is an inversely scored measure, higher anxiety scores indicate more prevalent anxious thoughts and feelings.

2 How do outcomes for girls in single-sex and co-educational schools differ across the various subgroups of SEND and disadvantage?

- For the most part, single-sex or co-educational education seemed to have a limited association with girls' motivation and self-efficacy. However, data shows that there may be a link between the single-sex environment and increased self-efficacy for disadvantaged girls.
- There appears to be an association between single-sex education and increased metacognition scores, particularly for girls with SEND and disadvantaged girls. For both these groups, there was a difference of over 5% points between single-sex and co-educational schools.
- Trends by subgroup in both anxiety and wellbeing were similar at single-sex and co-educational schools. On average, girls at single-sex schools had higher wellbeing but also higher anxiety than girls at co-educational schools.

3 How do disadvantaged girls' outcomes differ in single-sex schools as compared with co-educational schools?

- Disadvantaged girls at single-sex schools had wellbeing that was 3.5% points higher than disadvantaged girls at co-educational schools.
- Whilst anxiety is overall higher at single-sex schools, the difference between disadvantaged girls and their more advantaged peers is minimal, suggesting that it is not socio-economic factors that are causing increased anxiety at single-sex schools.
- In contrast to girls at co-educational schools, disadvantaged girls at single-sex schools had higher self-efficacy than their more advantaged peers. Thus, attending a single-sex school was associated with higher self-efficacy for disadvantaged girls.
- Disadvantaged girls at single-sex schools had metacognition that was 4.0% points higher than their more advantaged peers at co-educational schools.

4

How do outcomes for girls with SEND differ in single-sex schools as compared with co-educational schools?

- Girls with SEND at single-sex schools had wellbeing that was 2.5% points higher girls with SEND at co-educational schools.
- Girls with SEND at single-sex schools had higher anxiety than their girls with SEND at co-educational schools. There were larger differences between girls with and without SEND's anxiety at single-sex schools than at co-educational schools.
- Data suggests that attending a single-sex school may be associated with increased metacognition and motivation for girls with SEND.
- This data suggests that single-sex or co-educational schools has a limited association with pupils' self-efficacy.

5

What does the qualitative data reveal about pupil's social & emotional outcomes at single-sex schools?

- Pupils reflected positively about the sense of community at a girls' schools and shared that they felt more understood by their peers.
- They noted that they would feel more pressure to look good at a co-ed school and noted how they believed boys would take more attention from teachers.
- Pupils, however, also reflected that they were worried about mixing with boys at university or in work.
- Pupils were generally positive about the wellbeing support available at their school, as well as the academic support that was available.
- The girls in the focus groups seemed to be attuned to societal inequalities, which appeared to be a source of their anxiety. They also reflected on academic pressure in their school, as well as worrying about mixing with boys further in life which could be contributing to the higher anxiety seen at girls' schools.



Methodology

Quantitative Research

Schools who took part in this research project were recruited by GSA. In total, 14 schools took part (7 state and 7 independent schools), and data focused only on pupils in year groups 7-13. When recruiting schools, a focus was placed on geographical diversity, so the participating schools come from various regions across England (2x East of England, 6x Greater London, 1x North East, 2x North West, 2x South West and 1x Yorkshire and the Humber). A focus was also put on recruiting schools of different sizes; the smallest school in this research project had 212 pupils on roll, whilst the largest school had 1,226 pupils.

To evaluate the outcomes of girls in single-sex schools, 5 social & emotional (S&E), outcomes were measured, using academically validated scales. These outcomes were: wellbeing, metacognition, motivation, self-efficacy, and anxiety. More details on the measures used are noted below. The sample size varies for each measure and subgroup and is noted below each graph.

Data for the S&E measures collected from GSA schools was compared with the ImpactEd national data set for the same measures. This national data set has been gathered from research projects conducted with a large number of ImpactEd partner schools across England since 2018. However, for this research, our comparison data set was restricted to only include secondary school female pupils.

Qualitative Research

To better understand the 'why,' 'how' and 'what' behind the quantitative data, focus groups were conducted by GSA and ImpactEd staff with girls at 5 schools in groups of 4-8. 3 of these schools were state schools and 2 were independent. A focus was put on speaking with girls of different age groups, and so focus groups were held with girls from KS3, KS4 and KS5. 3 regions were represented in these focus groups (Greater London, East of England and the North West), and school size varied from 606 pupils to 1,041 pupils.

These focus groups included pupils from a broad range of backgrounds, as well as pupils with SEND. In total, 12 focus groups were run, with 66 girls participating. Prompting questions were framed both positively and negatively (for example, 'What do you enjoy most about your school?' and 'What could your school do better to support your wellbeing?'), in order to leave room for the girls to speak openly, offer solutions and at times, critique their educational environments

The intention of these focus groups was to find out more about the 'why' behind the findings, although girls who were participating weren't told the findings of the quantitative research until the end of the focus group, to ensure that their answers weren't biased. Analysis of the focus groups has been conducted by GSA and noted in section 5 of this report.

Definitions

Disadvantage

Disadvantage is a complex term and has no uniformly agreed definition, as many factors can impact on a child's relative advantage in different ways. In this research, when we refer to 'disadvantage', we are specifically focussing on socio-economic disadvantage and will use the Income Deprivation Affecting Children Index (IDACI) as a proxy for this. IDACI measures the proportion of all children aged 0 to 15 living in income deprived families and is calculated by the UK government. The bottom 40% of postcodes according to IDACI are used to signify disadvantage in this research. In the graphs used in this report, disadvantaged pupils are noted as 'IDACI 1-4' whereas their peers are noted as 'IDACI 5-10.'

SEND

A child or young person has special educational needs and disabilities (SEND) if they have a learning difficulty and/or a disability that means they need special health and education support; this is usually shortened to SEND. For this research project, pupils' SEND status is taken from schools' management information systems.

Limitations

When analysing and interpreting this data, it is important to keep in mind the limitations of this project. Data at GSA schools was collected at only one time point, and so won't reflect any changes in pupils' S&E skills across the academic year.

Further, the two groups of schools that we are comparing (single-sex and co-educational) are not perfectly matched. For example, half of the single-sex schools are independent schools whilst a much smaller proportion of schools in the co-educational data set are independent schools. Thus, it is important to consider other factors that could be contributing to the differences seen in pupils in the two types of schools, such as styles of teaching, school-environment and class size.

Due to the focus groups only being conducted with girls at single-sex schools, it hasn't been possible to compare qualitative responses between the two different types of school.

It is important to note that this research project is not an experimental design or randomised control trial, and therefore there are some limitations to the robustness of the findings. Whilst other studies, such as randomised control trials, will be more robust, the methodology used in this research, closer to a controlled observational study, was chosen for multiple reasons. Primarily this is because it more accessible for schools and education organisations, both in terms of a lower financial cost and being less time intensive.

Data collection and analysis

How robust is the data at this stage?

For both single-sex and co-educational schools, there was a large sample size of data. Data from GSA schools was collected over September and early October 2022. Data from the co-educational schools was collected over a longer time period, with some data points going back to 2018. This ensures a large sample size to compare with, but also means the time periods aren't exactly the same. However, ImpactEd's national research has shown that pupils' outcomes have remained relatively stable over the past three-four years, even during periods of lockdown and home learning.³

Whilst exact numbers (which can be seen below each graph) of quantitative data vary by each measure, for wellbeing, the proportion of disadvantaged pupils was 26.4% at single-sex schools and 42.4% at co-educational schools. For SEND, the proportion was more similar; 9.0% of pupil who responded to the wellbeing measure at single-sex schools had SEND whilst this was the case for 12.9% of pupils at co-educational schools.

How was the data analysed?

Quantitative analysis

The following tests and statistical models were used to analyse the data:

- ◆ Unpaired mean comparison t-test (statistical significance)

A note on statistical significance

Statistical significance is the likelihood that a given difference in scores could be observed if the true underlying difference was actually really zero. For example: "Girls in single-sex schools have average wellbeing levels 5% points higher than girls in co-educational schools. Is this a genuine difference, or could this simply be chance or noise?"

In order to answer this question, we may want to know if a 5% increase is 'statistically significant'. In this report, when we have noted that a comparison between two different groups of pupils is statistically significant, that means that we believe there is a less than 5% chance that these differences in scores could be observed if the underlying difference was really zero. In the context

³ ImpactEd (February 2021), *Lockdown Lessons: Pupil learning and wellbeing during the Covid-19 pandemic*, <https://drive.google.com/file/d/19tcaSSfyzTXWjBlj8LsgtJM-frrfbXu/view>, p.12

of this report, significance testing is important because we are looking to use the findings to make claims about individuals outside of our sample.

Why statistical significance can be misleading in surveys

There are a range of reasons why statistical significance testing is potentially misleading when interpreting data from pupil surveys. Primarily, this is because statistical tests are very sensitive to sample size and don't help you understand the 'size' of differences (known as effect size). With larger pupil groups you will often find that almost any minor difference is statistically significant. The opposite occurs with smaller groups: larger differences may not reach technical significance levels. So, for large sample sizes everything is significant, and for small groups nothing is significant

When reading this report, it is important to keep this in mind, especially with a considerable sample size of respondents. Most results in this report have been tested to be statistically significant, but this could be caused by the large sample size and should not in and of itself be an indication of a meaningful finding.

Qualitative analysis

Qualitative analysis was conducted by GSA after focus groups were transcribed by AI transcription software. Analysis was completed by GSA committee members and has been split into themes (most of which largely follow themes raised in the quantitative research).

Social & Emotional Measures

Wellbeing

Wellbeing refers to a state in which individuals thrive and flourish, including contentment and overall sense of purpose as well as day-to-day happiness.

The measure of wellbeing used in this research project (WEMWBS) is a self-report scale designed to measure wellbeing in UK populations and has also been validated for use with school pupils (Clarke et al., 2011). Its items have high internal consistency, at above 0.7 (Clarke et al., 2011).

Metacognition

Metacognition means 'thinking about thinking': pupils' ability to think explicitly about their own learning (Flavell, 1979; Higgins et al., 2016). It is strongly associated with academic progress and improves other skills required for learning, such as critical thinking.

The measure of metacognition used (MSLQ) employs scales assessing cognitive strategy use and self-regulation. The scales have good psychometric properties, with the items in each scale correlating highly (above 0.7). The self-regulation scale is a strong predictor of school performance (Pintrich & De Groot, 1990).

Motivation

Motivation is what causes an individual to want to do one thing, and not another. Intrinsic motivation relates to pupils' inherent enjoyment or interest in a task and has positive effects on academic performance.

The measure of intrinsic motivation used in this research project (MSLQ) is a scale assessing intrinsic value and the perceived importance of schoolwork. The items are highly correlated with each other at 0.87, indicating high internal consistency.

