Analysis of School Attendance Data in Primary and Post-Primary Schools, 2003/4 to 2005/6

Report to the National Educational Welfare Board

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Executive Summary

Response of Schools to NEWB *Annual Attendance Report* Approaches 100%

- There was a large increase in response-rates to the NEWB *Annual Attendance Report* in 2005/6. In primary schools, it rose from 81% (in 2004/5) to 95%, and in post-primary schools, from 76% to 88%.

- This means that data provided by the *Annual Attendance Report* now constitute a national data base that can be used to monitor non-attendance, expulsion, and suspension in all of the country's primary and post-primary schools.

Figures for Non-Attendance Stable

- The percentage of student/days lost through absence is running at over 6% in primary schools and around 8% in post-primary schools. Over 55,000 students miss school each day, consisting of approximately 27,000 primary and 28,000 post-primary students. This is a loss of 12 school days per student per year in primary school, and 13 school days per year in post-primary school.

- About 11% of primary-school students (1 in 10) and 17% of post-primary students (1 in 6) are absent for 20 days or more during the school year. This is close to 50,000 primary school students, and over 55,000 post-primary students.

Non-Attendance in Primary School Highest in Urban Areas

- Rates of general non-attendance in primary schools are 30% higher in towns and cities than they are in rural areas, and absences of 20 days or more are 70% higher.

Expulsions Still Rare

- Only 134 expulsions from school were recorded in 2005/6, 16 in primary school and the remaining 118 in post-primary schools.

Suspensions Occur Mostly in Post-Primary Schools

- Around 5% of post-primary students (over 16,000) were suspended in 2005/6, and a quarter of one percent of primary students (over 1,000). The rate of suspensions is 20 times higher in post-primary schools.

Highest Non-Attendance in Vocational Schools

- Rates of non-attendance are 25% higher in vocational schools than in secondary schools, and rates of 20-day absences and expulsions 50% higher.
- Non-attendance figures for community and comprehensive schools fall in between those of secondary and vocational schools.

Absences from School a Central Feature of Social Exclusion

- Absence from school, particularly absences of 20 days or more and suspensions, are a central feature of social exclusion as measured in other school surveys at national level.

- Primary schools with high non-attendance are likely to have a high proportion of students living in local authority accommodation, in lone-parent families, or in families where the main earner is unemployed. Primary schools with high non-attendance report lower performance in English and Mathematics, and a large proportion of these schools participate, or participated in disadvantage projects.

- At post-primary level, non-attendance is strongly linked to high ratings for socio economic disadvantage, with high rates of dropout in Junior and Senior Cycle, and poorer performance on the Junior Certificate Examination.

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The Change from School-Level to Student-Level Percentages

Student-level percentages are preferred in the 2005/6 report as summaries of the extent of absenteeism in the schools, in contrast with the school-level percentages used in the two earlier reports (Weir, 2004, Ó Briain, 2006). Both figures are required, and in particular, school-level percentages have to be used when non-attendance is correlated with aspects of disadvantage, as in Chapters 2 and 3 of this report. Appendix I of this report explains the difference and reconciles the figures reported in all three reports.

Annual Attendance Report 2003/4 to 2005: Main Statistics

Response Rate of Schools to the Annual Attendance Report

	2003/4	*2004/5*	*2005/6*
Primary	**79.3%**	**81.1%**	**94.6%**
Post-Primary	**70.9%**	**75.7%**	**88.2%**

Non-Attendance

	2003/4	*2004/5*	*2005/6*	
Primary	**6.3%**	**6.2%**	**6.3%**	*Student-level*[1]
Post-Primary	**8.1%**	**7.9%**	**7.5%**	
Primary	**5.9%**	**5.8%**	**6.1%**	*School-level*
Post-Primary	**8.7%**	**8.4%**	**7.9%**	

Twenty-Day Absences

	2003/4	*2004/5*	*2005/6*	
Primary	**11.7%**	**11.1%**	**11.5%**	*Student-level*
Post-Primary	**17.2%**	**17.2%**	**16.0%**	
Primary	**10.7%**	**10.0%**	**10.9%**	*School-level*
Post-Primary	**18.9%**	**18.8%**	**17.6%**	

Expulsions

	2003/4	*2004/5*	*2005/6*
Primary	10	5	15
	0.003%	**0.001%**	**0.003%**
Post-Primary	59	93	118
	0.027%	**0.038%**	**0.041%**

Suspensions

	2003/4	*2004/5*	*2005/6*
Primary	No Data	908	1,135
		0.2%	**0.3%**
Post-Primary	No Data	11,746	14,294
		4.9%	**5.0%**

[1] Student-level figures, directly interpretable as percentages of students, are used in most parts of the 2005/6 report. For continuity with earlier reports, school-level figures, giving average rates of non-attendance per school, are given below them. The difference between the two figures is explained in Appendix I, p. 33.

Section 1

Non-Attendance from 2003/4 to 2005/6

This is the third yearly report on non-attendance in primary and post-primary schools based on data provided by the National Educational Welfare Board (NEWB) *Annual Attendance Report*. It follows the reports of Weir (2004) and Ó Briain (2006) on data for 2003/4 and 2004/5 respectively.

The report is in three sections:

1 *Non-Attendance from 2003/4 to 2005/6*, based on all of the NEWB data so far, with summary statistics for the period, and a discussion of issues relating to the data set as a whole.

2 *Non-Attendance in Primary Schools in 2005/6*, which links the 2005/6 data on non-attendance with measures of disadvantage, school setting, and academic achievement, based on merged NEWB Educational Research Centre (ERC) data.

3 *Non-Attendance in Post-Primary Schools in 2005/6*, which links the 2005/6 data on non-attendance with disadvantage, school setting, dropout in Junior and Senior Cycle, and examination results for the Junior Certificate, based on merged NEWB and ERC data.

1.1 Response Rate

To provide a national context for the tables to follow, the numbers and schools and students in the country in the 3 years under study are given in Table 1.1.

Table 1.1
Number of Primary and Post-Primary Schools and Students, 2003/4 to 2005/6

Primary		*2003/4*	*2004/5*	*2005/6*
	Schools	3,278	3,284	3,284
	Students	446,029	449,298	457,889
Post-Primary				
	Schools	743	742	735
	Students	337,851	335,162	332,407

The figures are taken from the DES *Tuarascáil Staitistiúil* for these years (DES, 2005, 2006, 2007). Numbers of primary school students are taken from Table 1.1 of these reports, and numbers of primary schools from Table 2.17. Numbers of post-primary schools are from Table 3.1, and numbers of post-primary students from Table 3.2. The figures in Table 1.1 are used to provide response rates to the *Annual Attendance*

Report in Table 1.2, and will be used from time to time in this report to give projected nationwide figures for non-attendance.

