



# **An Analysis of Attendance, Broken Weeks and Performance against Expectations for two cohorts of pupils at secondary schools in South Gloucestershire**

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January 2006

**DOCUMENT REFERENCE COVER SHEET**

Please complete all fields in the first section.

Section 1

Document Purpose: (E.g. For information, for guidance etc)	For information
Document Title:	Attendance, Broken Weeks and Performance (Secondary)
Author:	Information and Research Services
Number of Pages:	21
Publication Date:	January 2006
Target Audience:	Intranet
Also Sent To:	
Further Copies from: Further Information from:	Tom Morrison Information and Research Services 01454 863350
Price:	Free
Document Reference:	C560 1 102 07
Keywords:	Attendance secondary performance
Summary:	This paper examines the connection between attendance, broken weeks and performance against expectations.
Replaces/Updates/Relates To:	

Section 2 For PACS use only

Copyright:	
Internet/Intranet Address:	
Controlled Vocabulary Terms	

This information can be made available in other languages, in large print, braille or on audio tape. Please phone 01454 868686 if you need any of these or any other help to access Council services.

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## Executive Summary

- This paper examines the connection between attendance, broken weeks and performance against expectations. A number of pieces of research point to a correlation between attendance and performance, but few of these take account of other factors such as prior attainment, gender, etc, and none seem to have examined the effect of broken weeks.
- A broken week is one where the pupil has missed at least one session during the week (morning or afternoon).
- Analysis was conducted using the pupil's percentage attendance, the percentage of broken weeks and a comparison between the pupil's actual results and their expected performance (using Fischer Family Trust estimates).
- Pupils were grouped by percentage attendance and by percentage of broken weeks. A significant number of pupils had reasonably high rates of attendance but also had high percentages of broken weeks. This group of pupils had attendance above 80% and so are not subject to intervention by the Education Welfare service, but may well perform significantly worse than expectations.
- The analysis confirms poor attendance is highly correlated with performance below expectations. For example at KS3 the percentage of pupils performing above expectations in Science nearly halves when comparing the highest attending group (above 95% attendance) to the next highest attending group (90% to 95%).
- The highest correlations are between overall performance and attendance for both year 9 and year 11. There is also a very strong connection for Maths and Science with a less pronounced but still significant effect for English. This may be caused by the fact that Maths and Science are more hierarchical and knowledge based subjects.
- Broken weeks are found to be just as closely connected with performance against expectations as attendance. For example, a year 11 student in broken weeks group A (0 – 4 weeks) has a 6% chance of performance below expectations in Maths whilst a student in group C (8 – 12 broken weeks) has a 14% chance (more than twice as likely). Once again the highest correlations occur between overall performance and broken weeks with the weakest (but still significant) correlation between English performance and broken weeks.
- Although there is clearly a correlation between broken weeks and attendance there is still a relationship between broken weeks and performance for the highest attendance group. For example, for pupils in year 11 attendance group A (attendance above 95%) the likelihood of a pupil achieving performance either in line or above expectations (capped point score) falls from 82% to 77% to 68% as one moves from broken weeks group A to B to C.
- There would appear to be significant effects for borderline 5A\*-C candidates.
- Boys would appear to be more affected than girls by broken weeks.

## **Introduction**

This paper reports on the analysis of attendance and performance of two cohorts of pupils in South Gloucestershire. Evidence has existed for some time relating attendance to achievement and this paper confirms this effect. More recently attention has focussed on 'Broken Weeks' – a week in which a pupil does not have full attendance. This paper also examines the connection between broken weeks and achievement.

Several pieces of research try to link attendance and performance at school. For example research in Scotland (Malcolm and Thorpe, 1996) states that 'As absence increased, Standard Grade awards dropped, by about 0.05 of a grade in English, and by the same in maths, for each 1% rise in absence.' However, this study does not attempt to examine other factors that could be the cause of both the increase in absence and the fall in Standard Grade awards. Other studies that do attempt to do this examine the relationship from the other perspective (Schagen, Benton and Rutt, 2004), 'Higher levels of attainment are associated with greatly reduced levels of absence.' This research makes a very interesting comment about the relationship between unauthorised absence and attainment. 'However, it may be that if the bulk of unauthorised absence can be defined as truancy this may indicate that the promise of any degree of academic success may help to curb this type of absence.'

Earlier work by Schagen (1996) states that when 'looking at the three-way relationship between GCSE results, prior attainment and attendance (with all three collected at the individual pupil level) showed that attendance still had a very strong relationship with GCSE outcomes, even when prior attainment was taken into account.' This is a strong piece of evidence since few other studies have taken account of prior attainment. I have attempted to do this in this research by comparing individual pupil's performance with their Fischer Family Trust estimates which are based on their prior attainment.