Self-efficacy

Self-efficacy is a measure of pupils' belief in their ability to achieve a specific task in the future. Self-efficacy is correlated with higher academic achievement and persistence, and also contributes to pupil wellbeing.

The measure of self-efficacy used in this research project (MSLQ) has been tested in a large variety of settings. The items are highly correlated at 0.89, indicating high internal consistency. Pupils who have high levels of self-efficacy are also more likely to report using cognitive strategies and self-regulation (Pintrich & De Groot, 1990).

Anxiety

Anxiety is a feeling of worry or fear that is experienced as a combination of physical sensations, thoughts or feelings. Feelings of anxiety are associated with significant negative outcomes, including impaired academic, social and health functioning (Reardon & Spence, 2018).

The measure used in this research project (GAD-7), is a short scale of 7 items, which assesses the severity of generalised anxiety disorder. It has shown excellent internal consistency (Spitzer et al., 2006) and has been validated for primary care patients, the general population as well as with adolescents.

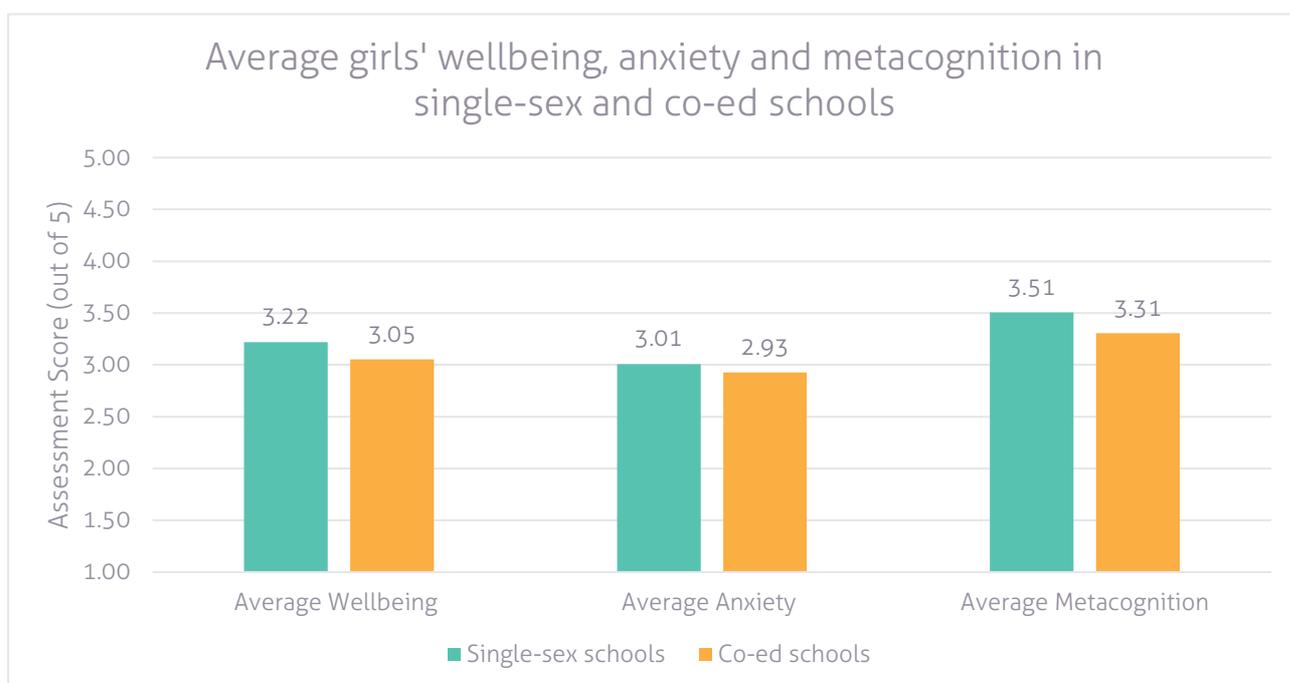


How do girls' outcomes differ in single-sex schools as compared with co-educational schools?

This section of the report will look at pupils' average responses to each one of the five social & emotional measures and investigate how this differs between single-sex and co-educational schools. As noted in the limitations section, the two groups in this research project (single-sex and co-educational schools) aren't perfectly matched, so it is important to consider other factors that could be impacting upon pupils' S&E skills. Nevertheless, this research can give some indicative suggestions on the impact of single-sex education on girls' S&E skills.

Wellbeing, anxiety, and metacognition are scored on a scale of 1-5 whilst motivation and self-efficacy are scored on a scale of 1-7, hence the separate graphs in this section.

Wellbeing, Anxiety and Metacognition



Sample Size: Wellbeing = 4,706 single-sex, 47,850 co-educational. Anxiety = 4,236 single-sex, 33,810 co-educational. Metacognition = 4,584 single-sex, 40,176 co-educational.

As can be seen in the graph above, on average, girls at single-sex schools had higher metacognition scores than girls at co-educational schools. This was a difference of 5.1% points, and this was statistically significant with a p-value of 0.00. This was the largest difference seen across all measures.

Overall, girls at single-sex schools had higher wellbeing than girls at co-educational schools. Wellbeing for girls at single-sex schools was 4.2% points higher than girls in co-educational schools and this finding is statistically significant with a p-value of 0.00.

Conversely, girls at single-sex schools also had higher anxiety than girls at co-educational schools. Anxiety is an inversely scored measure, such that higher anxiety scores indicate more prevalent anxious feelings. This was a smaller difference, with girls at single-sex schools having anxiety levels that were 2.0% points higher than girls at co-educational schools, although the result was also statistically significant, with a p-value of 0.00.

Anxiety is correlated to wellbeing, and so it could be assumed that where wellbeing is higher, we would expect anxiety to be lower. However, studies show that whilst the two measures are correlated it is possible that mental wellbeing, including feelings of happiness and a sense of purpose and belonging, can remain even in the presence of anxious thoughts and feelings.⁴ The researchers behind the wellbeing measure particularly note that wellbeing is much more than the absence of mental illness, noting that even those with a diagnosed mental illness can and do experience wellbeing.⁵

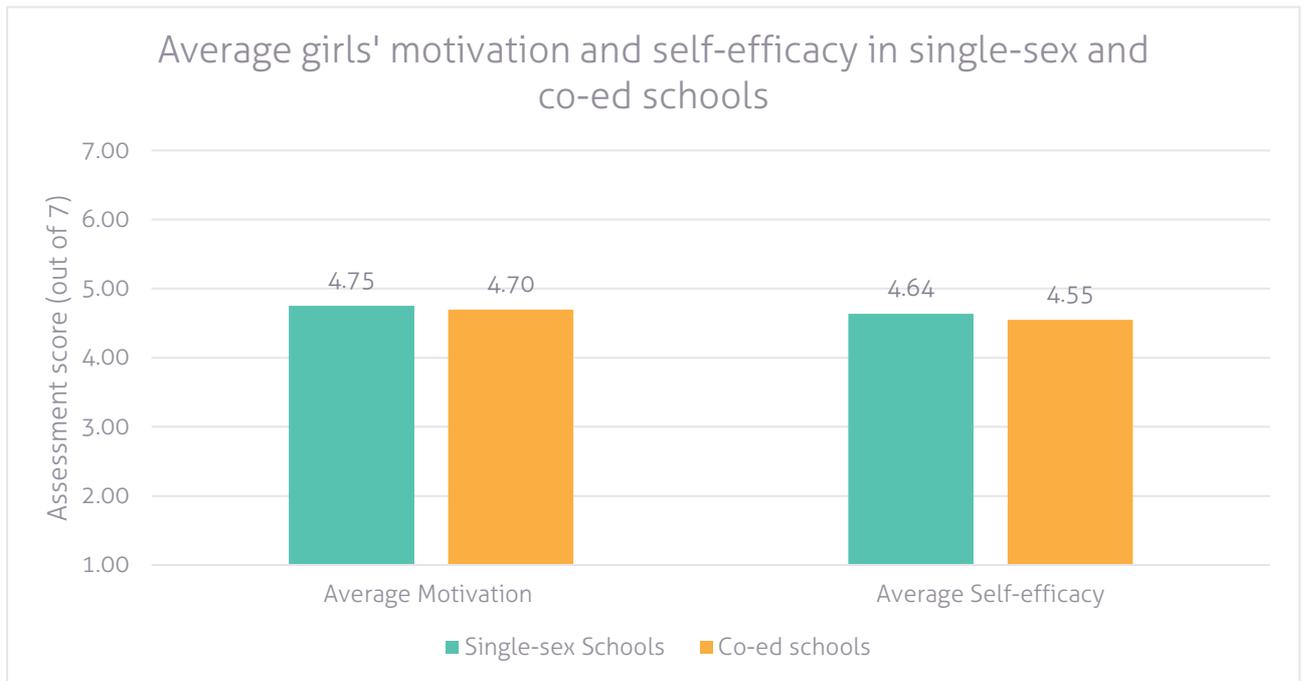
To better understand what could be causing the divergence between these two measures amongst girls in this research, GSA may wish to look at the questions asked in the two measures in more detail which could give some more details about pupils' thoughts and feelings. For example, the anxiety questions particularly focus on being worried, anxious, and restless. The wellbeing questions touch on being optimistic about the future, feeling close to others and feeling in control. Qualitative research has also been conducted to shed some light on what could be causing higher anxiety amongst GSA pupils – these qualitative findings are shared further in this report.

Motivation and Self-efficacy

Girls at single-sex schools also had higher motivation and self-efficacy than girls at co-educational schools, although these differences were smaller than the other three measures. For motivation, this was a difference of 1.0% points, whilst for self-efficacy this was a difference of 1.5% points. Both these results were statistically significant with a p-value of 0.00.

⁴ Scott Weich et al 'Mental well-being and mental illness: findings from the Adult Psychiatric Morbidity Survey for England 2007', *British Journal of Psychiatry* 92(11) 199, p.28

⁵ <https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/research/framework>



Sample Size: Motivation = 4,450 single-sex, 12,717 co-educational. Self-efficacy = 4,327 single-sex, 11,672 co-educational.

Key Findings

- ◆ Girls at single-sex schools, on average, had higher wellbeing, self-efficacy, motivation, and metacognition than girls at co-educational schools.
- ◆ Conversely, girls at single-sex schools also had higher anxiety. As anxiety is an inversely scored measure, higher anxiety scores indicate more prevalent anxious thoughts and feelings.

