

Birmingham Secondary Schools Wellbeing Census 2022

• Lay Summary

Why a Wellbeing Census?

In relation to young people's mental health - the **'treatment gap'** has been rapidly increasing over the last 25 years. This is the gap between levels of need and the availability of resources to support school-age young people with mental health and wellbeing problems. Long-standing research shows that 50% of mental health disorders emerge before age 25, and roughly 33% of these appear before age 14. Schools represent an ideal environment to provide educational interventions to improve the social and emotional health of young people, but schools need support not only to provide the interventions but also to systematically measure and understand the status and implications of young people's wellbeing in their settings.

Emotional wellbeing is a way of looking at mental health from a less medicalised perspective. The World Health Organisation defines mental health as not simply the absence of mental illness, but the fostering of wellbeing to enable thriving individuals and populations (WHO, 2022). Wellbeing is also critical to students attainment as research has established that:

- Pupils with better health and wellbeing are likely to achieve better academically.
- Effective social and emotional competencies are associated with greater health and wellbeing, and better achievement.
- The culture, ethos and environment of a school influences the health and wellbeing of pupils and their readiness to learn

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/370686/HT_briefing_layoutvFINALvii.pdf)

Therefore, measuring wellbeing in secondary schools can be used as a practical indicator of both current and future mental health of students, giving schools the ability to consider and support their students wellbeing.

What was the 2022 Secondary School Wellbeing Census?

Between April-July 2022 a "wellbeing census" was conducted in a sample of secondary schools across the Birmingham LEA. The two measures used in the survey were:

The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS, Tennant et al., 2007) consists of 14-items summed to provide a single score ranging between 14-70. The scale is suitable for young people and worded positively, covering both feeling and functioning aspects of mental wellbeing.

The School Connectedness Scale (Resnick et al., 1997) is assessed by 4 items summed to provide a single score ranging between 0-20. School connectedness is associated with lower risk behaviours and better academic achievement.

Regarding pupil demographics, we collected data on ethnicity, sex, school year, SEND status, free school meals and persistent absence. For inter-school comparisons we matched overall averages to publicly available school level data: %SEN support, % Pupils with English as not first language and % FSM (average last 6 years) from and Local Super Output Area (LSOA) deprivation data (available from Dfes (2021) and www.gov.uk (2019))

Measures are included in the appendix i.

We enabled digital delivery of the census through our www.breathe-schools.co.uk platform that represents a collaboration of local education, public health and mental health professionals working with individual schools. We support this work with a range of resources, lesson-plans and interventions for schools via our teacher-focused website 'Breathe Education' at: www.breathe-edu.co.uk.

For more information regarding the census and this report please contact c.palmer@warwick.ac.uk.

Who were involved?

19 secondary schools collected data for 6,935 pupils between the ages of 11-18 years. Participating schools included 14 academies, 3 maintained, 1 free school, and 1 independent, spanning 3 primary consortia in the city North (8), South (7) and East (4).

The results were integrated into digital wellbeing dashboards for each school to assist in the meaningful assessment of wellbeing in their school. An overall report was also created to disseminate across the partnership and those involved in the wider schools and youth mental health network.

Birmingham Schools Population

Birmingham's 0-19 year old population is 51% male and 49% female (ONS, 2019) with approximately 58% White, 27% Asian, 9% Black and 6% Mixed Ethnicity or Other. The average percentage of children in Birmingham schools eligible for free schools meals is reported as approximately 23% for both primary and secondary schools (Dfes, 2020). The latest available national SEN data report 12.6% of pupils in primary schools and 10% of secondary pupils requesting SEN support (Dfes, 2019). Pupil absence data is no longer reported at an LEA level but latest available national percentages for persistent absenters were 8.4% for state-funded primaries and 13.7% for state-funded secondaries (Dfes, 2019).

