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Understanding the impact of attendance and family liaison officers (AFLOs)

Further Appendices

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This project is part of a joint funding round with the Youth Endowment Fund (YEF). The YEF and the Education Endowment Foundation (EEF) are partnering to find, fund, and evaluate programmes and practices in England and Wales that could keep children safe from involvement in violence and/or improve academic attainment, by increasing school presence.

The YEF and the EEF have independently followed their internal review process for the projects they manage in this joint funding partnership.



The Education Endowment Foundation (EEF) is an independent charity dedicated to breaking the link between family income and education achievement. We support schools, colleges, and early years settings to improve teaching and learning for 2–19-year-olds through better use of evidence.

We do this by:

- **Summarising evidence.** Reviewing the best available evidence on teaching and learning and presenting in an accessible way.
- **Finding new evidence.** Funding independent evaluations of programmes and approaches that aim to raise the attainment of children and young people from socio-economically disadvantaged backgrounds. Putting evidence to use.
- **Putting evidence to use.** Supporting education practitioners, as well as policymakers and other organisations, to use evidence in ways that improve teaching and learning.

We were set-up in 2011 by the Sutton Trust partnership with Impetus with a founding £125m grant from the Department for Education. In 2022, we were reendowed with an additional £137m from government, allowing us to continue our work until at least 2032.

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About the Youth Endowment Fund


The Youth Endowment Fund (YEF) is a charity with a mission that matters. We exist to prevent children and young people becoming involved in violence. We do this by finding out what works and building a movement to put this knowledge into practice.


Children and young people at risk of becoming involved in violence deserve services that give them the best chance of a positive future. To make sure that happens, we will fund promising projects and then use the very best evaluation to find out what works. Just as we benefit from robust trials in medicine, young people deserve support grounded in the evidence. We will build that knowledge through our various grant rounds and funding activity.


And just as important is understanding children and young people's lives. Through our Youth Advisory Board and national network of peer researchers, we will ensure they influence our work and we understand and are addressing their needs. But none of this will make a difference if all we do is produce reports that stay on a shelf.

Together we need to look at the evidence and agree what works, then build a movement to make sure that young people get the very best support possible. Our strategy sets out how we will do it. At its heart it says that we will fund good work, find what works, and work for change. You can read it [here](#).

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Appendix B: Impact estimation methodology

The impact of introducing AFLOs in the post-COVID period was estimated using a non-staggered Difference-in-Differences (DiD) design while the impact of introducing AFLOs in the pre-COVID period was estimated using a staggered Difference-in-Differences (DiD) design.

Staggered DiD design (pre-COVID analysis)

The staggered DiD impact evaluation design used to estimate the AFLO impact in the pre-COVID period is illustrated in Figure B1.

Figure B1: Staggered DiD design

	AY 2012/13	AY 2013/14	AY 2014/15	AY 2015/16	AY 2016/17	AY 2017/18	AY 2018/19
Schools treated in AY 2013/14	No AFLOs	AFLOs	AFLOs	AFLOs	AFLOs	AFLOs	AFLOs
Schools treated in AY 2014/15	No AFLOs	No AFLOs	AFLOs	AFLOs	AFLOs	AFLOs	AFLOs
Schools treated in AY 2015/16	No AFLOs	No AFLOs	No AFLOs	AFLOs	AFLOs	AFLOs	AFLOs
Schools treated in AY 2016/17	No AFLOs	No AFLOs	No AFLOs	No AFLOs	AFLOs	AFLOs	AFLOs
Schools treated in AY 2017/18	No AFLOs	No AFLOs	No AFLOs	No AFLOs	No AFLOs	AFLOs	AFLOs
Schools treated in AY 2018/19	No AFLOs	No AFLOs	No AFLOs	No AFLOs	No AFLOs	No AFLOs	AFLOs
Untreated schools	No AFLOs	No AFLOs	No AFLOs	No AFLOs	No AFLOs	No AFLOs	No AFLOs

The introduction of AFLOs is represented by a switch from a white box (denoting that the school does not have AFLOs) in a given academic year to a blue box (indicating that the school hired one/more AFLOs) in the next academic year. This approach is called ‘staggered’ because it is used to estimate the impact of introducing AFLOs in different academic years. This approach uses untreated (in this case, never-treated) schools (schools that never used AFLOs) as comparators to produce all impact estimates.

An important change to the original impact evaluation design is that the pre-COVID (staggered difference-in-difference) analysis could not explore the impact of introducing AFLOs in the academic year 2012/13 because the variable capturing a pupil’s FSM eligibility in the last six years, required to was available only from 2012/13 (all the variables representing the determinants of AFLO introduction in a specific academic year must be observed in the previous academic year). Therefore, the pre-COVID analysis estimated the impact of introducing AFLOs between 2013/14 and 2018/19 (rather than between 2012/13 and 2018/19, as illustrated in the original study plan – see [Understanding the Use of Attendance and Family Liaison Officers - Study plan | Education Endowment Foundation](#)). This means that the staggered difference-in-differences design was used in the pre-COVID analysis to **estimate the impact of introducing AFLOs in each of the following six academic years: 2013/14, 2014/15, 2015/16, 2016/17, 2017/18 and 2018/19.**

A key requirement of the staggered difference-in-differences design is that, once treated, a school remains treated. That is, after AFLOs are hired by a school, the school continues using them throughout the analysis period during which the school is classified as a treated unit. In Figure A2, this feature is illustrated by means of a succession of blue boxes over the entire period following the academic year in which the school introduces AFLOs.

For the **pre-COVID analysis**, impacts were estimated at different time points following the introduction of AFLOs for different cohort of schools, and the number of time points depended on whether any/how many academic years were observed after the AFLO introduction year for a specific cohort. Specifically, **we estimated impacts at the following time points:**

- **In the same academic year AFLOs were introduced (impact 0 years after).** This was possible for **each of the six cohorts of schools** considered (i.e., those which **introduced AFLOs in the academic years 2013/14, 2014/15, 2015/16, 2016/17, 2017/18 and 2018/19**) because for all of them outcome data for the academic year prior to AFLO introduction was available to implement the DiD approach (impact was estimated by comparing the outcome change between the academic year AFLOs were introduced and the previous academic year for schools which introduced AFLOs in a given year and the correspondent outcome change for schools which did not introduced AFLOs in the same year).
- **In the academic year after the academic year AFLOs were introduced (impact 1 year after).** This was possible for **five of the six cohorts** (i.e., schools which **introduced AFLOs in the academic years 2013/14, 2014/15, 2015/16, 2016/17 and 2017/18**) because for these cohorts outcome data for the academic year prior to AFLO introduction and the academic year immediately after were available to implement the DiD approach (impact was estimated by comparing the outcome change between the academic year after and the academic year before AFLOs were introduced for schools which introduced AFLOs in a given year and the correspondent outcome change for schools which did not introduced AFLOs in the same year).
- **Two academic years after the academic year AFLOs were introduced (impact 2 years after).** This was possible for **four of the six cohorts** (i.e., those which **introduced AFLOs in the academic years 2013/14, 2014/15, 2015/16 and 2016/17**) because for these cohorts outcome data for the academic year prior to AFLO introduction and the academic year after the academic year immediately after were available to implement the DiD approach (impact was estimated by comparing the outcome change between the second academic year after and the academic year before AFLOs were introduced for schools which introduced AFLOs in a given year and the correspondent outcome change for schools which did not introduced AFLOs in the same year).