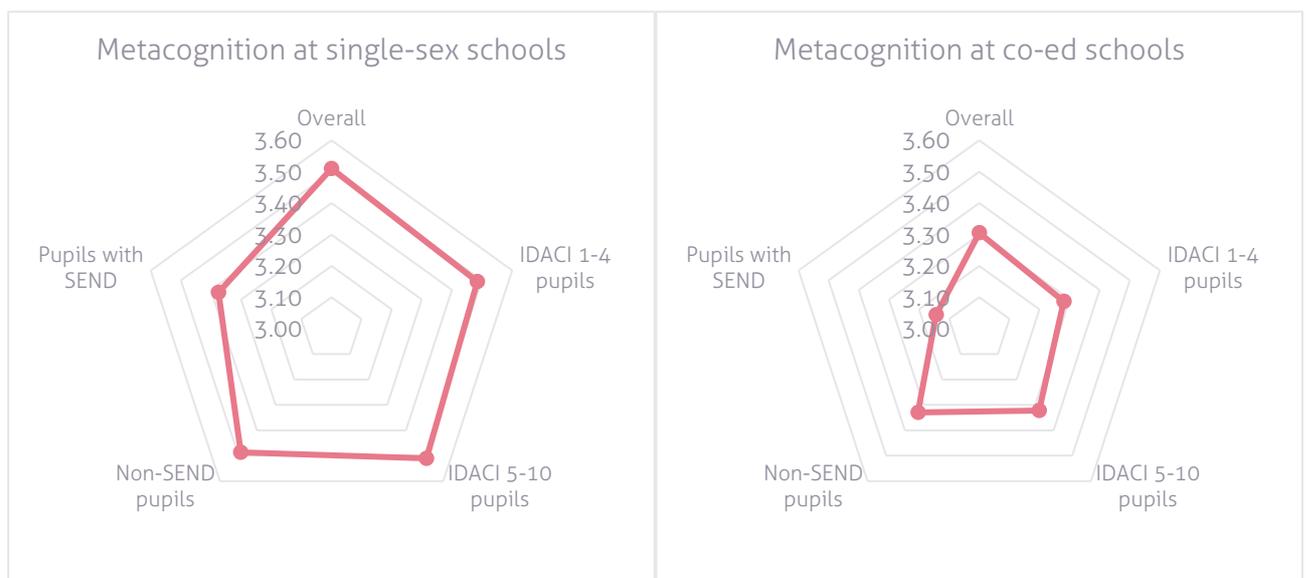
2

How do outcomes for girls in single-sex and co-educational schools differ across the various subgroups of SEND and disadvantage?

Below, we have a breakdown of each measure and how scores at single-sex and co-educational schools vary by the different subgroups.

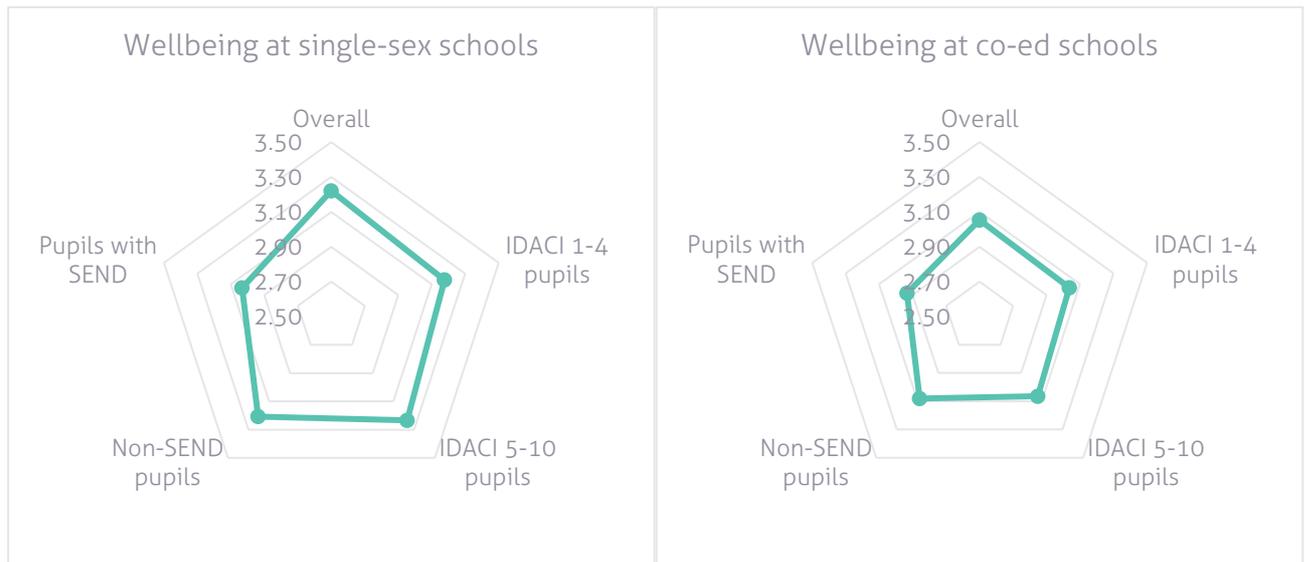
The spider diagram shows the average scores by subgroup on each point of the diagram. The closer to the centre the point, the lower the score. Where the diagram has a shape which closely matches the underlying pentagon, average scores by subgroup do not differ greatly. Where the spider graph has a spikey shape, there are more notable differences between subgroups.

Metacognition



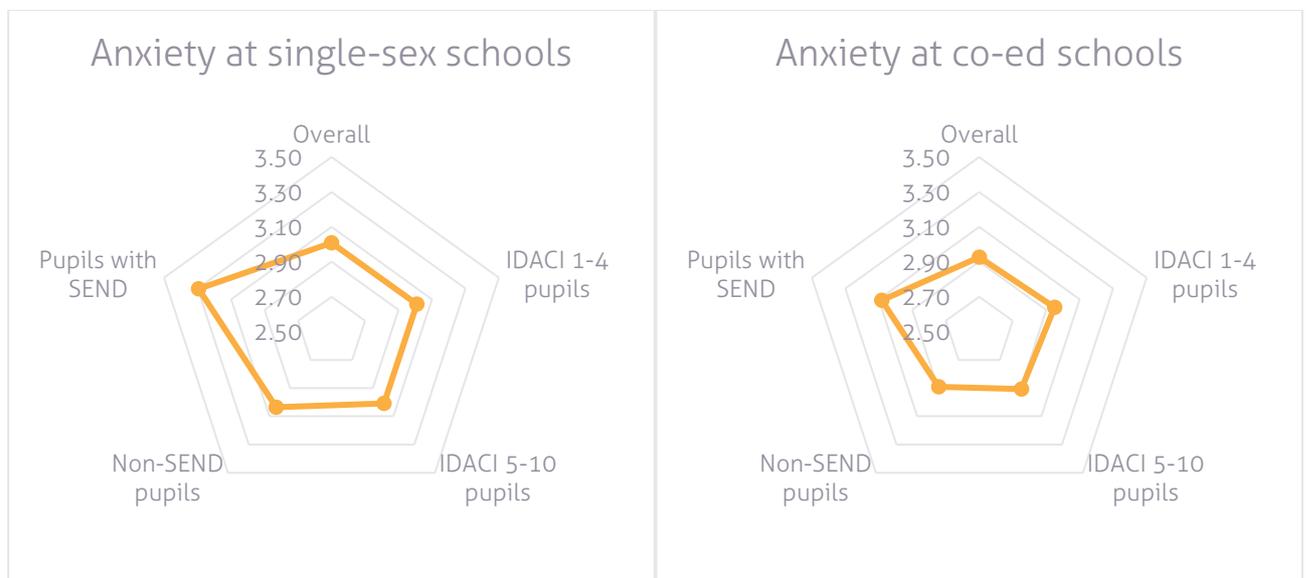
- Metacognition was on average higher both overall and for all subgroups at single-sex schools than at co-educational schools. Of all measures, this was the measure where the largest difference was seen between the two types of school, with a difference of 5.1% points between metacognition scores for girls at co-ed and single-sex schools.
- Subgroup trends were similar at both single-sex and co-educational schools. Girls with SEND reported the lowest metacognition. At single-sex schools, IDACI 5-10 girls reported the highest metacognition, whilst at co-educational schools it was IDACI 5-10 and non-SEND girls that reported the highest metacognition, at 3.32/5 and 3.33/5, respectively.

Wellbeing



- On average, girls' wellbeing was higher at single-sex schools than at co-educational schools, both overall and for all subgroups.
- Trends by subgroups followed similar trends at both co-educational and single-sex schools. Girls with SEND had the lowest wellbeing in both groups. At single-sex schools, pupils living in IDACI postcodes 5-10 (the most affluent) had the highest wellbeing. At co-educational school it was IDACI 5-10 girls and non-SEND girls that had the highest wellbeing, at 3.06/5 and 3.08/5, respectively.

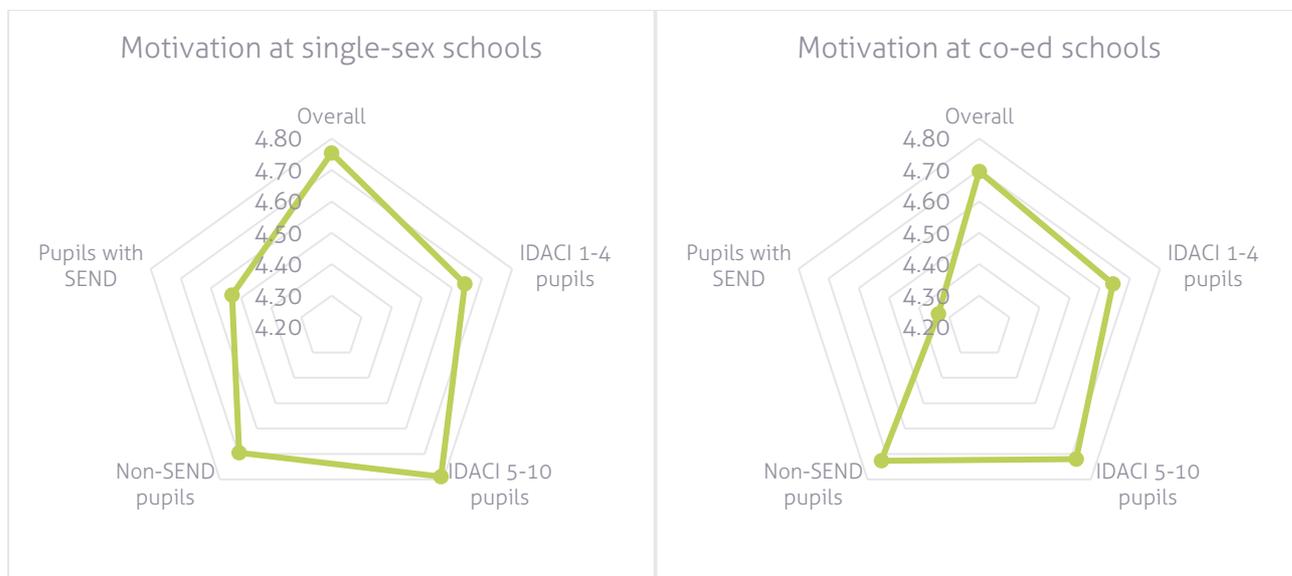
Anxiety



- On average, girls' anxiety was higher at single-sex schools than at co-educational schools, both overall and for every subgroup. As anxiety is an inversely scored measure, higher anxiety scores indicate more prevalent anxious thoughts and feelings.