Secondary School Sample

6,935 pupils from 19 Secondary schools completed surveys of whom 50.2% were Female. Ethnicity comprised 29.6% White, 40.1% Asian, 11.4% Black, 14.4% Mixed Race/Other and 4.5% unknown. 20.9% of pupils were in receipt of free school meals, 13.9% were persistent absenters and 7.4% reported some form of SEND. The sample appeared to have higher than average pupils from Asian backgrounds and further analysis on ethnicity data should be viewed with this in mind.

A note on terminology used in this analysis.

Significant denotes that a finding meets criteria for statistical significance – this should not be read as necessarily “meaningful” or “significant” relating to a “big” difference, as the actual difference between groups might be a small but legitimate difference.

Meaningful in the context of this analysis relates to the difference between scores that reaches the WEMWBS wellbeing threshold for meaningful change, which relates to a scoring difference of 3-8 points (Maheswaran, Weich, Powell, & Stewart-Brown, 2012).

For example, two groups of pupils with a 3-point difference in WEMWBS score can be said to have *meaningfully* different levels of wellbeing, they both still could have reasonably high wellbeing but one would be meaningfully higher. The difference however might not be *significant* because samples are too small to pass statistical testing (for example).

Therefore, *significant* and *meaningful* gives us the most confidence of an important finding in our data.

Secondary Schools Mental Wellbeing and School Connectedness

Assessing wellbeing by primary consortia average, wellbeing was reported to be highest in the North consortia (46.8) with a difference to South of -1.4 and East of -2.3. Wellbeing by school type found no significant differences between maintained schools and academies.

Secondary School Variables	Frequency	%	WEMWBS Total	Std.dev	School Connectedness	Std.dev
North	2655	38.3	46.8	9.8	12.4	3.7
South	3734	53.8	45.4	9.5	12.5	3.8
East	546	7.9	44.5	9.2	11.7	3.6
Academy	4912	70.8	45.7	9.5	12.4	3.7
Maintained	1293	18.6	46.1	10.3	12	3.9
Independent	422	4.4	46.2	9.8	11.8	3.7
Free	308	6.1	46.2	9.6	14.1	3.5

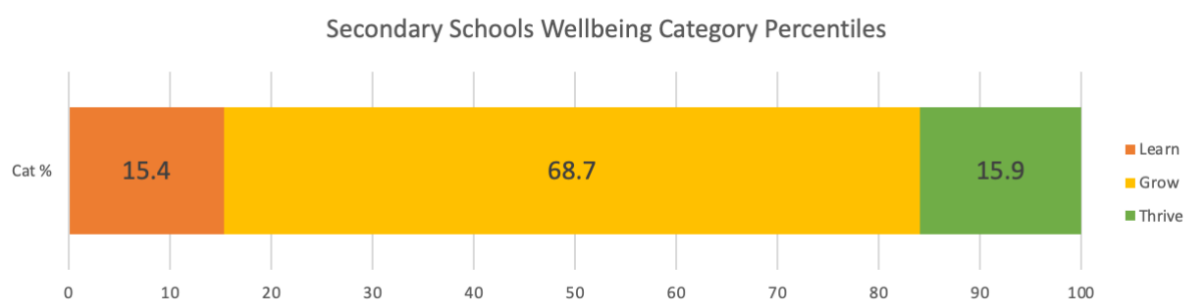
Overall average WEMWBS scores for secondary school pupils was 45.9. This is similar to average scores reported in our 2021 census (46.8) and represents a very small but statistically significant reduction in wellbeing over the year of -.97. This finding is also slightly lower than a recent UK population average found for adolescents of 48.1 (Widnall, Winstone, Mars, Haworth, & Kidger, 2020). Overall average school connectedness for secondary school pupils was 12.4 which represents a slight decrease from our average school connectedness 2021 score of 13.6.

Female pupils reported lower mental wellbeing (43.7) than male pupils (48), a **significant and meaningful** difference of -4.7 between groups. Pupils from White ethnicity reported slightly lower average wellbeing (44.3) compared to all other recorded ethnicities. Whilst this was a significant finding, differences in scores were small, between -1.9 and -2.6, though approaching “meaningfulness” in some comparisons. Pupils with a communication and interaction SEN reported slightly lower wellbeing scores (43.5) than those reporting no SEND (45.9), as did those in receipt of FSM (45.2) compared to not in receipt (46.5) and those who were persistent absenters (44.1) compared to those below persistent absence thresholds (45.9). As with ethnicity these findings were significant but accounted for relatively small differences in overall scores.