## **Data Considerations**

The groups selected were years 9 and 11 (2004-2005 Academic Year) and their attendance data for the full year was used. This figure was used as a proxy measure for their attendance over a longer period. To examine the performance of the students a comparison was made with Fischer Family Trust (FFT) B type estimates for English, Maths and Science and some overall measures. Thus the performance of each pupil is compared with an expectation based on the progress of similar pupils in similar schools. This was felt to be a less biased way of comparing attendance against performance.

For each pupil attendance was calculated by finding the percentage of sessions attended out of the total available sessions for that pupil over the year. If the pupil was only on roll for a smaller number of weeks then this was taken account of in the calculation. The number and percentage of broken weeks was also found. Broken weeks are those in which the pupil did not attend all the sessions they should have

attended in a week. It is possible for a pupil to have quite high attendance (over 95% say) whilst still having a large number of broken weeks (10+).

The FFT B type estimates are based on the progress of similar pupils in similar schools. In this case similar pupils means those of the same gender, with the same month of birth and, most importantly, with the same prior attainment at KS2 (using test and teacher assessments). Similar schools are those with a broadly similar socio-economic make up (based on pupil postcodes and the percentage of pupils who are eligible for free school meals), similar attainment and variance of intake.

At KS3 each pupil should have a FFT B type sub level for English, Maths and Science. This is then compared to the sub level actually achieved using national curriculum points. Finally these three differences are averaged to give an overall difference between the results achieved by the pupil and the expected results for similar pupils in similar schools. For the KS4 analysis five measures were used, the Capped Point score, the number of A\*-C grades and Maths, English and Science grades.

Pupils with zero values for attendance were excluded from the analysis as were those who did not have either FFT estimates of KS3/KS4 results. However, if a pupil had at least one subject pair of FFT estimates and key stage results, then they were included.

## Year 9 Analysis

### Attendance and Broken Weeks

We had attendance data for 3094 pupils, of whom 2845 could be included in the performance analysis. The mean attendance was 92.9% but the data is heavily skewed with three quarters of pupils having attendance over 90%, half of the pupils having attendance over 94% and a quarter having attendance over 97%.

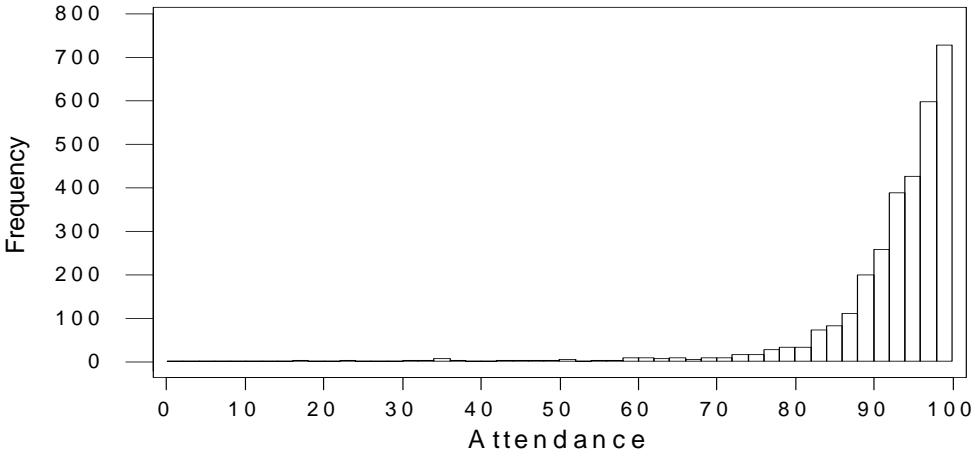


Fig 1 Histogram showing the 2004-2005 year 9 percentage attendance

For the purposes of the analysis the pupils were split into 5 groups based on their attendance as shown in table 1.

Group	Attendance Range	Number of Pupils
Att A	95% - 100%	1462
Att B	90% - 94.9%	894
Att C	85% - 89.9%	379
Att D	80% - 84.9%	161
Att E	Less than 80%	198
<b>Total</b>		<b>3094</b>

Table 1 Attendance Groups

Group E contains those pupils with severe attendance issues and who will have been subject to attention from the school and/or the Education Welfare Service. Roughly 50% of them will be excluded from the achievement analysis since they do not have either KS3 results or FFT estimates. The groups for particular focus are likely to be groups B, C and D who don't have excellent attendance but are not currently the focus of increased attention in most schools.