- At both co-ed and single-sex schools, girls with SEND had the highest anxiety. The lowest anxiety at single-sex schools was reported by both IDACI 1-4 and IDACI 5-10 girls with an average score of 3.01/5. The lowest anxiety at co-educational schools was reported by non-SEND girls with a score of 2.89/5.

Motivation



- On average, girls at single-sex schools had higher motivation than girls at co-educational schools, although this difference was small with an overall difference of only 1.0% points.
- At both types of school, girls with SEND reported the lowest motivation. At single-sex schools, IDACI 5-10 girls reported the highest motivation, whilst at co-educational schools this was non-SEND girls and IDACI 5-10 girls, at 4.72/5 and 4.73/5, respectively.
- For the most part, there were limited differences when comparing the subgroups between single-sex and co-educational schools. The largest difference was for pupils with SEND, where single-sex schools had higher motivation by 3.2% points. All other subgroups had a difference of 1.2% points or less between single-sex and co-educational schools.

Self-Efficacy



- On average, girls at single-sex schools had higher self-efficacy than their peers at co-educational schools, although this difference was small with an overall difference of only 1.5% points.
- For both types of school, girls with SEND had the lowest self-efficacy. At single-sex schools, disadvantaged girls had the highest self-efficacy whilst at co-educational schools this was non-SEND girls.
- There appears to be a link between the single-sex environment and increased self-efficacy scores for disadvantaged pupils. Disadvantaged girls at single-sex schools had self-efficacy scores that were 2.7% points higher than disadvantaged girls at co-educational schools.
- For all other groups, there was a limited difference in pupils' self-efficacy scores at the different types of schools, with all subgroups reporting a difference of 1.0% points or less.

Key Findings

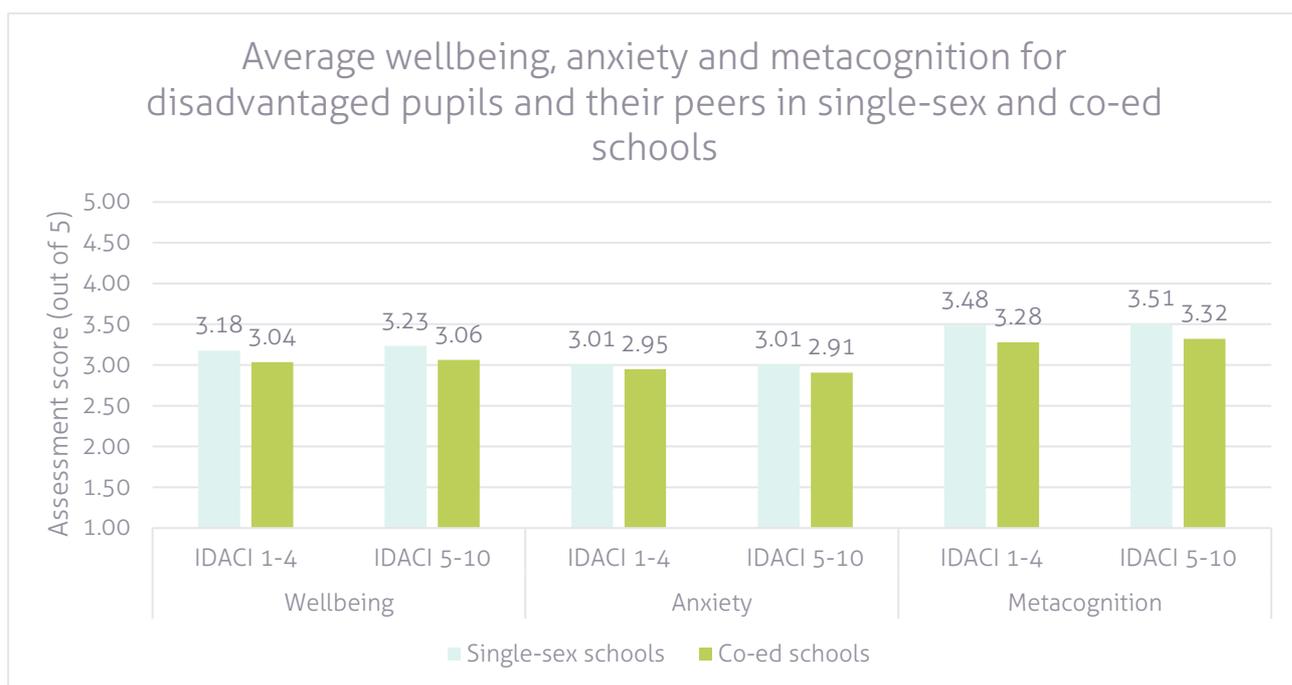
- For the most part, single-sex or co-educational education seemed to have a limited association with girls' motivation and self-efficacy. However, data shows that there may be a link between the single-sex environment and increased self-efficacy for disadvantaged girls.
- There appears to be an association between single-sex education and increased metacognition scores, particularly for girls with SEND and disadvantaged girls. For both these groups, there was a difference of over 5% points between single-sex and co-educational schools.
- Trends by subgroup in both anxiety and wellbeing were similar at single-sex and co-educational schools. On average, girls at single-sex schools had higher wellbeing but also higher anxiety than girls at co-educational schools.

3

How do disadvantaged girls' outcomes differ in single-sex schools as compared with co-educational schools?

This section of the report will look in more detail at the difference between pupils from different backgrounds at single-sex and co-educational schools. This section will refer to 'disadvantaged' pupils – please refer to page 8 to see the working definition of disadvantage in this report. When we refer to 'peers', we mean more advantaged girls who fall within IDACI deciles 5-10.

Wellbeing, Anxiety and Metacognition



Sample size: Wellbeing = single-sex schools 1,217 IDACI 1-4, 3,398 IDACI 5-10; co-ed schools, 20,101 IDACI 1-4, 27,323 IDACI 5-10. Anxiety = single-sex schools, 1,097 IDACI 1-4, 3,055 IDACI 5-10; co-educational schools, 15,890 IDACI 1-4, 17,616 IDACI 5-10. Metacognition = single-sex schools, 1,182 IDACI 1-4, 3,314 IDACI 5-10; co-educational school, 17,215 IDACI 1-4, 22,597 IDACI 5-10.

Similar to the overall results, the largest gap for disadvantaged girls at single-sex and co-educational schools was seen in metacognition; disadvantaged girls at single-sex schools had higher metacognition than disadvantaged girls at co-educational schools. This was a difference of 5.1% points and was statistically significant with a p-value of 0.00. IDACI 5-10 girls at single-sex schools also had higher metacognition than their peers at co-educational schools, by 4.7% points. Again, this result was statistically significant with a p-value of 0.00.

The gap between disadvantaged girls and their more advantaged peers at single-sex and co-educational schools was small, with a difference of 0.6% points and 1.0% points, respectively. The differences between disadvantaged girls and their more advantaged peers at single-sex schools was not statistically significant (p-value = 0.19), whereas it was at co-educational schools (p-value = 0.00). When comparing IDACI 1-4 girls at single-sex schools, with IDACI 5-10 girls at co-educational schools, it is interesting to note that disadvantaged pupils at single-sex schools had

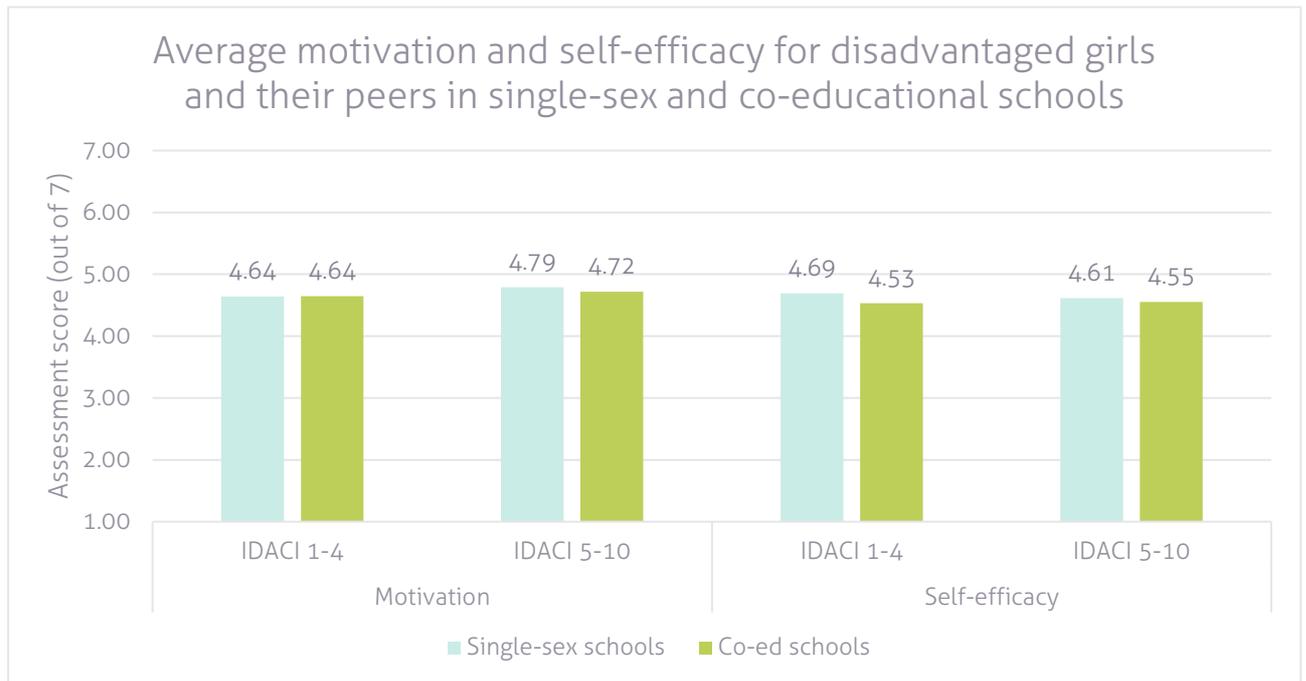
metacognition that was 4.0% points higher than their more advantaged peers at co-educational schools.

Similarly, wellbeing levels for both disadvantaged girls and their more advantaged peers were higher at single-sex schools than their counterparts at co-educational schools. On average, disadvantaged girls at single-sex schools had higher wellbeing than disadvantaged girls at co-educational schools. This was a difference of 3.5% points which was statistically significant with a p-value of 0.00. There was also a difference between IDACI 5-10 girls at single-sex and co-educational schools. These IDACI 5-10 girls at single-sex schools had wellbeing levels that were 4.3% points higher than IDACI 5-10 girls at co-educational schools. This was also statistically significant with a p-value of 0.00.