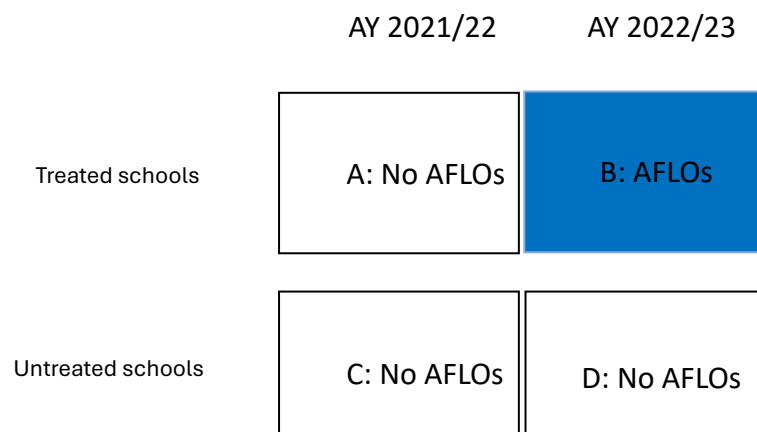
The **post-COVID analysis** estimated impact only in the AFLO introduction year (in the period '**0 years after**') because for schools which **introduced AFLOs in the academic year 2022/23** outcomes were observed one year before the AFLO introduction but not one year after.

In addition to estimating impacts at different time periods separately for each cohort of schools, the pre-COVID impact analysis estimated an **average immediate impact (0 years after)** by aggregating (averaging across) the '0 years after' impacts obtained for the six cohort (schools which **introduced AFLOs in the academic years 2013/14, 2014/15, 2015/16, 2016/17, 2017/18 and 2018/19**), an **average impact '1 year after'** by aggregating the five '1 year after' cohort impacts (for schools which **introduced AFLOs in the academic years 2013/14, 2014/15, 2015/16, 2016/17 and 2017/18**), and an **average impact '2 years after'** by aggregating the four '2 years after' cohort impacts (for schools which **introduced AFLOs in the academic years 2013/14, 2014/15, 2015/16 and 2016/17**).

Non-staggered DiD design (post-COVID analysis)

The impact of introducing AFLOs for the first time in the post-COVID period will be estimated using a (two-period, two-group) difference-in-differences approach, as illustrated in Figure B2. The introduction of AFLOs is represented by a switch from a white box (denoting that the school does not have AFLOs) in the academic year 2021/22 to a blue box (indicating that the school hired one/more AFLOs) in the academic year 2022/23. This approach is called 'non-staggered' because it is used to estimate the impact of introducing AFLOs in a single academic year (2022/23).

Figure B2: Non-staggered DiD design



The **impact of introducing AFLOs in the academic year 2022/23** is calculated as the difference between the before-after outcome change (e.g., for the primary outcome, the change in the proportion of persistently absent pupils between 2021/22 and 2022/23) for two groups of pupils:

- **Treated pupils:** Those enrolled in treated schools, which introduced AFLOs in the academic year 2022/23 (switched from no AFLO status in the academic year 2021/22 to AFLO status in the academic year 2022/23).
- **Untreated pupils:** Those enrolled in untreated schools, which did not introduce AFLOs in the academic year 2022/23 (did not employ AFLOs in either academic year 2021/22 or 2022/23).

The impact of introducing AFLOs is then estimated, using the four outcomes shown in Figure B2, as the double difference (Outcome B minus Outcome A) minus (Outcome D minus Outcome C).

To strengthen the credibility of the impact analysis and provide more compelling evidence of the AFLO impact, we imposed the additional condition that neither treated schools nor untreated schools have used AFLOs before the academic year 2021/22 (including the academic years 2012/13 to 2018/19 and the academic year 2020/21). This was to ensure that the estimated impact reflects the causal effect of introducing AFLOs for the first time, removing any confounding effect from previous AFLO use. Such past use could provide residual advantages, as having had AFLOs could have already contributed to improved school attendance.

Appendix C: Impact estimates for the pre-COVID period (based on the full sample and calculated across multiple school cohorts)

The coefficients and 95% confidence intervals reported here for the outcomes ‘percentage of persistently absent pupils’ and ‘percentage of pupils with one or more fixed-term exclusions’ must be multiplied by 100 to obtain the impact estimates and 95% confidence intervals expressed in percentage points illustrated in the main report. The full sample includes all pupils regardless of their FSM eligibility status or ethnicity. The impact estimates highlighted in grey have been used to assess the plausibility of the parallel trend assumption.

Table C1: Impact on the percentage of persistently absent pupils

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.001	0.001	0.93	0.350	-0.001	0.003
1 year before	0.001	0.001	0.68	0.495	-0.001	0.002
0 years after	-0.001	0.001	-2.02	0.043	-0.002	0.000
1 year after	0.001	0.001	0.89	0.376	-0.001	0.002
2 years after	-0.001	0.001	-1.51	0.131	-0.003	0.000

Table C2: Impact on pupil overall absence rate

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.000	0.000	0.32	0.746	0.000	0.000
1 year before	0.000	0.000	0.28	0.783	0.000	0.000
0 years after	0.000	0.000	0.05	0.958	0.000	0.000
1 year after	0.000	0.000	-1.31	0.189	0.000	0.000
2 years after	0.000	0.000	0.29	0.770	0.000	0.000

Table C3: Impact on pupil unauthorised absence rate

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.016	0.050	0.31	0.755	-0.083	0.114
1 year before	0.011	0.031	0.36	0.721	-0.049	0.071
0 years after	0.036	0.032	1.12	0.264	-0.027	0.099
1 year after	0.000	0.034	0.01	0.989	-0.067	0.068
2 years after	0.108	0.044	2.47	0.013	0.022	0.193

Table C4: Impact on the percentage of pupils with one or more fixed-term exclusions

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.006	0.002	2.66	0.008	0.002	0.011
1 year before	0.000	0.002	0.02	0.982	-0.003	0.003
0 years after	0.004	0.001	2.98	0.003	0.001	0.006
1 year after	0.002	0.002	1.13	0.260	-0.002	0.006
2 years after	0.006	0.003	1.92	0.055	0.000	0.013