The pupils were also split into 5 groups based on the percentage of broken weeks as shown in table 2.

Group	Broken Weeks Range	Approximate number of broken weeks *	Number of Pupils
Bro A	0% - 9.99%	0 - 4	800
Bro B	10% - 19.99%	4 - 8	931
Bro C	20% - 29.99%	8 - 12	619
Bro D	30% - 39.99%	12 - 16	351
Bro E	More than 40%	16+	393
<b>Total</b>			<b>3094</b>

Table 2 Broken Weeks Groups

\* Not all schools/pupils have the same total number of weeks in a year.

There was a wider spread for this data so the groups have a width of 10% rather than 5%. Table 3 below shows the interaction of the two categories.

South Gloucestershire		Attendance Group					Total
		Att A	Att B	Att C	Att D	Att E	
Broken Weeks Group	Bro A	772	28				<b>800</b>
	Bro B	597	308	23	3		<b>931</b>
	Bro C	90	397	121	10	1	<b>619</b>
	Bro D	2	144	158	41	6	<b>351</b>
	Bro E	1	17	77	107	191	<b>393</b>
	<b>Total</b>	<b>1462</b>	<b>894</b>	<b>379</b>	<b>161</b>	<b>198</b>	<b>3094</b>

Table 3 Attendance Group against Broken Weeks Group

From this table one can see that it is impossible to have poor attendance and a low number of broken weeks, and also that it is unlikely, but possible, for a pupil to have very high attendance and high numbers of broken weeks. If we examine Bro E

pupils (more than 40% broken weeks) less than half are in the worst attendance group, and roughly a quarter have attendance over 85%.

### Achievement versus Attendance Analysis (year 9)

For each pupil four sets of data were used, a comparison between their FFT B type estimated sub level at KS3 and their actual sub level for English, Maths, Science, and an average of these comparisons. The National Curriculum point score for each of the variables was used to give a 'Difference' from the expectation by subtracting the estimate from the actual result. This was then classified as shown in table 4 below.

Classification	Points Difference	Description
Above	Greater than +2 points	More than 1 sub level above
In line	-2, 0 or 2 points	Same sub level or only 1 sub level different
Below	Less than -2 points	More than 1 sub level below

Table 4 Subject Difference Classification

Attendance Group	Description of average difference from expected result			
	Below	In line	Above	Total
Att A	12%	64%	24%	1385
Att B	17%	67%	16%	847
Att C	22%	63%	15%	350
Att D	34%	58%	8%	140
Att E	35%	58%	7%	122
Total	17%	64%	19%	2844

Table 5 Analysis of average difference from expected results against attendance

Table 5 shows very clearly that those pupils who are in group E are three times more likely to have performance below expectations than those in group A are, and have less than a quarter of the chance of achieving above expectations. There is a clear trend of reduced likelihood of performance above expectations as one moves from group A to group E and increased likelihood of performance below expectations.

An ANOVA (Analysis of Variance) test does not support the hypothesis that the mean average difference for each attendance group is the same. The test shows that there is a statistically significant difference in the mean average differences for at least some of the attendance groups. Pairwise comparison of the means shows the following. The means for group B and C are not significantly different, nor are the means of groups D and E. However, the mean of group A is significantly different to groups B, as is the mean of group C from group D. Thus there would appear to be three bands, A, B&C, and D&E.

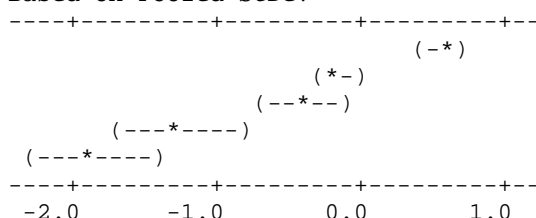
## One-way ANOVA: AV DIFF versus Att Band

Analysis of Variance for AV DIFF

Source	DF	SS	MS	F	P
Att Band	4	1172.09	293.02	39.95	0.000
Error	2840	20831.48	7.34		
Total	2844	22003.57			

Level	N	Mean	StDev
Att A	1386	0.571	2.508
Att B	847	-0.151	2.705
Att C	350	-0.389	3.009
Att D	140	-1.284	3.274
Att E	122	-1.860	3.254

Individual 95% CIs For Mean  
Based on Pooled StDev



Pooled StDev = 2.708

Minitab Excerpt 1

Attendance Group	Description of difference from expected result in English			
	Below	In line	Above	Total
Att A	14%	58%	28%	1379
Att B	13%	59%	28%	834
Att C	18%	53%	29%	339
Att D	24%	52%	24%	136
Att E	28%	53%	19%	102
Total	15%	57%	28%	2790