In addition, there was a clear 'wellbeing gap' between disadvantaged girls and their more advantaged peers at both single-sex and co-educational schools, with disadvantaged pupils having generally lower wellbeing on average. However, the gap was larger at single-sex schools. At single-sex schools, disadvantaged girls had wellbeing that was 1.4% points lower, whereas at co-educational schools disadvantaged girls had wellbeing that was 0.7% points lower than their more advantaged peers. Saying this, on average IDACI 1-4 girls at single-sex schools had higher wellbeing than IDACI 5-10 girls at co-educational schools, by 3.0% points.

For anxiety, disadvantaged girls at single-sex schools had slightly higher anxiety (by 0.1% points) than their more advantaged peers. At co-educational schools, disadvantaged girls had anxiety that was 1.1% points higher than their more advantaged peers. The difference at single-sex schools was not statistically significant (p-value = 0.95), whilst the difference at co-educational schools was statistically significant (p-value = 0.00). Thus, whilst anxiety is overall higher at single-sex schools, the difference between disadvantaged pupils and their more advantaged peers is minimal, suggesting that it is not socio-economic factors that are causing increased anxiety at single-sex schools. Further, IDACI 5-10 girls at single-sex schools had higher anxiety than IDACI 1-4 girls at co-educational schools, by 1.5% points.

Motivation and Self-efficacy



Sample size: Motivation = single-sex schools - 1,151 IDACI 1-4, 3,214 IDACI 5-10, co-educational schools - 4,431 IDACI 1-4, 8,205 IDACI 5-10. Self-efficacy = single-sex schools - 1,116 IDACI 1-4, 3,128 IDACI 5-10, co-educational schools - 3,413 IDACI 1-4, 8,173 IDACI 5-10.

As can be seen in the graph above, disadvantaged girls at both single-sex and co-educational schools had the same levels of motivation at 4.64/7. Motivation scores for IDACI 5-10 girls were slightly higher at single-sex schools, by 1.2% points. This result was statistically significant, with a p-value of 0.00. This means that the gap between disadvantaged girls and their more advantaged peers in motivation was larger at single-sex schools.

For self-efficacy, both disadvantaged girls and their more advantaged peers had higher self-efficacy than their counterparts at co-educational schools. For disadvantaged girls, this was a gap of 2.7% points and was statistically significant, with a p-value of 0.00. In contrast to girls at co-educational schools, disadvantaged girls at single-sex schools had higher self-efficacy than their more advantaged peers. Thus, attending a single-sex school was associated with higher self-efficacy for disadvantaged pupils.

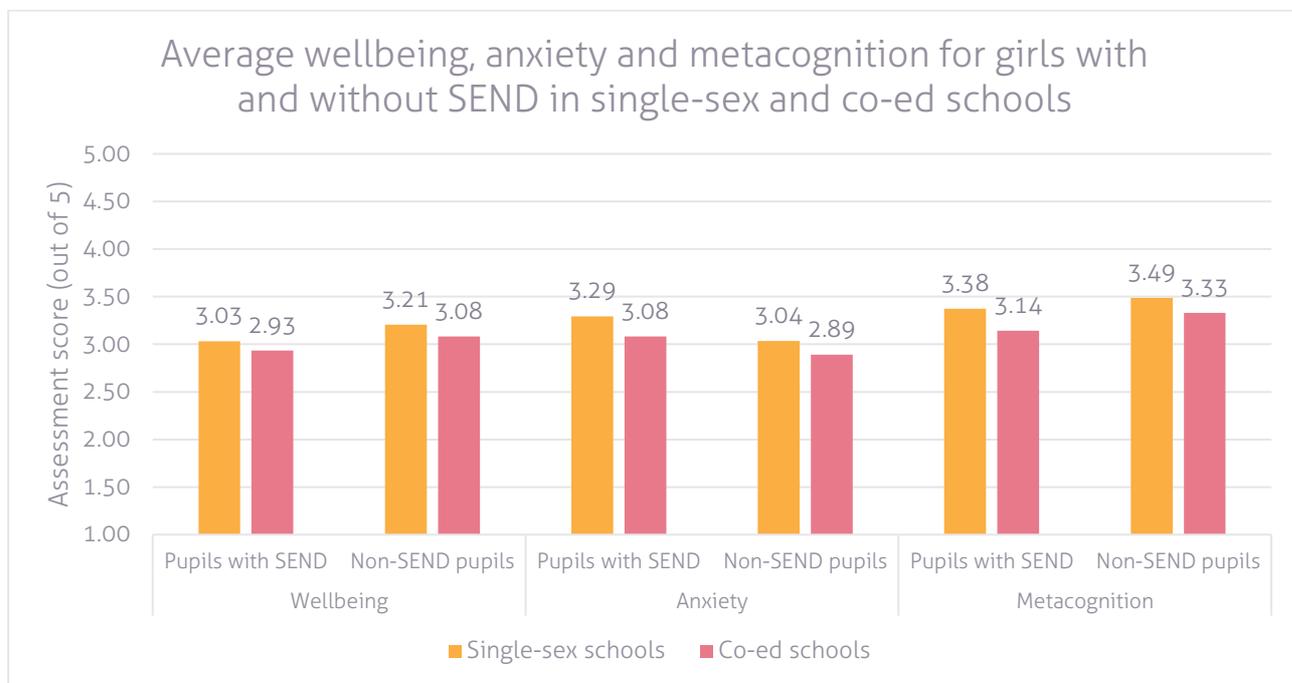
Key Findings

- Disadvantaged girls at single-sex schools had wellbeing that was 3.5% points higher than disadvantaged girls at co-educational schools.
- Whilst anxiety is overall higher at single-sex schools, the difference between disadvantaged girls and their more advantaged peers is minimal, suggesting that it is not socio-economic factors that are causing increased anxiety at single-sex schools.
- In contrast to girls at co-educational schools, disadvantaged girls at single-sex schools had higher self-efficacy than their more advantaged peers. Thus, attending a single-sex school was associated with higher self-efficacy for disadvantaged girls.
- Disadvantaged girls at single-sex schools had metacognition that was 4.0% points higher than their more advantaged peers at co-educational schools.

4

How do outcomes for girls with SEND differ in single-sex schools as compared with co-educational schools?

Wellbeing, Anxiety and Metacognition



Sample size: Wellbeing = single-sex schools 331 SEND, 3,362 non-SEND; co-educational schools 5,362 SEND, 36,317 non-SEND. Anxiety = single-sex schools, 272 SEND, 2,995 non-SEND; co-educational, 3,782 SEND, 26,009 non-SEND. Metacognition = single-sex schools, 313 SEND, 3,270 non-SEND; co-educational schools, 4,327 SEND, 31,320 non-SEND

Once again, the largest difference in this section of the research was seen in metacognition. Girls with SEND at single-sex schools had higher metacognition (by 5.8% points) than girls with SEND at co-educational schools. This was a statistically significant difference with a p-value of 0.00. Whilst girls with SEND had lower metacognition than their non-SEND peers at both single-sex and co-educational schools, this gap was larger at co-educational schools with a difference of 4.7% points as compared with 2.8% points at single-sex schools. Both these results were statistically significant with p-values of 0.00.

Particularly interesting is that girls with SEND at single-sex schools scored higher in metacognition than girls without SEND at co-educational schools, by 1.3%. This suggests that attending a single-sex school is associated with higher metacognition for girls with SEND.

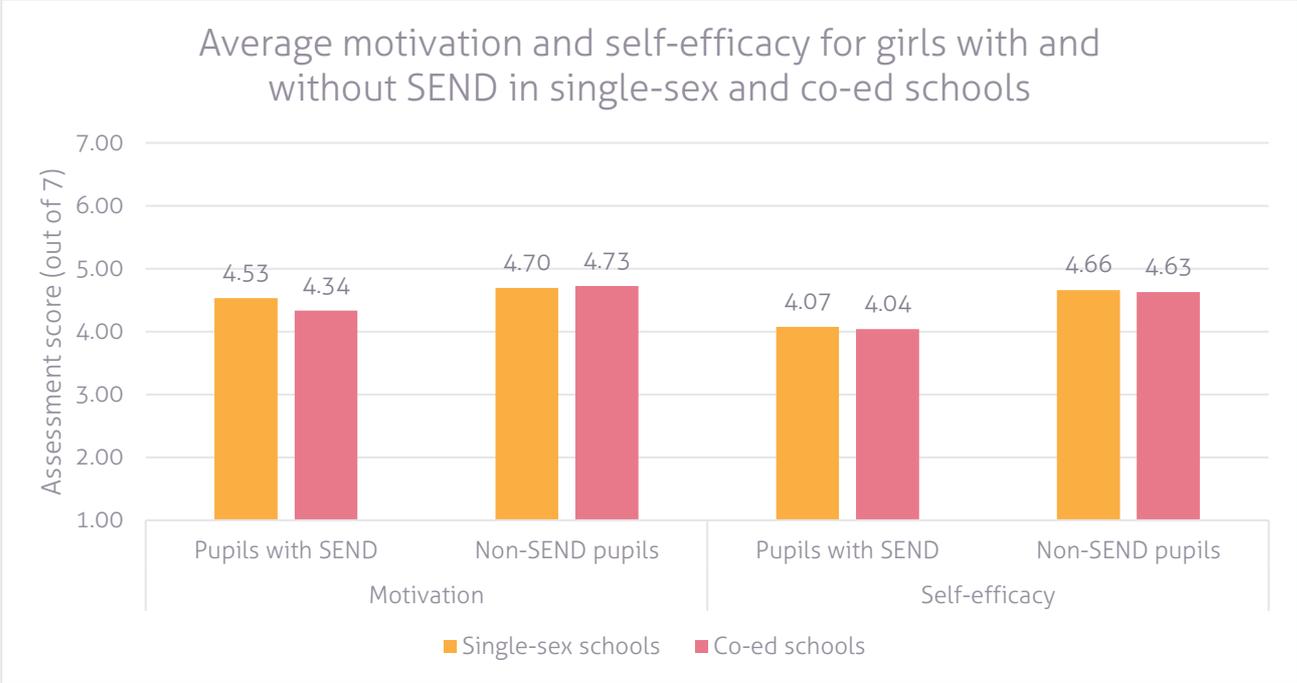
Girls with SEND at single-sex schools had higher wellbeing than girls with SEND at co-educational schools. This was a difference of 2.5% points and was statistically significant with a p-value of 0.00. The difference in wellbeing between girls with and without SEND was slightly higher at single-sex schools (4.4% points) as compared to the gap at co-educational schools (3.7% points). At both co-ed and single-sex schools, these differences were statistically significant with a p-value of 0.00.