Numbers of schools responding to the *Annual Attendance Report* and response-rates in 2005/6 are presented in Table 1.2, with the corresponding figures for 2003/4 and 2004/5.

Table 1.2
Response to the Annual Attendance Report, 2003/4 to 2005/6

Primary		*2003/4*	*2004/5*	*2005/6*
	Schools	3,278	3,284	3,284
	Schools Responding	2,601	2,664	3,108
	Response Rate	**79.3%**	**81.1%**	**94.6%**
Post-Primary				
	Schools	743	742	735
	Schools Responding	527	562	648
	Response Rate	**70.9%**	**75.7%**	**88.2%**

Returns for 2005/6 show an additional 14% of primary schools responding, and an additional 13% of post-primary schools. This brings response rate in primary schools to 95%. The *Annual Attendance Report* is therefore close to achieving the status of a census. Only 5% of schools failed to respond in 2005/6, consisting of 176 primary and 86 post-primary schools. The difference in response rates between primary and post-primary schools persists, at about 10%. If these trends were to be maintained in 2006/7, response rate would be expected rise from 88% to 92% in post-primary schools, up 4%, while the figure of 95% in primary schools would stay about the same.[2]

The cumulative effect in the data, seen in progressively higher rates of response, is most likely due to the appearance of the questionnaire in the schools for the third year in succession, plus the efforts of NEWB staff to have questionnaires completed and sent back. This level of completeness is of particular importance in the case of data on aspects of educational disadvantage because of the role they play in the allocation of state resources to schools.

1.2 Results of the *Annual Attendance Report*

The core of the NEWB data-set consists of four variables. They record

(1) 'individual student absences over the entire school year',

(2) 'number of students who were absent for 20 days or more in the school year',

[2] A statistical model was fitted to the results of the *Annual Attendance Reports* with effects for Level (primary vs post-primary), Year, and Level by Year. The dependent variables were Response (of the school to the questionnaire), Non-Attendance, 20-Day Absences, Expulsions and Suspensions.

(3) 'total number of students expelled', and

(4) 'total number of students who were suspended'.

The four variables will now be looked at in turn, using the new data for 2005/6 for the first time, integrated with data from 2003/4 and 2004/5.[3] Questions on codes of conduct and admission policies were asked in 2003/4 and 2004/5 but were discontinued in 2005/6 because almost all schools reported that they had both. Data on numbers of students with 100% attendance were gathered in 2004/5 but not subsequently. These data are not included here.

In the pages to follow, numbers of schools sometimes differ slightly from one table to the next. This is because schools providing data for one form of non-attendance may have recorded missing or unusable data for another.

1.2.1 Non-Attendance

The data provided by the first item *Annual Attendance Report* is referred to as 'non-attendance' in this report, or occasionally as 'general non-attendance' in order to distinguish it from the more specific forms of non-attendance associated with 20-day absences, expulsions and suspensions. It is always expressed as the percentage of available student/days that are lost through absence. Non-attendance figures for 2003/4 to 2005/6 are presented in bold type in Table 1.3. Above them, are the numbers of students, student/days, days in the school year, and student/days lost, from which they are calculated, together with the number of schools providing data.

Table 1.3 *Non-Attendance, 2003/4 to 2005/6*

Primary	*2003/4*	*2004/5*	*2005/6*
Schools	2,427	2,606	3,016
Students	334,720	365,011	424,138
School Days per Year	183	183	183
Student/Days	61,253,760	66,796,013	77,617,254
Student/Days Lost	3,880,465	4,163,321	4,901,703
	6.3%	**6.2%**	**6.3%**
Post-Primary			
Schools	383	539	637
Students	164,417	233,331	283,187
School Days per Year	167	167	167
Student/Days	27,457,639	38,966,277	47,292,229
Student/Days Lost	2,225,792	3,075,797	3,536,414
	8.1%	**7.9%**	**7.5%**

The information contained in the rows of the table is as follows:

[3] The merging of 2005/6 data with data from the previous two years, and changes that were necessary to figures for 2003/4 and 2004/5 as a result, are explained in Appendix I, p. 33.

Schools refers to the number schools providing usable data. The figure is therefore slightly smaller than the figure for *Schools Responding* (to the questionnaire) in Table 1.2. Note that the latter, in turn, is smaller than the *Schools* figure reported in Table 1.1, which refers to every school in the country.

Students gives the official DES enrolment figures for the schools in question, in the year in question.

School Days per Year is 183 in primary schools and 167 in post-primary schools.

Student/Days is the product of *Number of Students* and *School Days per Year*. In a primary school with 100 students it would be 18,300. It gives the maximum number of daily attendances that could be recorded in the school for the year. This figure would be achieved only if every student was present on every school day.

Student/Days Lost is the figure requested by the first item on the questionnaire, 'individual student absences'. Ideally, it would corresponds to the number of zeros recorded in an error-free roll-book for that year.

Non-Attendance is the same as *Student/Days Lost*, except that it is now expressed as a percentage of *Total Student/Days*, the maximum attendance that is possible. Thus *Non-Attendance* is *Student/Days Lost* divided by *Total Student/Days*, multiplied by 100 to convert the resulting proportion to a percentage.

The data show non-attendance in Irish schools running at over 6% in primary schools and at about 8% in post-primary schools. However, the figures are dropping in post-primary schools (from 8.1 to 7.9 to 7.5) while they are largely stable in primary schools (6.3, 6.2, 6.3). If these trends were to continue into 2006/7, they would produce non-attendance figures of 6.3 again for primary schools, and a figure 7.2 for post-primary schools, down by 0.3.

In interpreting the apparent reduction in non-attendance in post-primary schools, it has to be taken into account that it coincides with substantial increases in the numbers of second-level schools responding to the questionnaire. This went from 71% to 76% in 2004/5, and from 76% to 88% in 2005/6 (see Table 1.2), amounting to an addition of 121 schools to the sample. This is 16% of all post-primary schools. The 2006/7 data will clarify the situation, provided the high response rates of 2005/6 are maintained.

The wording of the question is still causing problems. A response of zero was given in 98 cases in 2005/6, suggesting that school principals were not giving the number of student/days lost through absence, as the question intended, but rather the number of students who were absent for the entire school year, usually zero.