Table C5: Impact on the percentage of persistently absent pupils

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	-0.002	0.001	-1.81	0.071	-0.004	0.000
1 year after	-0.002	0.002	-1.24	0.216	-0.005	0.001
2 years after	-0.008	0.002	-4.81	0.000	-0.011	-0.005
Introduced AFLOs in 2014/15						
1 year before	-0.002	0.001	-1.40	0.162	-0.004	0.001
0 years after	0.001	0.001	1.35	0.175	-0.001	0.003
1 year after	0.004	0.001	3.18	0.001	0.002	0.007
2 years after	0.002	0.001	2.22	0.026	0.000	0.004
Introduced AFLOs in 2015/16						
2 years before	0.002	0.003	0.63	0.528	-0.003	0.007
1 year before	0.001	0.002	0.75	0.451	-0.002	0.004
0 years after	-0.004	0.001	-2.65	0.008	-0.006	-0.001
1 year after	0.000	0.001	-0.32	0.752	-0.003	0.002
2 years after	0.001	0.002	0.64	0.523	-0.002	0.005
Introduced AFLOs in 2016/17						
2 years before	0.005	0.002	3.35	0.001	0.002	0.008
1 year before	0.004	0.001	2.73	0.006	0.001	0.006
0 years after	-0.002	0.001	-1.98	0.048	-0.003	0.000
1 year after	-0.002	0.001	-1.72	0.085	-0.004	0.000
2 years after	-0.001	0.001	-0.60	0.546	-0.003	0.002
Introduced AFLOs in 2017/18						
2 years before	-0.002	0.002	-1.43	0.152	-0.005	0.001
1 year before	-0.002	0.002	-1.19	0.236	-0.005	0.001
0 years after	-0.001	0.002	-0.31	0.758	-0.004	0.003
1 year after	0.002	0.002	1.10	0.273	-0.002	0.006
Introduced AFLOs in 2018/19						
2 years before	0.000	0.002	-0.16	0.877	-0.005	0.004
1 year before	0.003	0.003	0.93	0.355	-0.003	0.008
0 years after	-0.001	0.001	-0.84	0.399	-0.004	0.001

Table C6: Impact on pupil overall absence rate

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	0.000	0.000	-1.62	0.106	0.000	0.000
1 year after	0.000	0.000	-1.00	0.316	0.000	0.000
2 years after	0.000	0.000	1.58	0.115	0.000	0.000
Introduced AFLOs in 2014/15						
1 year before	0.000	0.000	-2.22	0.026	0.000	0.000
0 years after	0.000	0.000	1.27	0.204	0.000	0.000
1 year after	0.000	0.000	-1.85	0.064	0.000	0.000
2 years after	0.000	0.000	0.38	0.705	0.000	0.000
Introduced AFLOs in 2015/16						
2 years before	0.000	0.000	-0.34	0.732	0.000	0.000
1 year before	0.000	0.000	0.38	0.707	0.000	0.000
0 years after	0.000	0.000	0.49	0.626	0.000	0.000
1 year after	0.000	0.000	0.20	0.840	0.000	0.000
2 years after	0.000	0.000	-0.28	0.782	0.000	0.000
Introduced AFLOs in 2016/17						
2 years before	0.000	0.000	0.45	0.651	0.000	0.000
1 year before	0.000	0.000	0.99	0.320	0.000	0.000
0 years after	0.000	0.000	-0.01	0.992	0.000	0.000
1 year after	0.000	0.000	0.98	0.329	0.000	0.000
2 years after	0.000	0.000	-1.21	0.226	0.000	0.000
Introduced AFLOs in 2017/18						
2 years before	0.000	0.000	0.76	0.448	0.000	0.000
1 year before	0.000	0.000	1.50	0.135	0.000	0.000
0 years after	0.000	0.000	0.13	0.898	0.000	0.000
1 year after	0.000	0.000	-0.67	0.504	0.000	0.000
Introduced AFLOs in 2018/19						
2 years before	0.000	0.000	-0.36	0.720	0.000	0.000
1 year before	0.000	0.000	0.07	0.947	0.000	0.000
0 years after	0.000	0.000	-0.45	0.655	0.000	0.000

Table C7: Impact on pupil unauthorised absence rate

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	0.095	0.056	1.69	0.091	-0.015	0.206
1 year after	-0.030	0.061	-0.50	0.620	-0.149	0.089
2 years after	0.249	0.066	3.79	0.000	0.120	0.378
Introduced AFLOs in 2014/15						
1 year before	-0.007	0.055	-0.13	0.899	-0.115	0.101
0 years after	-0.090	0.061	-1.47	0.141	-0.210	0.030
1 year after	-0.091	0.069	-1.31	0.190	-0.226	0.045
2 years after	0.022	0.069	0.33	0.744	-0.112	0.157
Introduced AFLOs in 2015/16						
2 years before	0.037	0.107	0.35	0.730	-0.172	0.246
1 year before	-0.065	0.067	-0.97	0.334	-0.197	0.067
0 years after	0.162	0.058	2.78	0.005	0.048	0.276
1 year after	-0.026	0.088	-0.29	0.771	-0.198	0.147
2 years after	-0.093	0.103	-0.90	0.368	-0.296	0.109
Introduced AFLOs in 2016/17						
2 years before	0.024	0.127	0.18	0.853	-0.226	0.273
1 year before	0.055	0.084	0.66	0.510	-0.110	0.221
0 years after	0.224	0.081	2.75	0.006	0.064	0.384
1 year after	0.181	0.069	2.64	0.008	0.047	0.316
2 years after	0.198	0.078	2.55	0.011	0.045	0.350
Introduced AFLOs in 2017/18						
2 years before	0.060	0.073	0.82	0.414	-0.084	0.203
1 year before	0.066	0.064	1.03	0.303	-0.060	0.192
0 years after	-0.072	0.088	-0.81	0.417	-0.245	0.101
1 year after	-0.038	0.078	-0.49	0.623	-0.191	0.115
Introduced AFLOs in 2018/19						
2 years before	-0.083	0.064	-1.30	0.194	-0.207	0.042
1 year before	-0.045	0.070	-0.64	0.520	-0.183	0.092
0 years after	-0.051	0.087	-0.59	0.558	-0.222	0.120

Table C8: Impact on the percentage of pupils with one or more fixed-term exclusions