Attendance Group	Description of difference from expected result in Maths			
	Below	In line	Above	Total
Att A	13%	65%	23%	1379
Att B	17%	67%	16%	836
Att C	23%	64%	13%	341
Att D	29%	63%	9%	140
Att E	31%	61%	8%	110
Total	17%	65%	18%	2806

Attendance Group	Description of difference from expected result in Science			
	Below	In line	Above	Total
Att A	14%	69%	17%	1384
Att B	22%	69%	9%	837
Att C	23%	68%	8%	347
Att D	33%	62%	6%	138
Att E	43%	52%	5%	111
Total	20%	68%	13%	2817

Table 6

Difference from expected result by subject and attendance group

Table 6 shows a similar analysis as table 5 for each subject. The effects described above are not as clear for English but are more pronounced for Maths and particularly for Science. In this subject the effect of moving from group A to group B is to nearly halve your likelihood of performance above expectations from 17% to 9%. In both Maths and Science a pupil in group E is 3 times more likely to perform below

expectations than a pupil in group A. It is perhaps unsurprising that there are more pronounced effects for Maths and Science since these subjects are more rigidly hierarchical and fact based than English. It should be remembered that the comparisons in these tables are against estimates that take the pupil’s prior attainment into account along with a number of other factors as detailed earlier.

Table 7 shows the mean difference from expectations for each attendance group for each measure. The line above the row shows means that are not significantly different to each other. For example for the average difference measure, the mean of attendance group B (-0.15) is not significantly different to the mean of attendance group C (-0.39). Where 3 or more groups are connected by a line then this means that adjacent means are not significantly different although the largest in the group may be significantly higher than the smallest.

Measure	Att A	Att B	Att C	Att D	Att E
Average Difference	0.57	-0.15	-0.39	-1.30	-1.90
English Difference	0.94	0.78	0.57	-0.53	-0.78
Maths Difference	0.59	-0.21	-0.54	-1.30	-1.60
Science Difference	0.19	-0.97	-1.10	-1.90	-3.00

Table 7 Mean difference from expectation by attendance group

The trends observed in tables 5,6 and 7 are not unexpected in that lower attendance is likely to reduce attainment. Appendix A also contains ANOVA tests for each of the subjects in turn. For all subjects the analysis shows that the mean difference from expectation is not the same for all attendance groups and that there is, therefore, a connection between attendance and performance against expectations. The second part of this analysis examines the effect of broken weeks on performance against expectations.

**Achievement versus Broken Weeks Analysis (year 9)**

The same set of pupil measures and classification was used for the broken weeks analysis. Table 7 shows the average difference of performance from expectation by broken weeks group.

Broken Weeks Group	Description of average difference from expected result			
	Below	In line	Above	Total
Bro A	11%	62%	27%	757
Bro B	12%	67%	21%	873
Bro C	19%	65%	16%	588
Bro D	20%	69%	11%	326
Bro E	37%	53%	10%	300
Total	17%	64%	19%	2844

Table 8 Analysis of average difference from expected results against broken weeks

The trend in table 8 is just as stark as the one in table 5 showing pupils who have a high proportion of broken weeks (more than 40%) are over 3 times more likely to perform below expectations compared with those in broken weeks group A. Whilst such a trend was expected for attendance it is interesting to see that it is just as apparent when considering broken weeks. It is more surprising that the trend exists for broken weeks given that pupils with a high percentage of broken weeks often have good attendance.

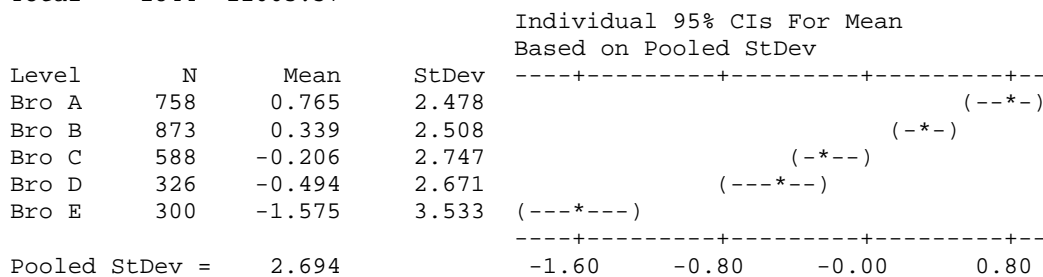
Once again an ANOVA test does not support the hypothesis that the mean average difference for each broken weeks group is the same. The conclusion from the test results is that the means are not all the same. Pairwise comparison of the means shows that there are four significantly different sets of means; Group A, Group B, Group C&D, and Group E.