1.2.2 Twenty-Day Absences

Figures provided by school principals for 'students who were absent for 20 days or more' during the 2005/6 school year are summarised in Table 1.4, with corresponding figures from 2003/4 and 2004/5.

Table 1.4
Twenty-Day Absences

Primary	*2003/4*	*2004/5*	*2005/6*
Schools	2,572	2,656	3,104
Students	358,853	373,082	435,158
20-Day Absences	42,085	41,365	50,251
	11.7%	**11.1%**	**11.5%**
Post-Primary			
Schools	512	558	648
Students	221,705	241,758	288,135
20-Day Absences	38,107	41,566	46,238
	17.2%	**17.2%**	**16.0%**

Twenty-day absence are at 11-12% in primary schools and 16-17% in post-primary schools. As in the previous table, the figure in primary schools in relatively stable over the three years, while the figure in shows in post-primary schools shows a decline. In the case of 20-day absences, however, the decline is due entirely to the 2005/6 figures. The similarity between Tables 1.3 and 1.4 is hardly surprising. Twenty-day absences are part of absences in general, and the correlation between the two variables in 2005/6 is .63 in primary schools and .71 in post-primary schools.

If the trends in Table 1.4 were to continue, the predicted figures for 2006/7 would be 11.3 in primary schools and 15.7 in post-primary schools. However, the same caution just given about the apparent decline in non-attendance in post-primary schools applies also to the 20-day absences in Table 1.4. The additional schools providing data for the first time in 2004/5 and 2005/6 may explain the change.

1.2.3 Expulsions

The number of expulsions reported for 2005/6 is shown in Table1.5, with equivalent figures for 2003/4 and 2004/5.

Table 1.5
Expulsions, 2003/4 to 2005/6

Primary	*2003/4*	*2004/5*	*2005/6*
Schools	2,568	2,650	3,106
Students	357,856	371,984	435,208
Expulsions	10	5	15
	0.003%	**0.001%**	**0.003%**
Post-Primary			
Schools	512	560	648
Students	221,130	246,060	288,135
Expulsions	59	93	118
	0.027%	**0.038%**	**0.041%**

Expulsions are still rare, 134 in all in the 2005/6 data, 16 in primary school and the other 118 in post-primary schools. There are no yearly trends in the data, although this is largely due to the small numbers of expulsions per year.

A closer look at the incidence of expulsion (Table 1.6) shows that the 16 expulsions recorded in primary school all took place in different schools. In post-primary schools multiple expulsions from the same schools occurred also (in 21 schools), and accounted for just over half (60 out of 118) of all expulsions. There are no expulsions in 86% of post-primary schools. Over 99% of primary schools have no expulsions.

Table 1.6
Number of Students Expelled, 2003/4 to 2005/6

Number of Expulsions	*0*	*1*	*2*	*3*	*4*	*5*	*7*
Primary Schools	3090	16	0	0	0	0	0
Post-Primary Schools	569	58	13	2	4	1	1

1.2.4 Suspensions
The number of suspensions reported for 2005/6 is shown in Table1.7, with equivalent figures for 2004/5. No data on suspensions were gathered in 2003/4.

Table 1.7 *Suspensions, 2003/4 to 2005/6*

Primary	*2003/4*	*2004/5*	*2005/6*
Schools	No data	2,650	3,106
Students		371,626	435,208
Suspensions		908	1,135
		0.2%	**0.3%**
Post-Primary			
Schools	No Data	557	648
Students		239,617	288,135
Suspensions		11,746	14,294
		4.9%	**5.0%**

There are more than 10 suspensions in post-primary schools for every 1 in primary school. (The figure would be 16 to 1 if there were as many post-primary students as there are primary students.) The post-primary figure of 5% for suspension, applied to the total population of 332,407 students (Table 1.1) equates to well over 16,000 students suspended from post-primary schools in 2005/6.

1.3 Aspects of Non-Attendance

Non-attendance, defined as the percentage of all student/days lost through absence, needs to be discussed briefly. Twenty-day absences do not require any further discussion here, and neither do expulsions and suspensions, since the issue raised concerning a possible confusion between 'number of expulsions' and 'number of days lost through expulsion' mentioned by Ó Briain (2006, p. 9) appears to have been resolved.

1.3.1 Non-Attendance in the Population and in Schools
Firstly, non-attendance for the entire population of students, which has just been reported on, needs to be distinguished from non-attendance in a particular school. In

this section of the report, non-attendance is always a feature of the population of students nationally, and the statistic is computed and presented accordingly, as shown above in Table 1.3. Schools don't enter the picture, except for their role in providing the data. Numbers of student/days lost through non-attendance are added up school by school, and only when the total number of student/days lost nation-wide has been calculated is non-attendance expressed as a percentage, by dividing through by the maximum student/days achievable nationwide in the year in question.

In Sections 2 and 3 of the report, on the other hand, non-attendance is given as a separate figure for each school. These figures are close to 0% in some schools and can be 20% or more in others. This rescaling, relative to the size of the school, provides an index that shows to what extent to which each school is affected by the phenomenon of non-attendance. Such school-based indices of non-attendance are essential in establishing relationships between non-attendance and other school-based measures of educational disadvantage, such as retention rates and academic achievement included. They are also needed to link non-attendance to aspects of disadvantage described only at school level, as will be done in the following two sections of this report. In this Section, however, non-attendance refers to the percentage of students absent from school each day.

1.3.2 'Total Absence' versus 'Unauthorised Absence'

The second point to be made about non-attendance, is that it refers to 'mere absence' or 'absence for whatever reason'. No distinction is made between different types of absence, i.e. between the different reasons a student might have for being absent. This is a point that needs to be considered further, since distinctions between 'authorised' and 'unauthorised' absence are often made when gathering and reporting national non-attendance figures in many countries, including England (Schagen, I, Benton, T. & Rutt, S. 2004) and Scotland (Scottish Executive 2004, 2005, 2006). Scottish data for Total Absence (authorised plus unauthorised) comparable to the NEWB data in Table 1.2 are presented in Table 1.8. The figure in brackets is the percentage of absences that were unauthorised.

Table 1.8
Total Absence in Primary and Secondary Schools (Scottish Executive, 2003/6)

	2003/4	*2004/5*	*2005/6*
Primary	4.7 (15%)	5.0 (18%)	5.0 (18%)
Secondary	9.8 (16%)	9.8 (19%)	9.6 (19%)

Non-attendance is at about 5% in primary schools and 10% in post-primary schools, compared to the Irish figures of 6% and 8%. In this instance they suggest that unauthorised absence is on the increase while total absence is steady.