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	0.015	0.003	4.36	0.000	0.008	0.022
1 year after	0.012	0.005	2.35	0.019	0.002	0.022
2 years after	0.031	0.007	4.67	0.000	0.018	0.045
Introduced AFLOs in 2014/15						
1 year before	-0.001	0.004	-0.23	0.821	-0.009	0.007
0 years after	-0.004	0.003	-1.49	0.135	-0.010	0.001
1 year after	0.002	0.003	0.63	0.529	-0.004	0.008
2 years after	0.001	0.003	0.38	0.707	-0.005	0.008
Introduced AFLOs in 2015/16						
2 years before	0.017	0.007	2.55	0.011	0.004	0.030
1 year before	0.007	0.004	1.46	0.145	-0.002	0.015
0 years after	0.011	0.003	3.34	0.001	0.005	0.018
1 year after	-0.010	0.006	-1.84	0.066	-0.021	0.001
2 years after	-0.008	0.007	-1.21	0.226	-0.021	0.005
Introduced AFLOs in 2016/17						
2 years before	-0.002	0.004	-0.42	0.678	-0.010	0.007
1 year before	-0.002	0.003	-0.60	0.547	-0.009	0.005
0 years after	0.005	0.002	2.03	0.042	0.000	0.009
1 year after	0.002	0.004	0.46	0.647	-0.005	0.009
2 years after	-0.001	0.007	-0.18	0.858	-0.014	0.012
Introduced AFLOs in 2017/18						
2 years before	0.004	0.003	1.28	0.200	-0.002	0.011
1 year before	-0.001	0.003	-0.39	0.698	-0.008	0.005
0 years after	0.000	0.003	0.15	0.881	-0.005	0.006
1 year after	0.002	0.003	0.53	0.594	-0.004	0.008
Introduced AFLOs in 2018/19						
2 years before	0.011	0.004	2.57	0.010	0.003	0.019
1 year before	0.001	0.005	0.19	0.846	-0.009	0.011
0 years after	0.001	0.004	0.19	0.848	-0.007	0.009

Appendix D: Impact estimates by free school meal status for the pre-COVID period

Table D1: Impact on the percentage of persistently absent pupils (FSM eligible)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.005	0.005	1.05	0.293	-0.005	0.015
1 year before	-0.005	0.003	-1.58	0.113	-0.011	0.001
0 years after	-0.004	0.002	-1.49	0.135	-0.008	0.001
1 year after	-0.004	0.003	-1.36	0.174	-0.010	0.002
2 years after	-0.005	0.004	-1.45	0.147	-0.012	0.002

Table D2: Impact on the percentage of persistently absent pupils (non-FSM eligible)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.004	0.001	-2.93	0.003	-0.007	-0.001
1 year before	-0.001	0.001	-0.84	0.404	-0.003	0.001
0 years after	-0.001	0.001	-0.60	0.547	-0.002	0.001
1 year after	0.000	0.001	0.18	0.857	-0.002	0.002
2 years after	-0.002	0.001	-1.82	0.068	-0.005	0.000

Table D3: Impact on the percentage of persistently absent pupils (FSM eligible)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	0.000	0.005	-0.01	0.996	-0.010	0.010
1 year after	0.000	0.006	-0.03	0.975	-0.012	0.012
2 years after	-0.010	0.005	-1.88	0.060	-0.020	0.000
Introduced AFLOs in 2014/15						
1 year before	-0.008	0.005	-1.79	0.074	-0.018	0.001
0 years after	0.004	0.004	0.92	0.356	-0.004	0.011
1 year after	-0.005	0.005	-1.00	0.317	-0.013	0.004
2 years after	0.014	0.007	2.11	0.035	0.001	0.027
Introduced AFLOs in 2015/16						
2 years before	0.003	0.017	0.16	0.873	-0.031	0.036
1 year before	0.006	0.010	0.62	0.535	-0.013	0.026
0 years after	-0.002	0.009	-0.19	0.852	-0.020	0.016
1 year after	0.005	0.013	0.37	0.709	-0.021	0.032
2 years after	-0.006	0.011	-0.61	0.541	-0.027	0.014
Introduced AFLOs in 2016/17						
2 years before	0.019	0.007	2.80	0.005	0.006	0.032
1 year before	0.012	0.005	2.45	0.014	0.002	0.021
0 years after	-0.009	0.005	-1.82	0.069	-0.018	0.001
1 year after	-0.010	0.006	-1.73	0.084	-0.022	0.001
2 years after	-0.022	0.005	-4.48	0.000	-0.032	-0.012
Introduced AFLOs in 2017/18						
2 years before	-0.009	0.007	-1.19	0.235	-0.023	0.006
1 year before	-0.028	0.007	-4.02	0.000	-0.042	-0.014
0 years after	-0.008	0.007	-1.17	0.240	-0.023	0.006
1 year after	-0.007	0.007	-0.97	0.332	-0.022	0.007
Introduced AFLOs in 2018/19						
2 years before	0.009	0.008	1.06	0.290	-0.007	0.025
1 year before	0.000	0.007	-0.04	0.971	-0.014	0.013
0 years after	-0.007	0.006	-1.26	0.209	-0.018	0.004

Table D4: Impact on the percentage of persistently absent pupils (non-FSM eligible)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	-0.004	0.002	-2.25	0.024	-0.008	-0.001
1 year after	-0.001	0.002	-0.53	0.599	-0.006	0.003
2 years after	-0.011	0.002	-4.94	0.000	-0.015	-0.007
Introduced AFLOs in 2014/15						
1 year before	-0.006	0.003	-2.18	0.030	-0.011	-0.001
0 years after	0.002	0.002	0.91	0.365	-0.002	0.005
1 year after	0.001	0.002	0.54	0.589	-0.003	0.005
2 years after	-0.001	0.002	-0.53	0.598	-0.006	0.003
Introduced AFLOs in 2015/16						
2 years before	-0.007	0.003	-2.24	0.025	-0.014	-0.001
1 year before	-0.001	0.002	-0.38	0.704	-0.005	0.003
0 years after	-0.009	0.002	-4.60	0.000	-0.012	-0.005
1 year after	-0.005	0.002	-1.95	0.052	-0.010	0.000
2 years after	0.001	0.003	0.42	0.672	-0.004	0.007
Introduced AFLOs in 2016/17						
2 years before	-0.004	0.003	-1.20	0.231	-0.011	0.003
1 year before	-0.003	0.003	-1.20	0.230	-0.008	0.002
0 years after	0.002	0.002	0.77	0.442	-0.002	0.005
1 year after	0.000	0.002	0.11	0.908	-0.004	0.005
2 years after	0.002	0.002	0.72	0.473	-0.003	0.006
Introduced AFLOs in 2017/18						
2 years before	-0.004	0.002	-1.80	0.072	-0.007	0.000
1 year before	0.003	0.002	1.65	0.100	-0.001	0.006
0 years after	0.000	0.002	-0.13	0.897	-0.004	0.004
1 year after	0.003	0.002	1.27	0.206	-0.002	0.007
Introduced AFLOs in 2018/19						
2 years before	-0.003	0.002	-1.07	0.285	-0.007	0.002
1 year before	0.003	0.003	0.95	0.341	-0.003	0.008
0 years after	0.004	0.003	1.68	0.093	-0.001	0.009

Appendix E: Impact estimates by ethnicity for the pre-COVID period

Table E1: Impact on the percentage of persistently absent pupils (White ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.001	0.001	-1.20	0.230	-0.003	0.001
1 year before	-0.002	0.001	-2.11	0.035	-0.004	0.000
0 years after	0.000	0.001	0.38	0.701	-0.001	0.002
1 year after	0.002	0.001	1.73	0.084	0.000	0.004
2 years after	0.002	0.001	1.39	0.165	-0.001	0.004