#### One-way ANOVA: AV DIFF versus Broken Band

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Analysis of Variance for AV DIFF
Source      DF      SS      MS      F      P
Broken B    4      1387.78  346.95  47.79  0.000
Error      2840    20615.78  7.26
Total      2844    22003.57

```



Minitab Excerpt 2

Table 9 shows subject performance analysed by broken weeks. Again this analysis shows different effects depending on the subject. The English figures do not show a particular pattern but the effect for both Maths and Science is particularly stark. In Maths you are 3 times more likely to have performance below expectations if you are in broken weeks group E compared with group A and for Science the difference is even more profound.

Broken Weeks Group	Description of difference from expected result in English			
	Below	In line	Above	Total
Bro A	15%	58%	27%	754
Bro B	12%	58%	30%	869
Bro C	16%	57%	27%	580
Bro D	15%	56%	29%	317
Bro E	26%	51%	23%	270
Total	15%	57%	28%	2790

Broken Weeks Group	Description of difference from expected result in Maths			
	Below	In line	Above	Total
Bro A	11%	61%	27%	754
Bro B	14%	68%	18%	871
Bro C	17%	68%	14%	576
Bro D	23%	67%	10%	319
Bro E	33%	59%	8%	286
Total	17%	65%	18%	2806

Broken Weeks Group	Description of difference from expected result in Science			
	Below	In line	Above	Total
Bro A	11%	70%	19%	757
Bro B	18%	69%	14%	870
Bro C	23%	69%	9%	584
Bro D	25%	69%	6%	319
Bro E	38%	55%	7%	287
Total	20%	68%	13%	2817

Table 9 Difference from expected result by subject and broken weeks group

Once again ANOVA tests (appendix A) for each subject confirm that there is a connection between broken weeks and performance against expectations. Table 10 shows the mean of the difference from expectation for each broken weeks group for each measure. Once again lines are used to show means that are not significantly different.

Measure	Bro A	Bro B	Bro C	Bro D	Bro E
Average Difference	0.77	0.34	-0.21	-0.49	-1.58
English Difference	0.82	1.10	0.61	0.68	-0.60
Maths Difference	0.89	0.23	-0.16	-0.74	-1.52
Science Difference	0.58	-0.29	-0.98	-1.36	-2.48

Table 10 Mean difference from expectation by broken weeks group

## Year 11 Analysis

Pupils were grouped on the same basis with regard to attendance and broken weeks. Table 11 shows the breakdown by attendance group and broken weeks group.

South Gloucestershire		Attendance Group					Total
		Att A	Att B	Att C	Att D	Att E	
Broken Weeks Group	Bro A	954	10				<b>964</b>
	Bro B	615	178	9			<b>802</b>
	Bro C	109	311	46	2	2	<b>470</b>
	Bro D	9	145	117	30	5	<b>306</b>
	Bro E		21	98	76	76	<b>271</b>
	Total	<b>1687</b>	<b>665</b>	<b>270</b>	<b>108</b>	<b>83</b>	<b>2813</b>

Table 11 Year 11 attendance and broken weeks breakdown

There was attendance data for 2813 pupils for whom 2721 could be included in the attainment analysis. The average attendance was 93.3% and once again the data was heavily skewed. It should be noted that for the sake of consistency in the analysis study leave was counted as being present (some schools use this policy whilst others count this as authorised absence). From next year all schools will be required to count study leave as authorised absence. Many of them are altering their practice with relation to study leave as there is 'evidence that many students do not have the skills, or are not inclined, to make the best use of large amounts of unsupervised and unstructured revision time'. (DfES, 2005)

Both attendance and broken weeks seem to be more heavily skewed for year 11 than year 9 but this may be due to the treatment of study leave mentioned above.

For each pupil five measures of performance were used, their 'expected' capped points score, number of A\*-C grades at GCSE, and subject grades for English, Maths and Science. The capped point score is the sum of the point scores for a pupil's best 8 GCSE grades. The old points system (A\*=8, A=7 etc) was used for these calculations. The FFT B type estimates based on the pupil's KS2 performance were used as the 'expected' values. Comparisons were then made with actual results. For the subject grades the comparison was made with the best grade obtained in that subject (ie if the child achieved a B for English Language and a C for English Literature then the comparison between actual grade and estimated grade was made using the English Language grade). Performance was described as either above, in line or below, as shown in table 12.

Measure	Classification	Points Difference	Description