However, there are obvious difficulties with the notion of unauthorised absence as a variable in a national data-base. Subjective judgments about the reasons for absence are inevitably involved in deciding whether or not it is authorised. In addition, authorisation may be easier to get in some schools than in others. And even if reasonably objective criteria for unauthorised absence could be established and implemented nation-wide, it does not follow, in any case, that fully authorised

absence, complete with letters, certificates, etc., can be treated as if it were not a problem.

Conversely, the advantages of Total Absence as a measure of non-attendance do not stop with objectivity (every student is either present or absent) and availability (the data are already recorded in the roll-book). There is also an important institutional aspect to the record of 'mere absence'. It is the public record of non-attendance, and it is likely that the gains to be made in basic research on non-attendance in Ireland by getting the NEWB non-attendance data closer to the content of the roll-book probably still outweigh anything that would be achieved by starting to gather data on different kinds of absence. This will be an important point also when considering the role that new technology might play in dealing with non-attendance.

None of this is to suggest that the notion of unauthorised absence can be dispensed with in the study of absenteeism. In the day to day management of schools, the distinction between absences that are 'unacceptable' and others that can be ignored is the most critical distinction of all. No doubt such a distinction is applied accurately every school day all over the country in the management of absenteeism. It is inevitable, nonetheless, that decisions about the acceptability of individual absences would have to be made relative to the social circumstances in which both the school and the student's family operate, and may therefore be of limited use in describing non-attendance at national level. It was principally for these reasons that the UK National Audit Office decided to use Total Absence (the sum of Authorised and Unauthorised Absence) in its recent report on non-attendance in English schools, although figures for Unauthorised Absence were also available to it (National Audit Office, 2005, p. 4).

It is true that Total Absence, corresponding to our 'non-attendance', does not correlate as highly with school measures of disadvantage as the three other non-attendance variables do, namely 20-day absences, expulsions and suspensions. This will be a constant finding of Sections 2 and 3 of the report. It is not an unexpected finding, since non-attendance is the sum of two different forms of absence, one of which can be considered common to all schools and therefore uncorrelated with disadvantage. Nonetheless, as a measure of non-attendance that is based on all students in the school, and not on the small subpopulations involved in the other three forms of non-attendance, it is irreplaceable in the study of non-attendance of all kinds.

1.3.3 Other Formulations of Non-Attendance Rates

Since non-attendance is reported as a percentage of student/days, where the latter is the product of Total Students and Total School Days, it can be applied directly to either of these figures, as is done in Table 1.9 for the 2005/6 data. When applied in this way, the non-attendance percentage returns figures for

(1) students absent per day, and

(2) days lost per student per year .

Note that a day lost in post-primary school is a bigger loss than a day lost in primary school, since there are fewer days to lose, 167 instead of 183. Unless this is taken into account, figures for Days Lost per Student can be misleading. Non-attendance is

almost 20% higher in post-primary schools than it is in primary schools, whereas a comparison of the Days Lost figures, 12 and 13, could suggest a difference of only 9%.

Table 1.9
Re-Expressions of Non-Attendance, 2005/6

	Primary	Post-Primary
Non-Attendance	6.3	7.5
Total Students	457,889	332,407
Students Absent per Day	27,858	24,930
Total School Days	183	167
Days Lost per Student	12	13

1.3.4 Precision of Non-Attendance Figures

Non-attendance is rounded to one decimal place in this report. This is the usual practice in the international literature, consistent with the view that two decimal places would overstate the level of precision that is to be expected in national non-attendance data. Nonetheless, Table 1.10 shows that a differences of even one tenth of one percent in non-attendance nationally amounts to a very substantial numbers of student/days saved or lost. Thus the reported figure of 6.3% for non-attendance in primary schools in 2005/6 suggests an increase of 0.1% in the figure of 6.2% reported for 2004/5, implying a loss of almost 84,000 additional student days.

Table 1.10
Differences in Percentage Non-Attendance Nationally, Expressed as Changes in Numbers of Student/Days, 2005/6

	Primary	*Post-Primary*
Non-Attendance (NA)	6.3	7.9
Population of Students	457,889	332,407
School Days	183	167
Student/Days	83,793,687	55,511,969
0.1% gain/loss in NA as Student/Days	83,794	55,512

This is the equivalent of .2 of one student day lost for every student in the country. The fact that the 2005/6 sample is larger by 444 schools than the 2004/5 sample is sufficient reason to disregard differences of 0.1% for the time being. But the question arises whether the data are accurate enough to be interpreted in this way, or whether, on the other hand, changes of this magnitude, and perhaps even larger changes of 0.2% or 0.3% should be treated as random fluctuations due to error in the data. This is the question that is addressed next.

1.4 Dealing with Error in the Data

Two kinds of error need to be distinguished, sampling error and measurement error. Sampling error arises when only a small proportion of the population of interest is included in a survey or study. As a result, a typical opinion poll gives a 'margin of

error', which is the zone around the figure they are reporting which would be expected to include most of the other results that would have been observed if the same poll was conducted repeatedly with different samples. This kind of error, based on differences between samples, will no longer exist in the data if 2005/6 rates of response (95% for primary and 88% for post-primary) are repeated or improved on in coming years. In other words, the *Annual Attendance Report* would no longer be a survey in the usual sense but a census. As a result, figures such as those for non-attendance would not be 'statistics' in the technical sense, i.e. estimates of an unknown parameter, but could be taken as a population figures, similar to those produced by the DES for all students and schools in the country in a given year, or census data from the Central Statistics Office. Every difference recorded from year to year, however small, could be considered a real difference, and its importance judged solely by the number of students or student/days involved.

However, measurement error still remains. The data consist of reported figures only. Most likely some of the figures are based on rough calculation, particularly if the school is large. In theory, the size of this particular measurement error (i.e. the difference between the figure submitted and the real figure) could be estimated by drawing a sample of about 200 schools and comparing the data they provided on the *Annual Attendance Report* with figures in roll-books. This would allow us to put confidence intervals around the yearly NEWB statistics for non-attendance.

Given the practical difficulties with such an approach, and the fact that it would merely provide an estimate of the size of the error, without doing anything to reduce it, it may be better to think about using earlier data as a filter for subsequent data. Thus the previous year's figure for any particular school could be used to flag a large change. It is reasonable to assume that correct figures should show only a small degree of variation from year to year, except in the case of very small schools, and that larger than usual variations are therefore likely to contain errors.