Table E2: Impact on the percentage of persistently absent pupils (Asian ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.014	0.011	-1.22	0.222	-0.035	0.008
1 year before	-0.011	0.009	-1.19	0.233	-0.030	0.007
0 years after	-0.002	0.007	-0.24	0.807	-0.016	0.012
1 year after	-0.013	0.005	-2.53	0.011	-0.024	-0.003
2 years after	-0.003	0.005	-0.71	0.480	-0.012	0.006

Table E3: Impact on the percentage of persistently absent pupils (Black ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.012	0.007	1.65	0.099	-0.002	0.027
1 year before	0.014	0.008	1.84	0.066	-0.001	0.030
0 years after	-0.010	0.005	-1.99	0.047	-0.019	0.000
1 year after	-0.012	0.006	-2.01	0.044	-0.025	0.000
2 years after	-0.019	0.007	-2.53	0.011	-0.034	-0.004

Table E4: Impact on the percentage of persistently absent pupils (Other/mixed ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.003	0.007	-0.46	0.646	-0.018	0.011
1 year before	0.002	0.005	0.38	0.704	-0.009	0.013
0 years after	-0.004	0.005	-0.74	0.458	-0.014	0.006
1 year after	-0.001	0.006	-0.10	0.922	-0.011	0.010
2 years after	-0.007	0.007	-0.92	0.359	-0.021	0.007

Table E5: Impact on the percentage of persistently absent pupils (White ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	-0.002	0.002	-1.42	0.156	-0.006	0.001
1 year after	-0.002	0.002	-0.87	0.382	-0.005	0.002
2 years after	-0.008	0.002	-4.10	0.000	-0.012	-0.004
Introduced AFLOs in 2014/15						
1 year before	-0.006	0.002	-3.81	0.000	-0.009	-0.003
0 years after	0.003	0.002	1.77	0.078	0.000	0.006
1 year after	-0.002	0.002	-1.17	0.243	-0.005	0.001
2 years after	0.003	0.002	1.74	0.082	0.000	0.007
Introduced AFLOs in 2015/16						
2 years before	-0.005	0.003	-1.53	0.126	-0.012	0.001
1 year before	-0.001	0.002	-0.28	0.778	-0.005	0.004
0 years after	-0.006	0.002	-3.06	0.002	-0.009	-0.002
1 year after	0.003	0.002	1.33	0.183	-0.001	0.008
2 years after	0.009	0.004	2.19	0.029	0.001	0.016
Introduced AFLOs in 2016/17						
2 years before	-0.001	0.002	-0.29	0.774	-0.004	0.003
1 year before	-0.002	0.002	-0.98	0.326	-0.006	0.002
0 years after	0.004	0.002	2.25	0.025	0.001	0.008
1 year after	0.008	0.003	2.91	0.004	0.003	0.014
2 years after	0.006	0.002	2.99	0.003	0.002	0.011
Introduced AFLOs in 2017/18						
2 years before	-0.002	0.002	-1.13	0.258	-0.005	0.001
1 year before	0.000	0.002	-0.23	0.819	-0.004	0.003
0 years after	0.000	0.002	0.19	0.848	-0.003	0.004
1 year after	0.002	0.002	0.91	0.361	-0.002	0.006
Introduced AFLOs in 2018/19						
2 years before	0.002	0.002	0.81	0.415	-0.002	0.006
1 year before	0.001	0.002	0.63	0.529	-0.002	0.004
0 years after	-0.001	0.002	-0.40	0.688	-0.004	0.003

Table E6: Impact on the percentage of persistently absent pupils (Asian ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	-0.017	0.019	-0.89	0.374	-0.055	0.021
1 year after	-0.025	0.018	-1.41	0.158	-0.059	0.010
2 years after	-0.015	0.010	-1.46	0.143	-0.035	0.005
Introduced AFLOs in 2014/15						
1 year before	-0.010	0.009	-1.13	0.259	-0.028	0.007
0 years after	-0.003	0.020	-0.15	0.881	-0.043	0.037
1 year after	0.003	0.011	0.25	0.806	-0.019	0.024
2 years after	0.013	0.006	1.99	0.047	0.000	0.026
Introduced AFLOs in 2015/16						
2 years before	0.003	0.008	0.41	0.682	-0.012	0.018
1 year before	-0.003	0.016	-0.21	0.834	-0.035	0.028
0 years after	0.030	0.007	4.36	0.000	0.017	0.044
1 year after	0.004	0.008	0.55	0.584	-0.012	0.021
2 years after	-0.001	0.007	-0.19	0.851	-0.015	0.013
Introduced AFLOs in 2016/17						
2 years before	-0.008	0.010	-0.77	0.442	-0.028	0.012
1 year before	0.007	0.009	0.71	0.481	-0.012	0.025
0 years after	-0.007	0.009	-0.74	0.458	-0.025	0.011
1 year after	-0.030	0.006	-5.14	0.000	-0.041	-0.018
2 years after	-0.020	0.009	-2.32	0.020	-0.038	-0.003
Introduced AFLOs in 2017/18						
2 years before	-0.014	0.011	-1.28	0.201	-0.036	0.008
1 year before	-0.001	0.010	-0.13	0.898	-0.020	0.017
0 years after	-0.026	0.009	-3.04	0.002	-0.043	-0.009
1 year after	-0.036	0.007	-5.04	0.000	-0.050	-0.022
Introduced AFLOs in 2018/19						
2 years before	-0.054	0.048	-1.12	0.262	-0.149	0.041
1 year before	-0.067	0.048	-1.40	0.161	-0.161	0.027
0 years after	-0.001	0.016	-0.07	0.941	-0.032	0.029