Capped Points Score	Above	Greater than +3 points	More than half a GCSE grade above expectations in 8 subjects
	In line	Between -3 and +3 points	Within half a grade of expectations on average
	Below	Less than -3 points	More than half a GCSE grade below expectations in 8 subjects
Number of A*-C grades	Above	More than 1	More than 1 extra grades A*-C compared to expectations
	In line	Between -1 and 1	Either 1 extra, 1 fewer or the same number of A*-C grades as expectations
	Below	Less than -1	More than 1 fewer grades A*-C compared to expectations
Subject Grades	Above	More than 1	More than 1 grade above expectations
	In line	Between -1 and 1	The same as expected or 1 grade above or below
	Below	Less than -1	More than 1 grade below expectations

Table 12 Classification of performance against expectations by measure

## Achievement versus Attendance Analysis (year 11)

Table 13 shows the effect of attendance group on performance against expectations for the capped point score and for the number of A\*-C grades. The overall figures show roughly one third of pupils who are above, in line or below expectations. However, there are stark differences in the percentages for each group. Examining the capped points score, the likelihood of a pupil in group A performing above expectations is more than 4 times bigger than that of a pupil in group E. The picture for the number of A\*-C grades is even more pronounced.

ANOVA tests on both measures show statistically that the means of each group are not the same and pairwise comparisons show that for the capped points score measure each group has a mean that is significantly below the preceding one (ie the mean for group A is significantly above the mean of group B, which is significantly above the mean of group C etc). For the number of A\*-C grades the mean of group A is significantly above all the others, whilst the rest of the means are not significantly different from their nearest neighbours. The printouts for these analyses are contained in appendix B.

Capped Point Score	Description of difference from expectation			
Attendance Group	Below	In line	Above	Total
Att A	21%	35%	44%	1626
Att B	41%	32%	28%	655
Att C	46%	32%	22%	262
Att D	74%	13%	14%	103
Att E	77%	13%	9%	75
Total	32%	32%	36%	2721

Number of A*-C grades	Description of difference from expectation			
Attendance Group	Below	In line	Above	Total
Att A	24%	31%	45%	1626
Att B	45%	31%	24%	655
Att C	50%	31%	19%	262
Att D	66%	21%	13%	103
Att E	61%	31%	8%	75
Total	34%	30%	35%	2721

Table 13 Difference from expectation for the Capped Point Score and number of A\*-C grades by attendance group.

Analysis by subject (table 14) shows a higher proportion of pupils in line with expectations since the criteria for being 'above' or 'below' are more stringent. However, there are differences in performance for different attendance groups for all subjects. As in the year 9 analysis there is a much more pronounced effect for Maths and Science than English. In Maths students in group A are more than 6 times more likely to perform above expectations than students in group E. In Science students in group A have a 1 in 8 chance of performance below expectations whilst students in group E have a 1 in 2 chance.

Further statistical analysis shows that there is a significant difference in the means for each group for all subjects.

English Grade	Description of difference from expectation			
Attendance Group	Below	In line	Above	Total
Att A	10%	73%	17%	1626
Att B	17%	70%	13%	655
Att C	20%	69%	11%	262
Att D	26%	66%	8%	103
Att E	36%	52%	12%	75
Total	14%	71%	15%	2721

Maths Grade	Description of difference from expectation			
Attendance Group	Below	In line	Above	Total
Att A	7%	68%	25%	1626
Att B	14%	73%	13%	655
Att C	18%	74%	8%	262
Att D	36%	54%	10%	103
Att E	33%	63%	4%	75
Total	12%	69%	19%	2721

Science Grade	Description of difference from expectation			
Attendance Group	Below	In line	Above	Total
Att A	13%	65%	21%	1626
Att B	24%	65%	11%	655
Att C	31%	60%	9%	262
Att D	42%	52%	6%	103
Att E	48%	47%	5%	75
Total	20%	64%	17%	2721

Table 14 Difference from expectation for selected subjects by attendance group

## Achievement versus Broken Weeks Analysis (year 11)

Once again the connection between broken weeks and performance against expectations is just as pronounced as the connection for attendance as can be seen from table 15.

Capped Point Score	Description of difference from expectation			
Broken Group	Below	In line	Above	Total
Bro A	19%	33%	49%	907
Bro B	27%	35%	38%	789
Bro C	40%	34%	27%	463