Differences from one year to the next in non-attendance figures are plotted in Figure1.1 on the next page for primary and post-primary school. They are shown for the two occasions on which figures could be compared for consecutive years, the first from 2003/4 to 2004/5, and the second from 2004/5 to 2005/6. As would be expected, the great majority of changes are close to zero. A change of even 1% would be major in this setting, except for very small schools. Yet the data show that changes in excess of 3%, and even 5% or larger, are common.

Table 1.11, which summarizes the same data, gives the percentage of schools showing differences in excess of 3% in successive years. About 8% of primary schools (250) and 15% of post-primary schools (100) would be involved. Rather than deciding on a cut-off, such as changes in excess of 3%, it might be more practical to work inwards from the most extreme changes, which are almost certain to be in error. This would also give an indication, at each point in the process, of the likely gains to be made from further checking.

Figure 1.1 *Yearly Change in Non-Attendance, 2003/4 to 2005/6*

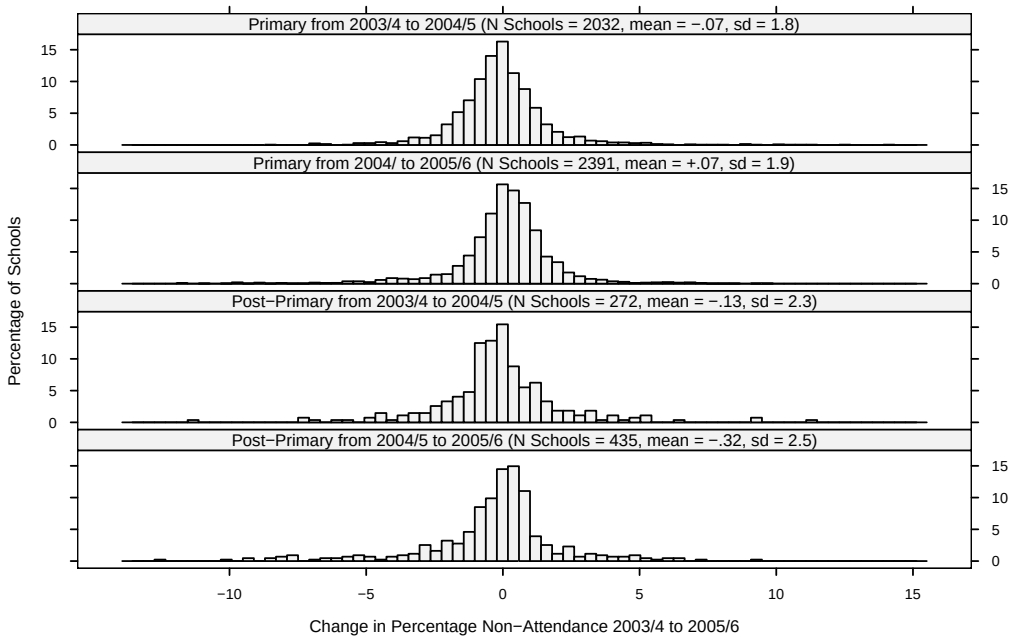


Table 1.11
Mean Yearly Change in Non-Attendance, 2003/4 to 2005/6

		N Schools	Mean	SD	< -3%	> +3%
Primary	2003/4-4/5	2032	-.07	1.8	5%	3%
	2004/5-5/6	2391	.07	1.9	4%	4%
Post-Primary	2003/4-4/5	272	-.13	2.3	7%	7%
	2004/5-5/6	435	-.32	2.5	10%	6%

Additions to the data-cleaning procedures already in place can undoubtedly reduce the large yearly variation in data from the same school. This is particularly true for checking procedures that can be implemented sufficiently quickly after the receipt of data to allow corrections to be made before analysis begins. It would be advantageous also to integrate the existing data-sets in a way that get full value from them as a set of filters for the following year's data. The additional filter proposed here has its limitations. It will not pick up over- and under-reporting of non-attendance that is consistent from year to year. Nonetheless, a preliminary examination of the data suggests that the kind of error revealed by inconsistency is considerable. In addition, the point at which apparent inconsistencies turn out to be correct data should become apparent according as checks proceed from greater to lesser degrees of inconsistency.

1.5 The Use of National Figures for Non-Attendance

Educational disadvantage in the developed world is a feature of subpopulations, and thus the principal function of the national average for non-attendance is to provide the population norm against which degrees of non-attendance in disadvantaged subpopulations can be assessed. This is not to say that the national non-attendance

figures themselves, around 6% and 8% respectively for primary and post-primary schools in 2005/6, are lacking in meaning, or still less, that they cannot be improved. It is true nonetheless that what they mostly record forms of non-attendance that are unavoidable and randomly distributed over all schools, plus another variety of non-attendance, making up less than 20% of the total according to the Scottish figures in Table 1.8, that is not at all random but specific to students, families, schools and localities operating in disadvantaged circumstances. Since we have no measure of so-called 'unauthorised' non-attendance, the only approach is to look at figures for total non-attendance that are unusually high for the school in question, on the understanding that this is likely to be due either to (1) a higher rate of 'unauthorised' non-attendance, or (2) forms of 'legitimate' non-attendance due to conditions that are more prevalent in disadvantaged subpopulations, such as illness or family difficulties.

Schools that show unusually low non-attendance figures, given their circumstances, will also be worthy of attention. This is not possible without reduced levels of 'unauthorised' non-attendance, since there is undoubtedly a level of authorised non-attendance that is unavoidable and therefore relatively constant over all schools. This is taken up in the document entitled *Small-Scale Projects to Supplement the Annual Attendance Report* that is contained in the *Supplement* to this report.

1.5 Intercorrelation of Non-Attendance Variables

The correlation of NEWB non-attendance variables with each other in the three data-sets from 2003/4 to 2005/6 are presented in Table 1.12 Expulsions were dropped from the primary data-set because their numbers (10-15) were too small.

Table 1.12
Correlation of Non-Attendance Variables, 2003/4 to 2005/6

	2003/4	*2004/5*	*2005/6*
Primary Schools			
Correlation of Non-Attendance	*r*	*r*	*r*
with 20-Day Absences	.79	.74	.68
with Suspensions	…*	.29	.23
Correlation of 20-Day Absences	*r*	*r*	*r*
with Suspensions	…	.29	.26
Post-Primary Schools			
Correlation of Non-Attendance	*r*	*r*	*r*
with 20-Days Absences	.78	.76	.71
with Expulsions	.15	.10	.10
with Suspensions	…	.35	.31
Correlation of 20-Day Absences	*r*	*r*	*r*
with Expulsions	.06	.11	.09
with Suspensions	…	.31	.34
Correlation of Expulsions	*r*	*r*	*r*
with Suspensions	…	.18	.22

* No data on suspensions were gathered in 2003/4.