A relationship was found between secondary pupil wellbeing and school year with wellbeing decreasing as school year increased. A positive relationship between secondary school pupil wellbeing and school connectedness was also found i.e. higher wellbeing was associated with higher school connectedness.

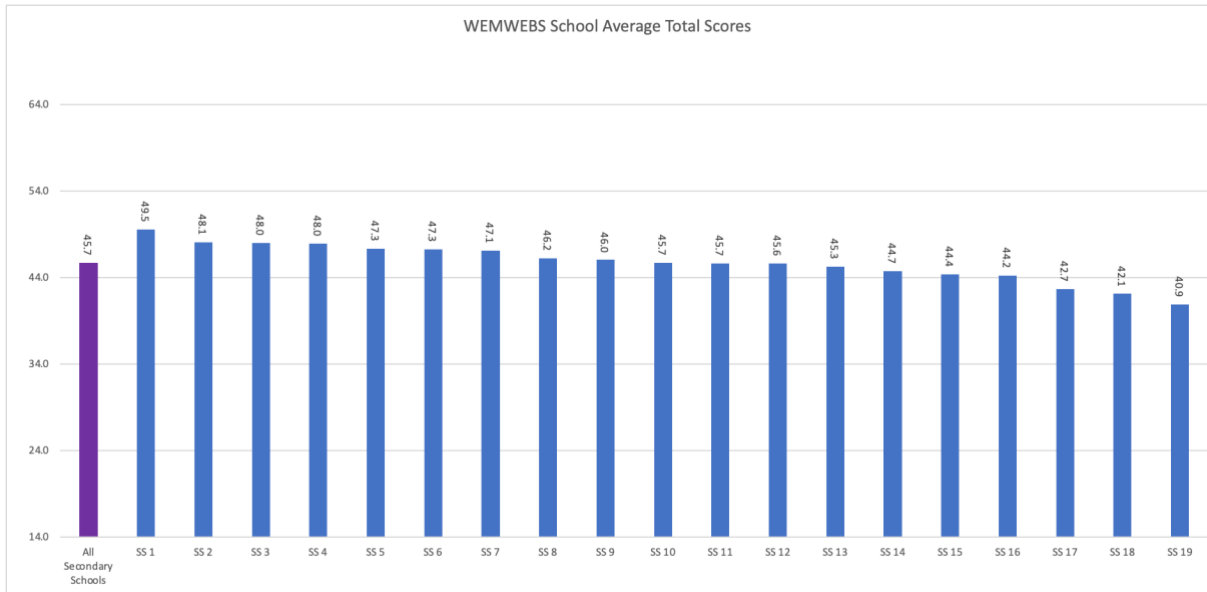
Secondary School Variables	Frequency	%	WEMWBS Total	Std.dev	School Connectedness	Std.dev
Overall	6935	100	45.9	9.6	12.4	4
Male	3457	49.8	48	9.4	12.9	3.8
Female	3478	50.2	43.7	9.4	11.9	3.7
Sex not known	0	N/A	N/A	N/A	N/A	N/A
Year 7	1723	24.8	46.5	9.3	13.2	3.6
Year 8	1778	25.6	46.4	9.3	12	3.8
Year 9	1717	24.8	45.4	9.8	11.8	3.7
Year 10	1176	17	45.6	10.2	12.2	3.8
Year 11	119	1.7	44.2	8.1	13.4	3.5
Year 12	384	5.5	44.5	10.3	13.3	3.7
Year 13	38	0.5	43.9	7.9	14.5	3.1
White	2056	29.6	44.3	9.5	12.1	3.7
Asian	2780	40.1	46.7	9.6	12.9	3.7
Black	789	11.4	46.9	9.3	11.6	3.8
Mixed/Other	1001	14.4	46.2	9.6	12.4	3.7
Ethnicity not known	309	4.5	N/A	N/A	N/A	3.8
No SEND	6419	92.6	45.9	9.6	12.4	3.7
All SEND combined	516	7.4	44.8	9.7	12.2	4
Communication & Interaction	157	2.3	43.5	9.3	11.7	4
Cognition & Learning	217	3.1	45.9	10	12.4	4
SEMH	99	1.4	43.62	9.8	12	3.9
Physical or Sensory	43	0.6	46.3	8.1	13.4	3.5
Other Difficulty/Disability	0	N/A	N/A	N/A	N/A	N/A
In Receipt of FSM	1451	23.8	45.2	9.8	11.8	3.8
Not in receipt of FSM	3833	55.3	46.5	9.8	11.8	3.8
FSM not known	1651	20.9	44.9	9.2	12.6	3.5
Persistent Absenter	966	13.9	44.1	10.2	11.6	3.8
Below PA threshold	5491	79.2	45.9	9.4	12.5	3.7
PA not known	478	6.9	N/A	N/A	N/A	N/A