Bro D	45%	30%	25%	296
Bro E	62%	22%	16%	266
Total	32%	32%	36%	2721

Number of A*-C grades	Description of difference from expectation			
Broken Group	Below	In line	Above	Total
Bro A	20%	31%	49%	907
Bro B	32%	30%	38%	789
Bro C	45%	31%	23%	463
Bro D	45%	31%	24%	296
Bro E	59%	28%	13%	266
Grand Total	34%	30%	35%	2721

Table 15 Difference from expectation for the Capped Point Score and number of A\*-C grades by broken weeks group.

There is also a similar pattern in subject performance as shown in table 16.

English Grade	Description of difference from expectation			
Broken Group	Below	In line	Above	Total
Bro A	10%	74%	16%	907
Bro B	12%	72%	16%	789
Bro C	18%	69%	13%	463
Bro D	19%	67%	14%	296
Bro E	24%	65%	11%	266
Grand Total	14%	71%	15%	2721

Maths Grade	Description of difference from expectation			
Broken Group	Below	In line	Above	Total
Bro A	6%	67%	27%	907
Bro B	9%	69%	22%	789
Bro C	14%	75%	11%	463
Bro D	17%	74%	8%	296
Bro E	28%	64%	9%	266
Grand Total	12%	69%	19%	2721

Science Grade	Description of difference from expectation			
Broken Group	Below	In line	Above	Total
Bro A	11%	67%	21%	907
Bro B	18%	62%	20%	789
Bro C	23%	65%	11%	463
Bro D	28%	63%	9%	296
Bro E	38%	54%	9%	266
Grand Total	20%	64%	17%	2721

Table 16 Difference from expectation for selected subjects by broken weeks group

## Interaction of attendance, broken weeks and performance

Clearly attendance and broken weeks are highly correlated and a large part of the correlation attributed to one may be due to the other. In order to examine this further the performance of each attendance group was analysed by broken week group. This breakdown is shown in table 17. Whilst there are some groups where the small number of pupils prevents conclusions being drawn it is still possible to see some patterns. In attendance group A there is a strong increase in the percentage of pupils whose performance is below expectations as one moves from broken weeks group A to B to C. There is a less obvious connection for the other attendance groups, possibly due to the small number of pupils, but it is still possible to see some effects.

Year 11 Capped Points Score					
Attendance Group		Description of difference from expectation			
Group A	Broken Group	Below	In line	Above	Total
	Bro A	20%	31%	49%	899
	Bro B	28%	30%	41%	610
	Bro C	35%	30%	35%	108
	Bro D	22%	22%	56%	9
	Total	24%	31%	45%	1626
Group B	Broken Group	Below	In line	Above	Total
	Bro A	38%	38%	25%	8
	Bro B	44%	28%	28%	173
	Bro C	47%	33%	20%	310
	Bro D	45%	30%	25%	143
	Bro E	38%	38%	24%	21
	Total	45%	31%	24%	655
Group C	Broken Group	Below	In line	Above	Total
	Bro B	67%	17%	17%	6
	Bro C	59%	23%	18%	44
	Bro D	45%	33%	22%	115
	Bro E	52%	33%	15%	97
	Total	50%	31%	19%	262
Group D	Broken Group	Below	In line	Above	Total
	Bro C		100%		1
	Bro D	52%	33%	15%	27
	Bro E	72%	16%	12%	75
	Total	66%	21%	13%	103
Group E	Broken Group	Below	In line	Above	Total
	Bro D	50%		50%	2
	Bro E	62%	32%	7%	73
	Total	61%	31%	8%	75

Table 17 Interaction Analysis for year 11 capped points score

## The effect on borderline 5A\*-C candidates

Table 18 examines the effect of broken weeks on those pupils who have a FFT estimate of 4 A\*-C grades at GCSE. There were 284 of these overall and 101 (36%) surpassed expectations by achieving 5 or more A\*-C grades. However, when analysed by broken weeks group there is a clear downward trend from 58% exceeding expectations in broken weeks group A down to 18% in broken weeks group E.

Achievement of 5A*-C grades for pupils estimated to only achieve 4 A*-C grades						
	Bro A	Bro B	Bro C	Bro D	Bro E	Total
Number Achieving 5 A*-C grades	45	23	18	8	7	101
Total	77	77	56	34	40	284
Percentage	58%	30%	32%	24%	18%	36%

Table 18 The effect of broken weeks on pupils estimated to achieve 4A\*-C grades

Turning to those pupils who were estimated to achieve either 5 or 6 A\*-C GCSE grades and examining the percentage of pupils who failed to achieve 5 A\*-C grades in table 19 one can see clear rising trends as one moves from broken weeks group A to E. For example, for those pupils who were estimated to achieve 6 A\*-C grades, roughly a quarter fail to even get 5 in broken weeks group A whilst two thirds fail to get 5 in broken weeks group E.

Achievement of 5A*-C grades for pupils estimated to achieve 5 or 6 A*-C grades							
Estimated Number of A*-C Grades	Bro A	Bro B	Bro C	Bro D	Bro E	Total	
5	Failed to achieve 5A*-C	31	32	27	16	20	126
	Total	88	81	40	29	28	266
	Percentage	35%	40%	68%	55%	71%	47%
6	Failed to achieve 5A*-C	27	39	20	20	17	123