A correlation (*r*) of zero indicates no association, while non-zero values indicate the size of the association, from 0 to 1 (perfect association), with the sign indicating whether the association is negative or positive. A negative association means that high values on one variable correspond to low values on the other, or vice versa. The size of an association between two variables determines how predictable values on one are, given values of the other. They are perfectly predictable in the case of correlations of +1, and also in the case of -1, except that the signs are reversed; and not predictable at all in the case of correlations of .0. The two variables correlated are the school percentages for the forms of non-attendance in question.

There are large correlations in the order of .70 to .80 between the two forms of 'elected' non-attendance, i.e. non-attendance in general and 20-day absences, in both primary and post-primary schools.

The correlation of elected with imposed non-attendance (expulsion and suspension) is in the .20s in primary schools and in the .30s in post-primary schools. The correlation of expulsion and suspension is around .20 in post-primary schools. The numbers of expulsions in primary schools are too small to yield meaningful correlations with other variables.

Section 2

Non-Attendance in Primary Schools, 2005/6

In this section, NEWB non-attendance data gathered from primary schools in 2005/6 are merged with other data on the same schools in data sets maintained by the Educational Research Centre (ERC). The ERC data relate to the general setting in which the schools operate, including the various forms of educational disadvantage they have to cope with, and the academic achievement of their students. The object of the merging exercise is to situate the non-attendance profile of schools in the context of educational and social disadvantage generally.

2.1. Merging NEWB and ERC Data

Only non-attendance data for 2005/6 were retained for merging with ERC data. It was possible, however, to use some of the earlier data. A small number of schools (about 90) which did not provide usable data on some form of non-attendance in 2005/6, had previously provided the same data in either 2003/4 or 2004/5. In these instances, the most recent of the earlier figures was substituted into the 2005/6 data.

The final numbers of schools providing both attendance and disadvantage data are shown in Table 2.1. The number of schools is also given in column 3 as a percentage of all primary schools in 2005/6 (N = 3,284). The relatively lower figure for non-attendance, in comparison with 20-day absence, is due to continuing problems with the wording of Question 1 of the *Annual Attendance Report*.

Table 2.1
Number of Primary Schools in the Merged Data-Set

Variable	*Schools*	*% All Schools*
Non-Attendance	2,922	91.10
20-Day Absences	3,012	91.71
Expulsions	3,018	91.90
Suspensions	2,989	91.02

The analysis to follow is in two parts

Firstly, in Section 2.2, *Non-Attendance and School Setting*, we look at non-attendance profiles for schools operating in different settings. Urban and rural schools are compared, boys mixed, and girls schools, and so on. Broad classifications of schools with regard to degree of disadvantage are also looked at.

Then, in Section 2.3, *Non-Attendance and Disadvantage*, more specific social and academic measures of disadvantage are added, such as percentage of students living in public housing, and the school principal's assessment of the English and Mathematics standards in First and Sixth Class.

2.2 Non-Attendance and School Setting

Five features of school setting are looked at here,

(1) Location (Urban, Rural),
(2) Size (Small, Large),
(3) Gender Served (Boys, Girls, Mixed),
(4) DEIS classification, and
(5) RAPID 1 classification.

2.2.1 Urban and Rural Schools

Table 2.2 gives averages for non-attendance, 20-day absences, and suspensions in urban an rural primary schools. As usual, expulsions have not been included because of the small numbers. Of the 9 expulsions recorded for 2005/6 in the merged sample (N = 3,018), 6 occurred in urban schools and 3 in rural schools.

Table 2.2
Non-Attendance in Urban and Rural Primary Schools

Non Attendance	*Mean*	*N Schools*	*SD*
Rural Schools	5.26	1908	1.75
Urban Schools	6.89	1014	2.71
Total	5.82	2922	2.27
20-Day Absences	*Mean*	*N Schools*	*SD*
Rural Schools	8.26	1962	6.68
Urban Schools	14.06	1051	8.95
Total	10.29	3013	8.04
Suspensions	*Mean*	*N Schools*	*SD*
Rural Schools	0.04	1950	0.27
Urban Schools	0.33	1039	1.06
Total	0.14	2989	0.68

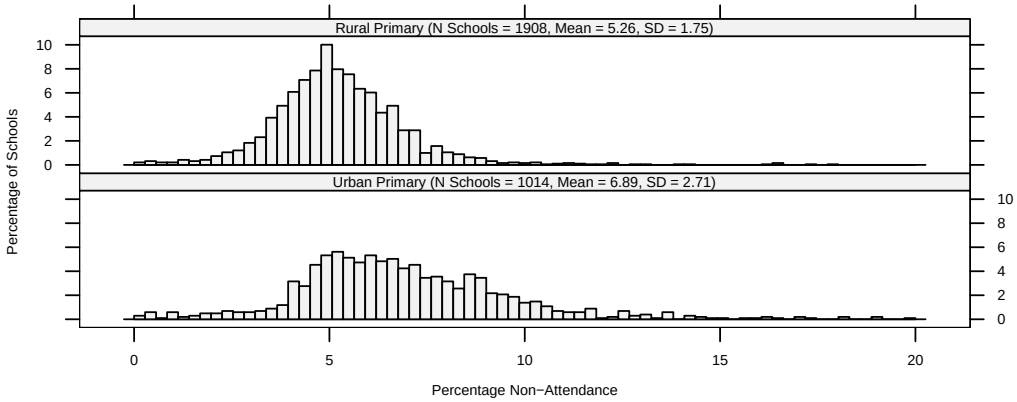
Before commenting on the results in the table, two features of this, and the following tables need to be pointed out. First, when non-attendance is reported in columns, the values recorded go from the lowest, at the top of the column, to the highest, at the bottom. Thus urban schools come below rural schools because they have higher non-attendance. Second, school-level percentages for non-attendance are used from now on in this report, to replace the student-level percentages used in Section 1. For the reasons given in the document *Merging Data and Results for 2003/4, 2004/5 and 2005/6* (pp. 1-3) in the *Supplement* to this report, school-level percentages will differ from their student-level equivalents. They are needed in here in order to correlate non-attendance with features of schools, such as size and location, and aspects of social and educational disadvantage measured at school level only.

Non-attendance increases from 5.26 in rural school to 6.89 in urban schools, a 30% increase. In addition, the dispersion of non-attendance figures, indicated by the standard deviation (SD), which gives the average distance of scores from the mean (SD), is over 50% greater in urban schools. This is presented graphically in the

histograms in Figure 2.1. They show the percentage of schools (vertical axis) recording the various possible percentages of non-attendance (horizontal axis).