Table E7: Impact on the percentage of persistently absent pupils (Black ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	0.010	0.015	0.66	0.510	-0.019	0.038
1 year after	0.007	0.015	0.48	0.629	-0.022	0.036
2 years after	0.036	0.015	2.38	0.017	0.006	0.066
Introduced AFLOs in 2014/15						
1 year before	0.013	0.014	0.99	0.323	-0.013	0.040
0 years after	-0.013	0.013	-1.07	0.284	-0.038	0.011
1 year after	-0.013	0.017	-0.74	0.461	-0.046	0.021
2 years after	-0.029	0.021	-1.39	0.163	-0.069	0.012
Introduced AFLOs in 2015/16						
2 years before	0.042	0.028	1.50	0.134	-0.013	0.098
1 year before	0.021	0.027	0.79	0.431	-0.032	0.074
0 years after	-0.005	0.011	-0.44	0.657	-0.027	0.017
1 year after	-0.015	0.013	-1.18	0.24	-0.04	0.010
2 years after	-0.039	0.015	-2.56	0.011	-0.069	-0.009
Introduced AFLOs in 2016/17						
2 years before	0.009	0.009	1.00	0.319	-0.008	0.026
1 year before	0.014	0.016	0.90	0.37	-0.017	0.045
0 years after	-0.017	0.007	-2.53	0.011	-0.031	-0.004
1 year after	-0.032	0.008	-4.19	0.0	-0.046	-0.017
2 years after	-0.024	0.008	-3.03	0.002	-0.04	-0.008
Introduced AFLOs in 2017/18						
2 years before	-0.003	0.011	-0.28	0.78	-0.024	0.018
1 year before	0.029	0.01	2.89	0.004	0.009	0.049
0 years after	-0.004	0.012	-0.35	0.723	-0.027	0.018
1 year after	0.018	0.012	1.53	0.126	-0.005	0.042
Introduced AFLOs in 2018/19						
2 years before	0.007	0.013	0.54	0.589	-0.018	0.032
1 year before	-0.006	0.013	-0.48	0.629	-0.032	0.020
0 years after	-0.013	0.019	-0.68	0.496	-0.051	0.025

Table E8: Impact on the percentage of persistently absent pupils (Other/mixed ethnicity)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
Introduced AFLOs in 2013/14						
0 years after	0.002	0.013	0.13	0.893	-0.023	0.027
1 year after	-0.002	0.017	-0.11	0.913	-0.035	0.031
2 years after	-0.024	0.018	-1.30	0.195	-0.060	0.012
Introduced AFLOs in 2014/15						
1 year before	0.011	0.011	1.01	0.314	-0.010	0.032
0 years after	-0.009	0.01	-0.82	0.412	-0.029	0.012
1 year after	-0.006	0.01	-0.59	0.552	-0.026	0.014
2 years after	0.000	0.013	0.00	1.000	-0.026	0.026
Introduced AFLOs in 2015/16						
2 years before	0.014	0.015	0.92	0.357	-0.016	0.045
1 year before	-0.002	0.011	-0.15	0.878	-0.023	0.020
0 years after	0.013	0.013	0.97	0.333	-0.013	0.039
1 year after	0.014	0.014	1.05	0.292	-0.012	0.041
2 years after	0.017	0.014	1.20	0.232	-0.011	0.045
Introduced AFLOs in 2016/17						
2 years before	0.02	0.011	1.85	0.064	-0.001	0.041
1 year before	0.012	0.010	1.17	0.242	-0.008	0.033
0 years after	-0.018	0.010	-1.89	0.059	-0.037	0.001
1 year after	-0.017	0.009	-1.95	0.051	-0.033	0.000
2 years after	-0.014	0.011	-1.34	0.179	-0.035	0.007
Introduced AFLOs in 2017/18						
2 years before	-0.012	0.013	-0.89	0.375	-0.038	0.014
1 year before	-0.025	0.013	-1.93	0.053	-0.051	0.000
0 years after	0.009	0.010	0.83	0.409	-0.012	0.029
1 year after	0.017	0.013	1.3	0.193	-0.009	0.043
Introduced AFLOs in 2018/19						
2 years before	-0.051	0.014	-3.57	0.0	-0.079	-0.023
1 year before	0.01	0.013	0.77	0.442	-0.016	0.036
0 years after	-0.008	0.017	-0.45	0.655	-0.041	0.026

Appendix F: Impact estimates for the post-COVID period (based on the full sample)

Table F1: Impact on the percentage of persistently absent pupils (primary outcome)

	Coeff.	Std. err.	z	P> z	95% conf. interval	
1 year before	-0.005	0.005	-0.95	0.340	-0.015	0.005
0 years after	0.059	0.009	0.07	0.946	-1.628	1.745

Table F2: Impact on the secondary outcomes (overall absence rate, unauthorised absence rate, and percentage of pupils with one or more fixed-term exclusions)

	Coeff.	Std. err.	z	P> z	95% conf. interval	
Overall absence rate						
1 year before	-0.051	0.105	-0.49	0.623	-0.257	0.154
0 years after	-0.127	0.138	-0.92	0.358	-0.399	0.144
Unauthorised absence rate						
1 year before	-0.008	0.093	-0.08	0.935	-0.191	0.176
0 years after	0.040	0.121	0.33	0.740	-0.197	0.277
Percentage of pupils with one or more fixed-term exclusions						
1 year before	0.000	0.003	-0.13	0.896	-0.007	0.006
0 years after	0.129	0.004	0.30	0.768	-0.728	0.987

Appendix G: Impact estimates by free school meal status and ethnicity for the post-COVID period

Table G1: Impact on the percentage of persistently absent pupils, by FSM eligibility status

	Coeff.	Std. err.	z	P> z	95% conf. interval	
FSM eligible						
1 year before	0.011	0.011	0.98	0.327	-0.011	0.033
0 years after	-1.961	0.011	-1.74	0.081	-4.166	0.244
Not FSM eligible						
1 year before	-0.008	0.005	-1.60	0.110	-0.019	0.002
0 years after	0.421	0.009	0.45	0.650	-1.399	2.242

Table G2: Impact on the percentage of persistently absent pupils, by ethnicity

Ethnicity	Coeff.	Std. err.	z	P> z	95% conf. interval	
White						
1 year before	-0.009	0.006	-1.63	0.104	-0.02	0.002
0 years after	-0.017	0.009	-0.02	0.984	-1.747	1.713
Asian						
1 year before	-0.001	0.026	-0.04	0.966	-0.051	0.049
0 years after	0.912	0.019	0.47	0.639	-2.898	4.722
Black						
1 year before	0.006	0.012	0.52	0.605	-0.017	0.030
0 years after	-0.526	0.018	-0.30	0.766	-3.993	2.940
Other and mixed						
1 year before	0.005	0.011	0.47	0.640	-0.017	0.027
0 years after	-0.055	0.014	-0.04	0.969	-2.817	2.707

Appendix H: The school-level determinants of introducing AFLOs for the first time

Table H1: School-level determinants of introducing AFLOs for the first time (pre-COVID period)