In contrast to the wellbeing results, girls with SEND at single-sex schools had higher anxiety than girls with SEND at co-educational schools. This was a gap of 5.3% points and was statistically significant with a p-value of 0.00. There was a larger difference at single-sex schools in anxiety levels between girls with and without SEND. At single-sex schools, girls with SEND had anxiety that was 6.5% points higher than their non-SEND peers, whilst girls with SEND at co-educational schools had anxiety that was 4.8% points higher than their non-SEND peers. These results show that attending a single-sex school is associated with higher anxiety for girls with SEND.

Motivation and Self-Efficacy

Girls with SEND at single-sex schools had higher motivation than girls with SEND at co-educational schools. This was a gap of 3.2% points and was statistically significant with a p-value of 0.00. The gap in motivation scores between girls with and without SEND was larger at co-educational schools than it was at single-sex schools, by 6.5% points and 2.8% points respectively. Both of these results were statistically significant with p-values of 0.00 and 0.01, respectively. Thus, whilst girls with SEND do continue to have lower motivation than their non-SEND peers at single-sex schools, this data shows that attending a single-sex school may be associated with higher motivation levels for pupils with SEND.

With self-efficacy, again girls with SEND showed lower levels of self-efficacy than their non-SEND peers at both single-sex and co-educational schools. The gap between girls with SEND and their non-SEND peers was similar (and quite considerable), at both single-sex and co-educational schools, with a difference of 9.7% points and 9.8% points, respectively. Both these results were statistically significant, with p-values of 0.00. Given that girls with and without SEND at both single and co-educational schools had relatively similar self-efficacy results, it could be suggested that single or co-educational education has a limited association with girls' self-efficacy.



Sample size: Motivation = single-sex schools 301 SEND, 3,163 non-SEND; Self-efficacy= single-sex schools, 287 SEND, 3,066 non-SEND, co-educational schools, 1,193 SEND, 8,697 non-SEND.

Key Findings

- ◆ Girls with SEND at single-sex schools had wellbeing that was 2.5% points higher than girls with SEND at co-educational schools.
- ◆ Girls with SEND at single-sex schools had higher anxiety than girls with SEND at co-educational schools. There were larger differences between girls with and without SEND's anxiety at single-sex schools than at co-educational schools.
- ◆ Data suggests that attending a single-sex school may be associated with increased metacognition and motivation for girls with SEND.
- ◆ This data suggests that single-sex or co-educational schools has a limited association with pupils' self-efficacy.





What does the qualitative data reveal about pupil outcomes at single-sex schools?

Analysis of the focus groups with girls who attend single-sex schools was conducted by GSA committee members.

Summary findings

Key findings included **positivity about the girls only environment**; discussions centred around the positive **sense of community**, a sense of **sisterhood**, feeling more **understood by their peers**, **less pressure to look good** and how **boys are a distraction** and often take up more of the teachers' time. However, they also **questioned if they'll be prepared for university or the 'real world'**. Some schools had **co-ed sixth forms and/or events** with boys from other schools. Those that did not, appeared to **welcome this**.

With regard wellbeing, pupils were quite **favourable of 'official' support the school offers**, such as PSHE courses, the school nurses, their teachers, and the buddy systems (pairing younger pupils with older pupils). However, they discussed this compared to the **'less formal' support they feel is sometimes lacking** - such as peer support and the opportunity to seek support anonymously.

Many pupils discussed how much they like the **variety of clubs**, particularly in how it helps them to socialise, feel more engaged with the school and feel better prepared for their future years of study. **Many activities were done purely for enjoyment; this seems to have a very positive effect on wellbeing.**

Academically, there was **particular praise from pupils that need extra and specialist support**. There was also **praise for the schools' revision methods** - which were wide ranging to suit different learning styles - writing things out over and over, completing past papers, "blurting" and flashcards. The tool 'Quizlet' was mentioned by pupils from several schools as being very useful.

A key finding from the quantitative part of the research was that girls in single-sex schools are more anxious than girls in co-educational schools. Girls in girls' schools appeared to be **particularly attuned to societal inequalities**, which is a source of their anxiety; but they also appear to feel **heightened academic pressure**, as well as **worries about their ability to mix with boys when they go to university**.

Finally, inclusion became a key discussions topic. In general, the girls are aware and **appreciative of the efforts their schools make to be inclusive**, and see that inclusion is improving over time - often through the requests and suggestions of pupils. The overall feeling here was that **they felt listened to, and that their ideas were important**.

Detailed findings

Girls only environment

This section explores the discussions surrounding single sex girls' schools and how pupils felt about their education in contrast to their co-ed junior school experiences. They were generally

positive; discussions centred around the positive sense of community, a sense of sisterhood, feeling more understood by their peers, less pressure to look good and how boys are a distraction and often take up more of the teachers' time. However they also questioned if they'll be prepared for university or the 'real world'. Some schools had co-ed sixth forms and/or events with boys from other schools, those that did not appeared to welcome this.

- ◆ "In a girls' school, they have this whole like, sisterhood thing. I feel like they're like, 'Guys, we're all women. We can do this together'."
- ◆ "Being in an all-girls school, and sort of having this feminist approach is that all of the people that go to our school are accountable for each other. Because we live in a world where of course, there are hitches and kinks in the chain. But I think being in an all-girls school, sort of like uplifts this great sense of feminism."
- ◆ "My sister and me went to another college. And she found the boys really distracting. So we moved here. And honestly, my experience here is amazing. The boys also distracted me at my old school, and compared to that, I think it's really calm. And you get to focus a lot more on subjects too."
- ◆ "There's less everyday sexism here"
- ◆ "I was at a mixed school before, and the boys used to like, shout out things. I used to kind of be anxious that about like, asking questions, or putting my hand up to speak, because I was afraid that the boys were gonna judge me for it."
- ◆ "I was moved from co-ed school because of bullying but I feel very secure here."
- ◆ "I feel like here, there's sort of no shame of being very academic or independent or focused."
- ◆ "When I'm in this sort of an environment, with a lot more girls, I feel a lot more secure and supported than I did at my other schools, which were co-ed."
- ◆ "Girls are better at bigging each other up."
- ◆ "When I was in my primary school, I had this problem where I needed my hair to be perfect. Like, I really cared about what my hair looked like. And I think that was because like, I was really insecure, because lots of the boys at my primary school would be like 'Oh, your hair looks like, like a dog turd'. Or like, 'It looks really bad'. So when I come here, everyone's just really nice. And it's just great, because it's just all girls. I just feel like I don't have that anxiety on me anymore that like, I'm scared that some like random boy, he's gonna be like, 'Oh, you look ugly'."
- ◆ "Because it is all girls school, when you get bit older, and you go to a university or whatever, and it's mixed again..., it's a sudden change."
- ◆ "They [the partner school] can join wellbeing or just like PSHE discussions or just kind of having that interaction can be beneficial, especially for people who just don't speak to boys outside. Because then you don't want them to go to uni and be like, what do we do?"
- ◆ "I don't mind being in a girls' school. But I also wouldn't mind having boys around. Because I feel like being in a girls' school and you don't really have a connection to boys. You forget how to socialise with boys."
- ◆ "So we did, like chemistry, physics and biology test recently. And like in one of the tests, everyone got really low marks, okay. Like, three out of 10. But nobody was tearing each other down. We were all laughing about it together. So then it makes you feel more comfortable with getting things wrong. So then you feel like more confident to like, try to answer things because you know that you're not going to get like ridiculed or made fun of."

- ◆ "I feel like that in a way [going to a co-ed school] would have been easier because there would have been, like, less pressure. And it would have been maybe more fun. I'm not too sure."

Support / Wellbeing

This section explores how the girls feel about the support they receive in school through a wellbeing lens. The discussions focused around the 'official' support the school offers - which, in general, pupils were quite favourable of. In particular, they highlighted PSHE courses, the school nurses, their teachers, and the buddy systems pairing younger pupils with older pupils. However, they discussed this compared to the 'less formal' support they feel is sometimes lacking (such as peer support and the opportunity to seek support anonymously). Many pupils made direct suggestions as to how the schools could improve and make them feel more supported. Some suggestions were ways to improve or reinstate things that have worked or helped in the past or in other contexts. But some suggestions are less in the schools' control, such as schools' statutory duty to inform parents in certain circumstances.

- ◆ "Each kind of talk that you're given is targeted to like, the issues, which each year group is kind of associated with. Obviously younger years might struggle with body image, especially being like exposed to social media so quickly."
- ◆ "And even after those PSHE talks, you get like follow-ups, and you can go and talk individually to teachers, which I think is a really key thing."
- ◆ "[The nurse] is amazing. She helps so many people every day, she does. She keeps inhalers. Say if you're having a really bad asthma attack, she'll, run like run, run to the classrooms, she doesn't care if it's upstairs, downstairs, she will just run and like, make sure that you're okay. If you have diabetes, she will make sure she has like small cans of like very sugary drinks to help with that."
- ◆ "You can also talk to your head of year. If you're like feeling like something's wrong, or like if you have a problem, you can like talk to your head of year and they can sort it out for you."
- ◆ "But I just wish she [the nurse] would listen a bit more to pupils which feel really, really ill and look really, really ill and not just say, 'Oh, you know, it's almost the end of the day, it's period four or something. Like, you're not going to go home now. Let's see if you'll make it.'"
- ◆ "I think it's quite a scary process, like sometimes going and talking to someone. If they think that your problem is like extensive or really bad, then, you know, they have to take really big steps to make sure and ensure that you're safe. But sometimes for pupils that can be a really, really scary."
- ◆ "I also think that you know, when you struggle with your mental health some people go to pastoral. But then there's like, personal things where you really don't want to talk. You want to talk to someone random, but don't want your family to know. And they have to tell your family."
- ◆ "Or, like sometimes when there's a problem and someone's really upset and they'll tell you that you're doing the wrong thing and make you understand why the other person is upset and not understand why you were upset too. They'll make you apologise and then not get your side."

- ◆ "Like this idea about promoting wellbeing has become a tick box and a very bureaucratic process. It almost becomes stressful. Because if you don't turn up, you'll get detention. Or, certain things you have to do. Like for cooking, you have to bring ingredients, if you don't bring them in, you get into a detention."
- ◆ "Some pupils, if they do have worries or are really anxious, then they do just get to, you know, have a time out card, and they can just pop out of the classroom, which I think is really nice. I think more teachers or schools should do that. Because I think it shows that school really cares that they understand. And it can be hard sometimes. So just feel free to leave when you need to, like have a moment to yourself."
- ◆ "With [the group where year 9s can talk to year 11s], you can relate more. So it's better than the pastoral help. But also, I wish we would have our own separate ones with our year group, because I feel like we can be more open with our year group, because I'm scared of year 11s. [laughs]. Like, I'm not gonna open up to them about all of our problems, because I don't know who they are."
- ◆ "Anonymous ways of contact, I feel is also a good idea. We've done things like that at the end of the eating disorder talk, for example. There was an anonymous form, you could send to ask questions."
- ◆ "Once every week or something, we should have like a free period. So like, if we don't sleep because of like family arguments, we can go in there for free period, or like, if you get really stressed and overwhelmed and you can just go in and like chill out."