The distribution of the Percentage Non-Attendance in rural and urban schools is shown in Figure 2.1. Non-attendance in rural schools is distributed fairly symmetrically around a mean of 5.26, consistent with the view that the phenomenon being measured is spread in a random way among schools and students. But while non-attendance in urban schools also peaks at around 5.25, it has a large 'bite' removed at the lower end. Only 28% of urban schools have a score lower that 5.26, compared with 55% of rural schools. This means an additional 27% has to be accommodated above the mean, resulting in the heavy skew to the right in the distribution of scores, and the resulting increase in the size of the standard deviation.

Figure 2.1
Distribution of Non-Attendance in Rural and Urban Primary Schools, 2005/6.



An important feature of non-attendance variables is that they almost always have dispersions (variances or SDs) that are proportional to the mean. The higher the non-attendance score in any particular subgroup, the greater the average distance of scores from each other and from the mean. This is not normally the case with educational variables. Increments in academic achievement over time, for example, or more obviously still, increments in the age of students from grade to grade, can be considered as constants that are added to *all* scores, plus a random error factor. This kind of change results in a distribution, such as those above, sliding to the right of the scale in question, but without changing their shapes. Thus the dispersion remains the same.

The increments that push mean non-attendance from 5.26 in rural schools to 6.89 in urban schools cannot be of this sort. The roughly normal shape of the rural distribution is not retained as non-attendance increases in urban schools. What happens is that a minority of schools begin to score well above the mean, stretching the distribution out to the right. This is also the reason for the strong correlation of means and standard deviations that can be seen in Table 2.2. Higher mean non-attendance does not take place without increasing differences in non-attendance between schools.

Twenty-day absences distinguish urban from rural schools much more sharply than general non-Attendance does. The increments in urban schools are 70% and 30% respectively. This will turn out to be the case also with other correlates of disadvantage. Thus 11.7% of rural schools (223) report zero 20-day absences, while only 1.6% (16) of urban schools do.

The urban versus rural pattern is maintained in the figures for suspensions, and although the increment in urban schools is small (8%) this may be only because suspension is still quite rare in primary schools of all kinds. There were only 893 in 2005/6 altogether, 91 rural and 802 urban. Thus 98% of primary schools and 80% of urban schools report no suspensions at all. Were suspension to become more prevalent, in all likelihood the increase would be larger in urban schools than in rural, leading to a difference between them on this form of non-attendance also.

2.2.2 Small and Large Schools

Primary schools were placed in one of four size-categories, as shown in Table 2.3. Mean scores and dispersions for non-attendance variables were then computed for each size category. All forms of non-attendance increase with the size of the school.

Table 2.3
Varieties of Non-Attendance by Size of School

Non-Attendance			
Size of School	*Mean*	*N*	*SD*
< 50: 1	5.29	638	2.15
50-100: 2	5.41	832	1.88
101-200: 3	6.00	668	2.39
> 200: 4	6.58	691	2.44
All Sizes	5.81	2829	2.27
Percentage 20-Day Absentees			
< 50: 1	8.14	655	8.56
50-100: 2	9.05	861	6.94
101-200: 3	11.40	692	8.30
> 200: 4	12.49	707	7.62
All Sizes	10.24	2915	8.00
Percentage Suspensions			
< 50: 1	0.02	660	0.28
50-100: 2	0.07	861	0.46
101-200: 3	0.20	692	0.85
> 200: 4	0.27	707	0.89
All Sizes	0.14	2920	0.67

In any interpretation of the link between school size and non-attendance, it has to be taken into account that large primary schools are predominantly urban schools, as shown in Table 2.4. This association between the size of primary schools and their locations has to be borne in mind in interpreting the two previous tables.

Table 2.4
Size of Primary Schools by Location (Urban vs Rural)

Size of School	*Urban*	*Rural*	*%Urban*	*%Rural*	*Schools*
< 50	53	608	5	32	661
50-100	115	746	11	39	861
101-200	249	445	25	23	694
> 200	597	111	59	6	708
All Sizes	1,014	1,910	100	100	2,924

2.2.3 Boys, Girls and Mixed Schools

Non-attendance mean scores and dispersions are shown in Table 2.5 for boys, girls and mixed schools.

Table 2.5
Non-Attendance and Gender Served by School

	Gender Served	*Mean*	*Schools*	*SD*
Non-Attendance				
	Mixed	5.69	2,589	2.22
	Girls	6.57	117	2.05
	Boys	7.03	216	2.47
	All Schools	5.82	2,922	2.27
20-Day Absences				
	Mixed	9.72	2,661	7.75
	Girls	13.64	126	6.92
	Boys	15.19	225	9.70
	All Schools	10.29	3,012	8.03
Suspensions				
	Girls	0.03	126	0.15
	Mixed	0.11	2,638	0.59
	Boys	0.57	225	1.34
	All Schools	0.14	2,989	0.68

Non-attendance in all its forms is less in girls schools than in boys, and less also in mixed schools than in boys schools. This relationship will be quantified more exactly below, in section 2.3, where gender served will be treated as a continuous variable, given by the proportion of girls in the school.

2.2.4 DEIS Categories and Non-Attendance

The DEIS categories can be equated with the amount of assistance received by schools in the School Support Programme (SSP). This yields five categories: (1) Rural not in SSP, (2) Rural in SSP, (3) Urban not in SSP, (4) Urban in SSP Band 2, and (5) Urban in SSP Band 1.

Figures for non-attendance in the DEIS classification of schools are presented in Tables 2.6, 2.7 and 2.8.

Table 2.6
Non-Attendance and DEIS Categories

		Mean	*Schools*	*SD*
Rural	Not in SSP	5.14	1,588	1.64
Rural	In SSP	5.83	317	2.12
Urban	Not in SSP	6.07	707	2.10
Urban	In SSP Band 2	7.98	139	2.58
Urban	In SSP Band 1	9.37	171	3.18
	Total	5.82	2,922	2.27

Table 2.7
Twenty-Day Absences and DEIS Categories

		Mean	*Schools*	*SD*
Rural	Not in SSP	7.67	1,631	6.09
Urban	Not in SSP	10.70	727	6.55
Rural	In SSP	11.10	328	8.42
Urban	In SSP Band 2	18.22	144	7.54
Urban	In SSP Band 1	24.38	182	9.03
	Total	10.29	3,012	8.03

A comparison of the first two tables (Tables 2.6 and 2.7), for non-attendance and 20-day absences, shows that it is 20-day absences that are most closely linked to DEIS categories. Table 2.6 shows that *Urban Not in SSP* actually has higher non-attendance (6.07) than *Rural in SSP* (5.83), while non-attendance in the top DEIS ranking (9.37) is still only 80% higher than it is in the lowest category (5.14). Table 2.7, on the other hand, shows a 200% increase in twenty-day absences between the lowest and the highest DEIS categories, from 7.67 to 24.38. It also places schools, from lowest to highest-scoring for 20-day absences, in the same order as their DEIS rankings, which is not the case for non-attendance, in Table 2.6.