Dependent variable	Coeff. (1)	Std. err. (1)	Coeff. (2)	Std. err. (2)
Head teacher tenure	-0.001	0.005	0.001	0.005
Whether multi/single academy trust	-0.138	0.064**	-0.128	0.064**
Whether selective intake	-0.365	0.150**	-0.281	0.152
Pupil to qualified teacher ratio	0.011	0.016	0.009	0.017
Pupil-teacher ratio	0.022	0.009**	0.024	0.009***
Support staff-pupil ratio	0.727	3.279	-0.136	3.762
Total number of pupils	0.0	0.000***	0.0	0.0
Proportion of pupils who are female	-0.036	0.154	0.01	0.156
Proportion of pupils who are White	-0.098	0.217	-0.14	0.219
Proportion of pupils who are Black	-3.094	1.089***	-2.442	1.104**
Proportion of pupils who are Asian	-0.754	0.505	-0.509	0.51
Proportion of pupils who are Other/mixed	-1.8	2.245	-1.332	2.269
Proportion eligible FSM (last 6 years)	2.081	0.777***	1.546	0.793
Proportion of pupils who were children looked after/in need	-4.09	48.797	-2.474	49.628
Proportion of pupils in IDACI decile 1	-0.578	0.690	-0.514	0.688
Proportion of pupils in IDACI decile 2	0.31	1.153	0.173	1.155
Proportion of pupils in IDACI decile 3	0.369	1.237	0.449	1.247
Proportion of pupils in IDACI decile 4	-2.021	1.430	-2.387	1.447
Proportion of pupils in IDACI decile 5	-1.148	1.512	-1.532	1.533
Proportion of pupils in IDACI decile 6	0.017	1.184	0.008	1.192
Proportion of pupils in IDACI decile 7	0.148	1.210	0.232	1.217
Proportion of pupils in IDACI decile 8	-1.378	1.015	-1.360	1.030
Proportion of pupils in IDACI decile 9	-1.668	1.064	-1.431	1.063
Proportion of pupils in IDACI decile 10	-0.712	0.625	-0.478	0.629
Academic year dummies (2013/14 is omitted)				
Academic year 2014/15	0.035	0.089	0.118	0.093
Academic year 2015/16	-0.073	0.096	-0.012	0.099
Academic year 2016/17	0.018	0.097	0.193	0.112

Academic year 2017/18	0.014	0.101	0.06	0.104
Academic year 2018/19	-0.236	0.115**	-0.241	0.117**
Proportion persistently absent			-5.079	3.187
Average pupil overall absence rate			0.161	0.058
Proportion of pupils who received fixed-term exclusions			15.174	10.05
Constant	-1.848	0.340***	-2.658	0.429***
Akaike	0.626		0.624	
Akaike*n	2249.693		2241.1	
Number of observations	3590		3590	
LR chi2	120.75		135.34	
Prob>chi2	0.0000		0.0000	
Pseudo R2	0.0523		0.0586	

Counts of pupils have been rounded as per SRS guidance, in line with DfE data reporting restrictions in the presence of looked after children and children in needs; *** and **: denote statistical significance at the 1 and 5% level, respectively.

Table H2: The school-level determinants of introducing AFLOs for the first time (post-COVID analysis)

Dependent variable	Coeff. (1)	Std. err. (1)	Coeff. (2)	Std. err. (2)
Head teacher tenure	-0.011	0.018	-0.009	0.018
Whether multi/single academy trust	0.619	0.251**	0.614	0.253**
Whether selective intake	0.002	0.339	0.095	0.347
Pupil to qualified teacher ratio	0.070	0.044	0.081	0.044
Pupil-teacher ratio	-0.005	0.031	-0.006	0.031
Support staff-pupil ratio	0.052	13.724	-2.774	14.317
Total number of pupils	0.000	0.000	0.000	0.000
Proportion of pupils who are female	0.303	0.381	0.281	0.392
Proportion of pupils who are White	-0.900	0.780	-1.229	0.816
Proportion of pupils who are Black	-14.692	5.939**	-12.033	6.012**
Proportion of pupils who are Asian	-5.436	2.812	-5.570	2.816**
Proportion of pupils who are Other/mixed	-4.688	5.484	-4.600	5.891
Proportion eligible FSM (last 6 years)	7.337	3.688**	4.360	3.925
Proportion of pupils who were children looked after/in need	431.135	200.361**	405.516	203.427
Proportion of pupils in IDACI decile 1	-12.282	7.336	-9.771	7.306**
Proportion of pupils in IDACI decile 2	-2.867	3.759	-2.588	3.831
Proportion of pupils in IDACI decile 3	-3.164	7.337	-4.154	7.4
Proportion of pupils in IDACI decile 4	-2.758	6.282	-1.821	6.213
Proportion of pupils in IDACI decile 5	-3.42	4.971	-3.35	5.236
Proportion of pupils in IDACI decile 6	-9.848	6.473	-12.266	6.826
Proportion of pupils in IDACI decile 7	-4.04	4.274	-3.076	3.97

Proportion of pupils in IDACI decile 8	-9.588	5.032	-8.53	4.877
Proportion of pupils in IDACI decile 9	-9.915	5.146	-9.631	5.286
Proportion of pupils in IDACI decile 10	0.481	1.547	1.025	1.568
Proportion persistently absent			6.184	4.732
Average pupil overall absence rate			0.021	0.095
Proportion of pupils who received fixed-term exclusions			32.06	40.606
Constant	-1.444	1.027	-1.958	1.150
Akaike	0.940		0.944	
Akaike*n	280.030		281.177	
Number of observations	300		300	
LR chi2	42.75		47.61	
Prob>chi2	0.0106		0.0085	
Pseudo R2	0.1567		0.1745	

Counts of pupils have been rounded as per SRS guidance, in line with DfE data reporting restrictions in the presence of looked after children and children in need; **: denotes statistical significance at the 5% level.

Appendix I: Robustness checks and sensitivity analysis

Using yet-to be treated schools instead of never-treated schools

The impacts obtained using the staggered DiD approach were re-estimated using yet-to-be treated (rather than never-treated) schools as the comparator schools. The findings are illustrated in Tables I1-I7.

The impact estimates highlighted in grey can be used to confirm whether the parallel trend was considered plausible for a specific cohort of schools or across multiple cohorts, and impacts on persistent absenteeism and fixed-term exclusions must be multiplied by 100 to be converted in percentage points.

Table I1: Impact on the primary outcome, entire sample (all pupils)

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.001	0.001	0.900	0.366	-0.001	0.003
1 year before	0.001	0.001	0.940	0.345	-0.001	0.002
0 years after	-0.001	0.001	-1.770	0.076	-0.002	0.000
1 year after	0.001	0.001	0.750	0.454	-0.001	0.002
2 years after	-0.001	0.001	-1.610	0.107	-0.003	0.000

Table I2: Impact on the primary outcome, pupils eligible for FSM

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.005	0.005	0.980	0.328	-0.005	0.015
1 year before	-0.004	0.003	-1.320	0.186	-0.011	0.002
0 years after	-0.003	0.002	-1.100	0.273	-0.008	0.002
1 year after	-0.004	0.003	-1.380	0.169	-0.011	0.002
2 years after	-0.005	0.003	-1.420	0.156	-0.012	0.002

Table I3: Impact on the primary outcome, pupils not eligible for FSM

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.004	0.001	-2.800	0.005	-0.007	-0.001
1 year before	0.000	0.001	-0.400	0.689	-0.003	0.002
0 years after	0.000	0.001	-0.470	0.641	-0.002	0.001
1 year after	0.000	0.001	0.290	0.771	-0.002	0.002
2 years after	-0.003	0.001	-1.950	0.051	-0.005	0.000