Academic Support / Metacognition

This section explores how the girls feel about the academic support they receive in school. There was particular praise from pupils that need extra and specialist support. And also the schools' revision methods, which were wide-ranging to suit different learning styles - writing things out over and over, completing past papers, "blurring" and flashcards. The tool 'Quizlet' was mentioned by pupils from several schools as being useful. Pupils also suggested ways in which this support could be improved.

- ◆ "Learning support was really good and did actually help because I was in the bottom sets but I've moved up so it did, it did help a lot for me personally."
- ◆ "[In my old school] I just got shouted at by a teacher. But at this school and stuff, it's not like, if you can't do this, you're stupid. It's more if you can't do this, we'll help you through this."
- ◆ "I like the fact that I get the support that I need in certain subjects, because I do struggle with maths and science."
- ◆ "Teachers here are quite involved in your learning, and they want you to do well, and they will spend time outside of your like scheduled lessons, making sure that you've got what you need."
- ◆ "But I think it's really nice that pretty much all teachers don't just tell us what to revise and when to revise for tests. Because they not only give us the topic list but also, they give us some advice on like what we can use to help us revise."
- ◆ "In year seven, I think, I had one teacher who sometimes asked people to put their hands up and say what they used to revise. So all the ways of revising can be shared around the

class, for example, making flashcards or writing them out, we get lots of like help on and advice on how we should revise for the tests.”

- ◆ “I also think that it's very helpful that all of my teachers at the moment don't just tell us to write our homework in our planner, they also put the homework on Teams, so it's always going to be there.”
- ◆ “My sixth form buddy and my big sister helped me to figure out how to revise because I was really bad at it. And I found that revision sheets help, because you can print out a load of pictures and like, label them. And then you know what you're doing.”
- ◆ “I also like to use flashcards, making everything colourful.”
- ◆ “We have a, what's it called, a maths drop in, where you can go at dinner time. And like, you know, you'll get help on homework. I wish they did that on more subjects, or at least ask pupils if you would like it. The teacher could ask all their classes to vote on if they wanted, if they're struggling with the work and if they want like a club they could go to at dinner or after school.”
- ◆ “More coordination between the different subject departments. Because some people might do three really different A levels or something that it's very hard to like, explain to your teachers or get them to truly understand that you do have other subjects and not just their own subject.”

Anxiety

A key finding from the quantitative part of the research was that girls in single sex schools are more anxious than girls in co-ed schools. Girls in girls' schools appeared to be particularly attuned to societal inequalities which is a source of their anxiety. But they also appear to feel heightened academic pressure as well as worries about their ability to mix with boys when they go to university. Younger pupils tended to be more anxious about who to turn to but were very celebratory of how welcomed or included they felt even though they were new to the school, whilst older pupils tended to be more anxious about exam stress and their academic workload.

- ◆ “I think because there are inequalities in the world, that that there's sort of stereotype that women would have to work twice as hard to get to where a man is. I think there is that sort of anxiety planted in most people, which sort of breeds that anxiety.”
- ◆ “It's kind of rooted in like society and stuff. For example, if a girl is a boss. They're like, 'Oh, wow, this girl runs a company, guys, can you believe it?' And then there's more pressure on girls.”
- ◆ “Especially in the school. I feel like the whole thing is all 'independent women', that sort of thing. It's okay if you struggle sometimes but the school doesn't make it seem okay. Like a lot of pressure, they have high, high expectations.”
- ◆ “I feel like [higher anxiety in girls is] because of what's happening to girls lately. Like, I know, the world is gradually getting better. But a lot of evil things happen more to girls than boys, which is why girls might think I need to stay safe, whilst the boys might just care about having fun.”
- ◆ “I put a lot of pressure and stress on myself, just to do well, for the sake of doing well, which can obviously not be quite helpful. But I think I don't necessarily think it's a bad thing. But I found that I think in girls' school environments, they can tend to be more

academic so focused on doing well and pushing yourself and being the best for the sake of being the best.”

- ◆ “Sometimes a teacher is telling us to copy and stuff, they’ll be explaining other things at the same time. So I can’t listen to what they have to say. And I’m writing it down. They also move on really quickly. I was sick last week, I was sick for two days of school, so I wasn’t in, and I missed the majority of the science lessons, actually. And the only way that I caught up on work is messaging my friends, and they send me a picture of the lesson I missed, and I just rewrite the workout. But I’m not actually getting that information in.”
- ◆ “I think girls are more anxious because they care more.”
- ◆ “I put a lot of pressure and stress on myself, just to do well, for the sake of doing well, which can obviously not be quite helpful. But I think I don’t necessarily think it’s a bad thing. But I found that I think in girls’ school environments, they can tend to be more academic so focused on doing well and pushing yourself and being the best for the sake of being the best.”
- ◆ “I feel like the variety of subjects helps us prepare, because you already know which subjects we enjoy. And which subjects we’re good at from year 7. So the subjects that we’re not so good at, we can develop on. And the subjects that we really do like. It’s easier to pick them, because you’ve obviously experienced them. But for some subjects the reason why, there’s not that many teachers so you don’t get that many lessons. Like for example, music, there’s only one teacher, so you only get one lesson every two weeks. So if there’s like a day off on a Bank Holiday, you won’t do that for like a month.”

Co-curricular and extracurricular

Many pupils discussed how much they like the variety of clubs, particularly in how it helps them to socialise, feel more engaged with the school and feel better-prepared for their future years of study. Many activities were done purely for enjoyment; this seems to have a very positive effect on wellbeing.

- ◆ “I like the way there’s so many chances to work as a team in extracurricular clubs or in class. Of course, there’s chances where you can be independent, but I like the teamwork where everyone sort of develops together and works together.”
- ◆ “I like that the subjects are not limited. It’s not like so you go into a classroom, you learn and you get out.”
- ◆ There’s different ways that the school makes like a boring subject, a subject that not everyone finds fun, something that they can almost like, look forward to. English, for example, they have a few school trips. Last year some people went to the Harry Potter place in London. And I feel like that almost links back to the lesson as well. So it’s not like, useless.”
- ◆ “The school has special days. So we do for the school birthday or for, like, just house competitions. And we have activities week as well. Like sports day, where we go to a separate field. And we do races and stuff. And we all celebrate in our houses, we get to dress up or, like, do the colours of our house. And I think that’s really fun.”

Inclusion

This section explores how inclusive the girls viewed their schools to be. A theme that was seen across the focus groups was that the girls are aware and appreciative of the efforts their schools make to be inclusive, and see that inclusion is improving over time, but still saw ways in which inclusion could be better and more nuanced.

First, the girls listed and praised ways their schools are inclusive, and at times were able to compare their experience in single sex girls' schools to their experiences in co-ed ones. This included schools making sure the calendar was full of a variety of cultures and identities to celebrate, schools being structured in a less gendered way, and having diversity across both pupils and staff.

The girls often noted how diversity and inclusion in their schools is changing, often through the requests and suggestions of pupils. The overall feeling here was that they felt listened to and that their ideas were important. All schools had a student forum or student voice group where pupils could have their voice heard in a formal setting and find out what actions would be taken based on their feedback.

These discussions about student-led change, however, brought further conversations about the ways in which inclusion could still be better in their schools. These were framed in terms of background (class and wealth as well as culture and religion) and health, as well as the consistency in which inclusivity was offered.

- ◆ "We had like pride week and stuff, and then you get like coming in different colours. And then there'll be like assemblies and certain lunch activities that you can go to, to learn more about it. And there's just a lot of that, which I think is really good."
- ◆ "I think the thing I most enjoy about my school is embracing that community feel that everyone is encouraged to become an individual and go down a certain path, whichever one they choose. But it's sort of that sense that everyone's in it together, as well."
- ◆ "Diversity, and inclusion is a very grand thing for our school. I think if you took that element away, the school would be very different without it. I don't think it would be as structured."
- ◆ "We've even got a diversity and inclusion rep. So a sixth former that's nominated to bring events together and encourage and influence pupils. And we've got a whole calendar printed out of dates that make sure to include everyone. And it's not that it's pushed right in your face, you have the choice to attend to learn to educate yourself about different cultures."
- ◆ "Both of my old schools were mixed. So they'd usually go boys on this side, girls on this side, or the boys will do this, and the girls will do this. And like, even though this is a girls' school, I know quite a few like non gender people or gender fluid people in this school. So it's like, a lot less specific boys and girls, it's more like the groups are fairer. It's not gendered groups."
- ◆ "My first day was like, really good. Everyone's being super inclusive. They weren't leaving me out."
- ◆ "Also, like the diversity of our school, we have diverse teachers as well. Pupils and teachers learning where the background is and different experiences they've gone through. It was really interesting to hear."

- “Lots of it is just student-led. Like if it weren't for the people constantly pushing for change and things, it wouldn't be happening in the scale that it does.”
- “Like with neurodiversity, trying to get the teachers to like, implement it into their lessons, and they'll listen to it. But it does seem a bit performative.”
- “I feel like they're doing a good enough job with [pronouns], which are a bit newer to deal with in school. But again, they tell your parents or, like mention it or ask for permission to change it on the register. But some people like they just want to keep it to themselves. Like they don't really want their parents knowing but they do feel uncomfortable when their year group or their teacher calls them things that they don't feel comfortable with.”
- “For me, personally, I have to have [my hijab] out [not tucked into her shirt due to medical reasons]. And a lot of people don't understand that. They [the teachers] make you tuck it in. That bugged me a lot when I first started here. And then eventually, I think, at the end of last year, the beginning of this year, they said that we could wear it out now, which was a really good thing. We kept talking about it. So we kept saying, we want to, we want to have it out. We don't want tuck it in and they listen to people. And they eventually said, 'Yeah, that's fine'.”
- “It is a private school so the majority of the pupils here will have come from a specific background. But I don't think that's ever touched upon. I don't think they'd necessarily know how to approach subjects like people who are from lower social income backgrounds.”
- “I feel like it's not only our school, but it's like schools in general, that can be a little bit biased towards it. Like, if they say 'Happy Black History Month', the first thing that people will think is African people but there's so many different types of Africans and so many different types of Black people.”
- “We learn about slavery; I think it's really important that we learn about it. But also, I think we should learn about all the stuff that they've done. And then also we should respect other cultures. Especially people from different countries that don't have a designated month or, day. We should make a day that we could celebrate, like where they've come from or what they've done. I just feel like they must feel left out.”
- “Because we do learn about Martin Luther King, and lots of different people but, for example, I'm Muslim, I've never learned anything of my religion. So I think if they could add something from everything, then it will be a lot more inclusive.”
- “Certain holidays for like certain races like Chinese New Year, we don't really like include anything about it. You just like, think it's a normal day, but like some people like want to celebrate it. And they want to take time off. But like, they don't really get to take time off, they just get declined.”
- “Like, personally, I have like, a lot of health conditions. So for me, I have to do my cream in the morning, I've had to wear my own clothes to school and all that. The teachers do get notified. But a lot of teachers won't listen, they'll just tell me off.”
- “I think the inclusivity is okay, they have the Pride Month and the Black History Month. But they are not really trying their hardest to be inclusive, it's a bit of a double standard. Because we still can't even wear any colour braids. Even now we have to wear this, like blonde and ginger and all these different 'natural' colours. And I can see other people they have dyed hair. When I wear colour braids it's a problem, but when they do it it's okay.”