	Total	113	113	46	34	25	331
	Percentage	24%	35%	43%	59%	68%	37%

Table 19 The effect of broken weeks on pupils estimated to achieve 5 or 6 A\*-C grades

## The effect of gender

Tables 20 and 21 show the effect of gender and broken weeks on overall measures by broken weeks. For year 9 there would appear to be a greater effect for females whilst for year 11 the greatest effect is for males. However, if one analyses broken weeks group E as a separate case on the grounds that those pupils have very poor attendance as well then the stronger effects are observed for males in both year groups. Performance above expectations falls from 23% to 11% for girls and 30% to 12% for boys in year 9, and from 48% to 31% for girls and 49% to 16% for boys in year 11. The greater differential effect on males mirrors the more profound effects of age within year and other contextual factors on males. There is also a much stronger

effect for year 11 than year 9, but this could be caused by the definitions used to describe performance above or below expectations.

Average Subject Difference		Description of difference			Total
Year 9 Broken Group		Below	In line	Above	
FEMALE	Bro A	13%	64%	23%	323
	Bro B	15%	66%	20%	403
	Bro C	20%	66%	14%	316
	Bro D	21%	69%	11%	179
	Bro E	39%	53%	8%	148
	All Females	19%	64%	17%	1369
MALE	Bro A	9%	61%	30%	434
	Bro B	10%	68%	22%	470
	Bro C	17%	64%	18%	272
	Bro D	19%	69%	12%	147
	Bro E	35%	53%	12%	152
	All Males	15%	64%	21%	1475
All Pupils		17%	64%	19%	2844

Table 20 Gender effect – year 9

Capped Point Score		Description of difference			Total
Year 11 Broken Group		Below	In line	Above	
FEMALE	Bro A	19%	33%	48%	381
	Bro B	24%	39%	37%	365
	Bro C	35%	36%	29%	231
	Bro D	36%	32%	31%	162
	Bro E	55%	23%	22%	148
	All Females	30%	34%	36%	1287
MALE	Bro A	18%	32%	49%	526
	Bro B	31%	31%	38%	424
	Bro C	44%	31%	25%	232
	Bro D	56%	28%	16%	134
	Bro E	70%	20%	9%	118
	All Males	34%	30%	36%	1434
All Pupils		32%	32%	36%	2721

Table 21 Gender effect – year 11

## Conclusions

This study confirms the strong relationship between attendance and performance found in many other studies. However, the use of Fischer Trust Data means that pupil's prior attainment, gender, month of birth and school context are removed from the list of potential variables that might have affected performance. Whilst there are undoubtedly other variables that affect both attendance and performance such as motivation, health etc this study confirms that attendance and performance are still linked when variables such as prior attainment, gender and month of birth are discounted.

Broken weeks are also found to have a significant correlation with performance against expectations. Pupils with high proportions of broken weeks may not have very low attendance and as such may not be a focus for action by the school. Pupils with attendance below 80% will be the focus of concerted action by Education Welfare Officers, whilst those with higher attendance have not until recently been a cause for concern and focussed attention. This study shows that even for those pupils who have very high attendance, higher numbers of broken weeks are strongly correlated to performance below expectations. There are also substantial numbers of pupils whose attendance is between 80% and 95% who are in danger of underperforming if they have higher numbers of broken weeks.

This study shows the differential effect of both broken weeks and low attendance on the core subjects, and also highlights the effect on those pupils who are borderline 5 A\*-C candidates. There are particular implications for ensuring progress in Maths and Science of this work. A gender effect is noted, with boys seeming to be more affected by broken weeks than girls.

This study shows that both low attendance and high numbers of broken weeks are associated with low performance against expectations. Previously it may not have been felt that there was a need to take action for those pupils whose attendance is below 95% but above 80% but this study confirms that such pupils have lower performance against expectations as their attendance falls, and that even higher attending pupils can have lower performance associated with high proportions of broken weeks. If schools can identify those pupils with a high proportion of broken weeks and take targeted action against the causes of the problem then they may have a significant affect on the outcomes for those pupils, and for the school.

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