Table I4: Impact on the primary outcome, pupils of White ethnicity

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.002	0.001	-1.460	0.145	-0.004	0.001
1 year before	-0.001	0.001	-1.710	0.087	-0.003	0.000
0 years after	0.001	0.001	0.670	0.505	-0.001	0.002
1 year after	0.002	0.001	1.720	0.085	0.000	0.004
2 years after	0.002	0.001	1.210	0.225	-0.001	0.004

Table I5: Impact on the primary outcome, pupils of Asian ethnicity

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.012	0.012	-1.000	0.316	-0.034	0.011
1 year before	-0.014	0.009	-1.530	0.126	-0.031	0.004
0 years after	0.000	0.006	0.040	0.970	-0.011	0.011
1 year after	-0.014	0.005	-2.850	0.004	-0.023	-0.004
2 years after	-0.003	0.005	-0.730	0.465	-0.012	0.006

Table I6: Impact on the primary outcome, pupils of Black ethnicity

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	0.015	0.007	2.000	0.045	0.000	0.029
1 year before	0.013	0.007	1.740	0.082	-0.002	0.027
0 years after	-0.009	0.005	-1.980	0.047	-0.018	0.000
1 year after	-0.011	0.006	-2.000	0.046	-0.023	0.000
2 years after	-0.017	0.007	-2.430	0.015	-0.031	-0.003

Table I7: Impact on the primary outcome, pupils of Other/mixed ethnicity

Average across cohorts	Coeff.	Std. err.	z	P> z	95% conf. interval	
2 years before	-0.004	0.008	-0.550	0.584	-0.019	0.011
1 year before	0.001	0.006	0.190	0.849	-0.010	0.012
0 years after	-0.003	0.005	-0.700	0.483	-0.013	0.006
1 year after	-0.001	0.005	-0.260	0.794	-0.012	0.009
2 years after	-0.008	0.007	-1.120	0.264	-0.022	0.006

Sample size changes resulting from including school staff with an Education Welfare Officer role in the AFLO definition

As we can see from Table I8, if we had included school staff with an Education Welfare Officer (EWO) role in the definition of AFLO, the number of treated schools for the pre-COVID analysis (schools which introduced AFLOs for the first time in any of the academic years between 2013/14 and 2018/19) would have increased to 212 (from 198). This represents a 7% reduction in the number of treated schools.

On the other hand, the number of treated schools used for the post-COVID analysis (schools which introduced AFLOs for the first time in the academic year 2022/23) would have reduced to 46 (from 51). This represents a 9.8% reduction in the number of treated schools, and reflects the fact that the number of treated schools in the pre-COVID period is larger if EWOs are also considered as AFLOs.

Table I8: Number of schools which introduced AFLOs for the first time (treated schools) in each of the academic years available for the pre-COVID analysis, by AFLO definition

Definition of AFLO (based on school staff roles included)	Academic year in which AFLOs were introduced for the first time						
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2022/23
Attendance Officer, Home-School Liaison Officer and Education Welfare Officer	38	42	25	39	37	31	46
Attendance Officer and Home-School Liaison Officer	31	39	23	37	40	28	51

As illustrated in Table I9, including school staff with an EWO role in the definition of AFLO would have reduced both the number of never-treated schools available for the pre-COVID analysis (from 423 to 366, which corresponds to a 13.5% reduction) and the number of never-treated schools to be used for the post-COVID analysis (from 247 to 203, which corresponds to a 17.8% reduction).

Table I9: Number of schools which never introduced AFLOs (never-treated schools) available for the pre-COVID analysis, by AFLO definition

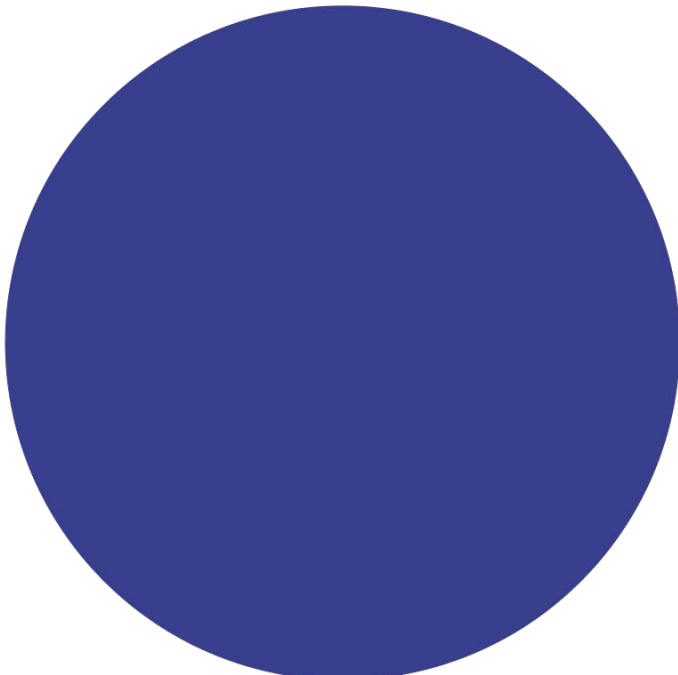
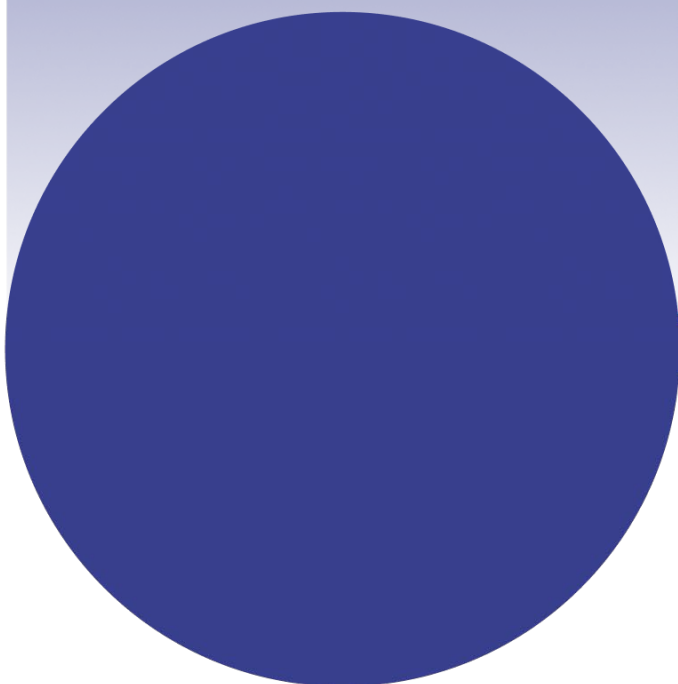
School staff role included in the definition of AFLO	Pre-COVID analysis	Post-COVID analysis
Attendance Officer, Home-School Liaison Officer and Education Welfare Officer	366	203
Attendance Officer and Home-School Liaison Officer	423	247

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