Closing note

This report has looked to provide evidence to answer key questions around the impact of single-sex education on girls in England.

Within the context of a continuing challenging time for the education system, the report highlights some interesting findings about how different types of education appear to be impacting upon girls' social & emotional outcomes. We have highlighted the key findings and suggested areas of further exploration up front in this document. Qualitative research analysed by GSA sheds further light on why these outcomes may vary in single-sex schools, as compared with co-ed schools. Further qualitative analysis could be conducted with co-ed schools to strengthen this qualitative research.

GSA should reflect positively on the time that they have invested into investigating this area in more detail. With multiple research studies revealing that girls frequently have poorer social & emotional outcomes than boys (particularly at secondary school age)⁶ it is vital that we investigate how girls can be further supported in education to ensure equitable outcomes for all. The focus on disadvantaged pupils and pupils with SEND is key here – research has frequently shown that these groups of pupils have poorer outcomes than their peers.⁷ Thus, this research should go some way to supporting teachers – at both single-sex and co-educational schools – to understand what skills they may need to focus on to support the most vulnerable girls in their schools.

⁶ Halldorsdottir, T., Thorisdottir, I. E., Meyers, C. C. A., Asgeirsdottir, B. B., Kristjansson, A. L., Valdimarsdottir, H. B., Allegrante, J. P., & Sigfusdottir, I. D. (2021). Adolescent well-being amid the COVID-19 pandemic: Are girls struggling more than boys? *JCPP Advances*, e12027. <https://doi.org/10.1111/jcv2.12027>

⁷ ImpactEd (Autumn 2021), *Impact in Practice: Lessons from schools in support pupil learning and wellbeing*, https://drive.google.com/file/d/12vXwHb0eJwEwDnutTkxBm_2EnLAC-T8N/view, p.6

Appendix

Breakdown by measure, subgroup, and school type.

Wellbeing

Wellbeing Average	GSA	non-GSA	% Diff (GSA v. non-GSA)	Statistically Significant?	p-value
Overall	3.22	3.05	4.2%	Yes	0.0000
Low IDACI	3.18	3.04	3.5%	Yes	0.0000
High IDACI	3.23	3.06	4.3%	Yes	0.0000
% Diff (low IDACI v. high IDACI)	-1.4%	-0.7%			
Statistically Significant?	Yes	Yes			
p-value	0.0102	0.0001			
SEN	3.03	2.93	2.5%	Yes	0.0265
non-SEN	3.21	3.08	3.2%	Yes	0.0000
% Diff (SEN v. non-SEN)	-4.4%	-3.7%			
Statistically Significant?	Yes	Yes			
p-value	0.0000	0.0000			

Wellbeing Sample Size	GSA	non-GSA
Overall	4,706	47,850
Low IDACI	1,217	20,101
High IDACI	3,398	27,323
SEN	331	5,362
non-SEN	3,362	36,317

Anxiety

Anxiety Average	GSA	non-GSA	% Diff (GSA v. non-GSA)	Statistically Significant?	p-value
Overall	3.01	2.93	2.0%	Yes	0.0000
Low IDACI	3.01	2.95	1.5%	Yes	0.0540
High IDACI	3.01	2.91	2.5%	Yes	0.0000
% Diff (low IDACI v. high IDACI)	0.1%	1.1%			
Statistically Significant?	No	Yes			
p-value	0.9520	0.0001			
SEN	3.29	3.08	5.3%	Yes	0.0009
non-SEN	3.04	2.89	3.6%	Yes	0.0000
% Diff (SEN v. non-SEN)	6.5%	4.8%			
Statistically Significant?	Yes	Yes			
p-value	0.0000	0.0000			

Anxiety Sample Size	GSA	non-GSA
Overall	4,235	33,810
Low IDACI	1,097	15,890
High IDACI	3,055	17,616
SEN	272	3,728
non-SEN	2,995	26,009

Metacognition

Metacognition Average	GSA	non-GSA	% Diff (GSA v. non-GSA)	Statistically Significant?	p-value
Overall	3.51	3.31	5.1%	Yes	0.0000
Low IDACI	3.48	3.28	5.1%	Yes	0.0000
High IDACI	3.51	3.32	4.7%	Yes	0.0000
% Diff (low IDACI v. high IDACI)	-0.6%	-1.0%			
Statistically Significant?	No	Yes			
p-value	0.1921	0.0000			
SEN	3.38	3.14	5.8%	Yes	0.0000
non-SEN	3.49	3.33	3.9%	Yes	0.0000
% Diff (SEN v. non-SEN)	-2.8%	-4.7%			
Statistically Significant?	Yes	Yes			
p-value	0.0010	0.0000			

Metacognition Sample Size	GSA	non-GSA
Overall	4,584	40,176
Low IDACI	1,182	17,215
High IDACI	3,314	22,597
SEN	313	4,327
non-SEN	3,270	31,320

Motivation

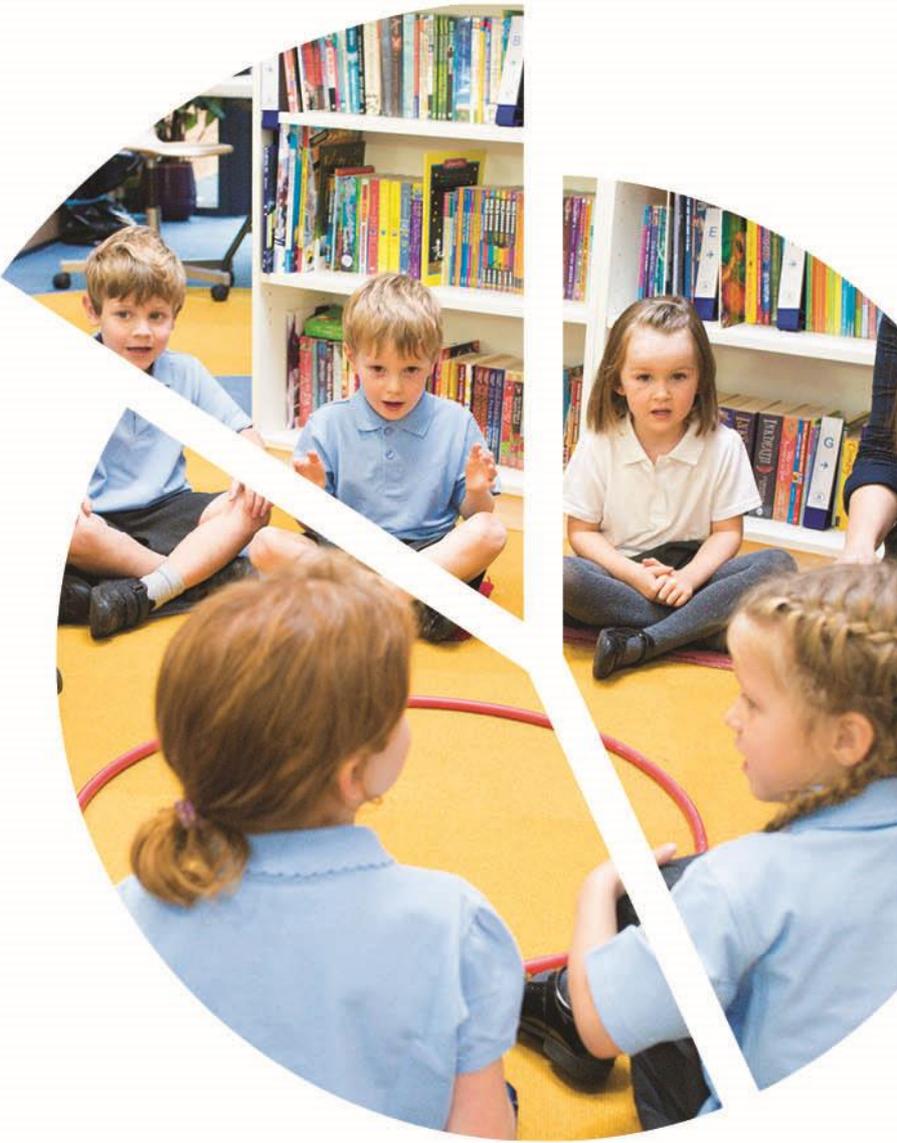
Motivation Average	GSA	non-GSA	% Diff (GSA v. non-GSA)	Statistically Significant?	p-value
Overall	4.75	4.70	1.0%	Yes	0.0027
Low IDACI	4.64	4.64	0.0%	No	0.9880
High IDACI	4.79	4.72	1.2%	Yes	0.0024
% Diff (low IDACI v. high IDACI)	-2.4%	-1.3%			
Statistically Significant?	Yes	Yes			
p-value	0.0001	0.0003			
SEN	4.53	4.34	3.2%	Yes	0.0105
non-SEN	4.70	4.73	-0.5%	No	0.1648
% Diff (SEN v. non-SEN)	-2.8%	-6.5%			
Statistically Significant?	Yes	Yes			
p-value	0.0134	0.0000			

Motivation Sample Size	GSA	non-GSA
Overall	4,450	12,717
Low IDACI	1,151	4,431
High IDACI	3,214	8,205
SEN	301	1,441
non-SEN	3,163	9,862

Self-efficacy

Self-efficacy Average	GSA	non-GSA	% Diff (GSA v. non-GSA)	Statistically Significant?	p-value
Overall	4.64	4.55	1.5%	Yes	0.0000
Low IDACI	4.69	4.53	2.7%	Yes	0.0001
High IDACI	4.61	4.55	1.0%	Yes	0.0144
% Diff (low IDACI v. high IDACI)	1.3%	-0.4%			
Statistically Significant?	Yes	No			
p-value	0.0629	0.3583			
SEN	4.07	4.04	0.6%	No	0.6748
non-SEN	4.66	4.63	0.5%	No	0.2329
% Diff (SEN v. non-SEN)	-9.7%	-9.8%			
Statistically Significant?	Yes	Yes			
p-value	0.0000	0.0000			

Self-efficacy Sample Size	GSA	non-GSA
Overall	4,327	11,672
Low IDACI	1,116	3,413
High IDACI	3,128	8,173
SEN	287	1,193
non-SEN	3,066	8,697



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