A common way to categorise this data is to use + or -1 standard deviations from the mean to define three categories of mental wellbeing: “Learn”, “Grow” and “Thrive” (equivalent to low, medium and high mental wellbeing for your sample). Categorising scores in this manner found that 68.7% (n=4765) of all secondary pupil scores fell between 36.2 and 55.5 (Learn), 15.4% (n=1105) of pupils reported total WEMWBS scores equal to or lower than 36.2 (Grow) and 15.9% (n=1165) of pupils reported scores equal to or higher than 55.5 (Thrive). This gives us an idea of how many pupils appeared to have markedly lower and higher levels of wellbeing compared to average score for your school.



Comparative secondary school analysis

The inter-school average wellbeing score was 45.7. Schools displayed some variability between wellbeing scores with range of 8.6 pts between the school reporting the highest (49.5) and lowest (40.9) level of wellbeing. We also found a negative relationship between wellbeing and % SEN at school level – suggesting schools with a higher % SEN typically reported lower wellbeing. A similar finding was also found for school connectedness and % SEN and % FSM at a school level.



What this tells us

Our findings suggest that wellbeing for Birmingham’s participating secondary schools - although similar to the previous year - remained low when compared with a recent similar study. This overall wellbeing score was also slightly lower than a recent 2020 UK population average found for adolescents (Widnall et al., 2020), though it should be noted that this study was conducted during the initial Covid-19 lockdown which may have contributed higher wellbeing scores.

A key finding was that female pupils reported significantly and meaningfully lower mental wellbeing than male pupils (3-8 point change on the WEMWBS (Maheswaran et al., 2012) . This finding is replicated in other recent surveys collected during Covid-19 for 13-16 year olds (Widnall et al., 2020) and supports previous international evidence around the gender gap in adolescent mental health (Campbell, Bann, & Patalay, 2021).

Pupils of White ethnicity on average reported slightly lower levels of wellbeing which was approaching a meaningful difference in comparison to pupils reported to be from other ethnicities. This potentially supports data from the most recent NHS Digital survey which found higher levels of mental health difficulties for 6-16 years old of White ethnicity compared to other ethnicities (Newlove-Delgado et al., 2021), however the broad age range used by NHS Digital and the different mental health measures make direct comparisons tenuous.

From our Birmingham schools data - wellbeing appears to be positive related to school connectedness, and whilst we cannot be sure whether increased wellbeing causes increased school connectedness or vice versa, school connectedness is often cited as a driver of wellbeing (Waters & Cross, 2010). Attempts to improve how connected pupils feel to their school will likely be positively associated with wellbeing.

A relationship was also found between secondary pupil wellbeing and school year with wellbeing appearing to decrease as school year progressed. This would support what we already know about adolescent mental health, with roughly a third of mental health disorders emerging by age 14 (Solmi et al., 2022) and anxiety and disorders around conduct emerging even earlier at age 11 (Kessler et al., 2005). This is also interesting to consider alongside the large reduction in school connectedness we observed between primary school and secondary schools - something we also found in our previous census. It would seem logical that if wellbeing is changeable with age, then there is a case for wellbeing interventions that are age appropriate and maintained across the whole school life cycle.

Overall we found that wellbeing was similar across most schools, however we could identify four schools where wellbeing was somewhat lower than average. Relationships were found at a school-level between wellbeing for % SEN and school connectedness for % SEN and % FSM which suggests schools with higher percentages of these populations would benefit from increased support around wellbeing.

Our data here is hoped to inform local mental health strategy teams who can provide support and guidance to these schools alongside materials and digital lessons that all secondary school can try and implement in their schools to improve wellbeing (available at www.breathe-edu.co.uk).

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Appendix i

Secondary Demographic (reported by schools)

Demographic data will be collected by school administrators/school champions from existing data available to schools.

Ethnicity (2011 Census)

Sex (2021 Census)

School Year

Percentage of Pupil Absence

SEND Type

Free School Meals

Secondary School Pupils (reported by pupils)

The schedule for the *Warwick-Edinburgh Mental Wellbeing Scales (WEMWEBS)* (Stewart-Brown et al., 2009) contain the following questions and an additional 3 questions on school connectedness (each coded by 1-5 Likert scale)

		Never	Not that much of the time	Some of the time	Quite a lot of the time	All of the time
Warwick-Edinburgh Mental Wellbeing Scale						
1	I've been feeling optimistic about the future					
2	I've been feeling useful	1	2	3	4	5
3	I've been feeling relaxed	1	2	3	4	5
4	I've feeling interested in other people	1	2	3	4	5
5	I've had energy too spare	1	2	3	4	5
6	I've been dealing with problems well	1	2	3	4	5
7	I've been thinking clearly	1	2	3	4	5
8	I've been feeling good about myself	1	2	3	4	5
9	I've been feeling good about myself	1	2	3	4	5
10	I've been feeling close to other people	1	2	3	4	5
11	I've been able to make up my own mind about things	1	2	3	4	5
12	I've been feeling loved	1	2	3	4	5
13	I've been interested in new things	1	2	3	4	5
14	I've been feeling cheerful	1	2	3	4	5

Secondary School Pupils (reported by pupils)

School Connectedness question are adapted from Waters and Cross (2010) and contain the following questions and an additional 3 questions on school connectedness (each coded by 1-5 Likert scale)

Additional questions of school connectedness (Adapted from Waters & Cross 2010)						
1 6	I feel proud to be a student at my school	1	2	3	4	5
1 7	I feel like I belong at my school	1	2	3	4	5
1 8	I enjoy coming to school	1	2	3	4	5
1 9	I have meaningful relationships with teachers from my school	1	2	3	4	5

Warwick-Edinburgh Mental Wellbeing Scales (WEMWEBS) (Stewart-Brown et al., 2009)

The WEMWEBS has been validated for use in general population and schools for the evaluation of projects, programmes and policies which aim to improve mental wellbeing. The 14-item scale WEMWEBS has 5 response categories, summed to provide a single score. The items are suitable for young people and are all worded positively, covering both feeling and functioning aspects of mental wellbeing and thereby making the concept more accessible. The scale has been widely used nationally and internationally for monitoring, evaluating projects and programmes and investigating the determinants of mental wellbeing. Further information on the measure can be found here:

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

School Connectedness is assessed by 4 questions measuring school connectedness, these questions adapted from Waters and Cross (2010) questions were adapted to be suitable for use with the population. School connectedness is an important belief that is associated with protecting pupils against a range of risk behaviours and poor academic achievement (McNeely, Nonnemaker, & Blum, 2002).

Each survey is voluntary, pupils can digitally withdraw from the survey prior to beginning and submitting their answers. A debrief for pupils is presented to on withdrawal or completion of surveys (see appendix i). The survey realistically takes 5-10 minutes (accounting for younger ages).