The figures for suspensions and DEIS categories are given in Table 2.8.

Table 2.8
Suspensions and DEIS Categories

		Mean	*Schools*	*SD*
Rural	Not in SSP	0.04	1,622	0.28
Rural	In SSP	0.04	325	0.25
Urban	Not in SSP	0.13	721	0.58
Urban	In SSP Band 2	0.36	143	1.02
Urban	In SSP Band 1	1.09	178	1.92
	Total	0.14	2,989	0.68

As noted above, in comments made above about suspension and location (2.2 Urban and Rural Schools), suspensions are probably still too infrequent in primary schools to give this variable a substantial correlation with other disadvantage variables. It does

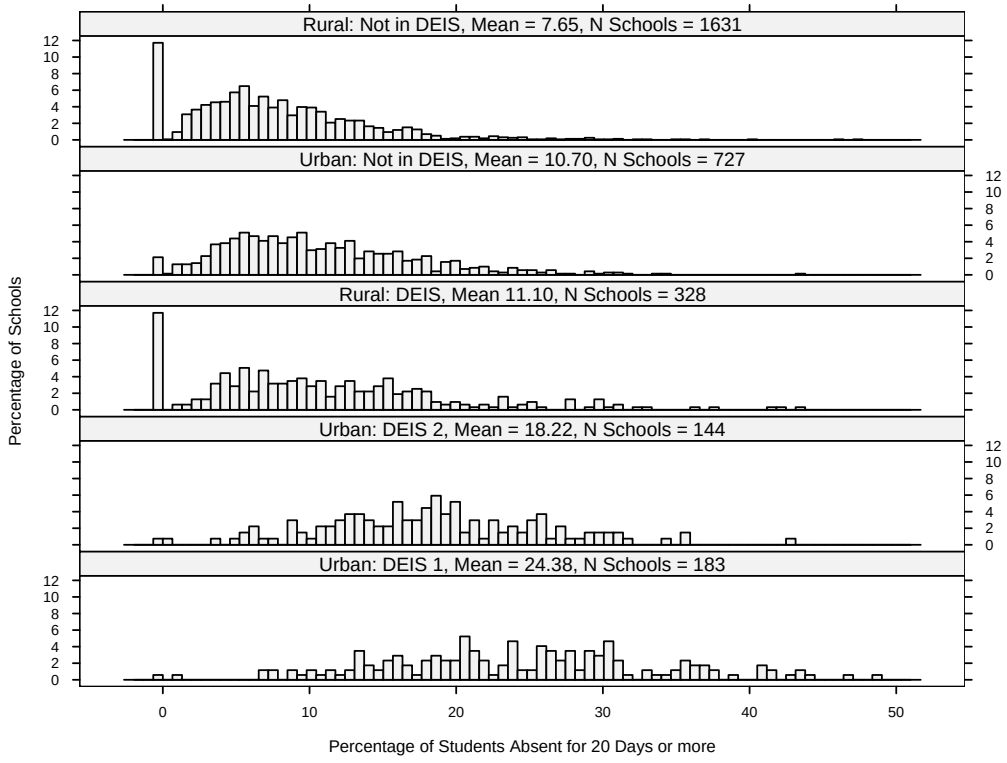
establish a base-line, however, in the event that larger numbers of suspensions are recorded in primary schools in the future.

2.2.5 Non-Attendance and Disadvantage in Rural Schools

The marginal role of non-attendance in the definition of DEIS categories in rural schools was referred to in connection with Table 2.6 above. Urban schools not in the School Support Programme have higher non-attendance than rural schools who are in the programme. The data suggest that whatever form disadvantage may take in rural schools, it is not particularly associated with non-attendance, or at least it is less so than it is the case in urban schools.

This is evident in the data for zero 20-day absences, which is merely another aspect of high attendance. In figure 2.2, zero 20-day absences appear as 'spikes' on the extreme left of the histograms. It is clear that the phenomenon is almost exclusive to rural schools. Ninety-six percent of cases are in rural schools. And secondly, in rural schools it does not appear to have a strong association with disadvantage. Schools with a high rate of zero 20-day absences are as likely to be included in DEIS as to be excluded from it. They make up 11-12% of schools in both cases.

Figure 2.2
Distribution of 20-Day Absences over DEIS Categories



2.2.6 Non-Attendance in RAPID 1 Schools

Non-attendance data in RAPID 1 and all other schools are summarised in Table 2.9. The figures in brackets are the numbers of schools providing data.

Table 2.9
Non-Attendance in Rapid 1 Schools

	RAPID 1	*Other*
Non-Attendance	8.28 (130)	5.71 (2,886)
20-Day Absences	22.51 (131)	9.93 (2,889)
Expulsions	.01 (126)	.00 (2,798)
Suspensions	1.35 (130)	.12 (2,863)

There are more than twice as many 20-day absences in RAPID 1 schools as in other schools, and ten times as many suspensions. These differences are considerably larger than those that will be reported later for post-primary schools, namely a 60% increase in 20-day absences and a doubling for suspensions (Table 3.8, p. 30)

2.3 Correlates of Non-Attendance

To clarify associations between non-attendance and disadvantage further, we now switch from levels of non-attendance in different groups to correlations between non-attendance and other school variables. These are indicated by the symbol *r*, appearing at the top of columns of correlation coefficients. These are figures ranging from -1.00 to +1.00 that give the strength of the 'association' between the two variables in question. (See p. 12 for a fuller explanation.)

Another measure of association, *eta*, will be used also in the tables to follow. This measure is the closest equivalent to the correlation coefficient *r* when one of the variables is not continuous, but consists only of different categories, such as the school categories urban and rural, large and small, etc for which mean values (for non-attendance) were just reported. Unlike the correlation coefficient *r*, however, which ranges from -1.00 to +1.00, values of *eta* cannot be negative. They summarize the extent to which the categories being used are related, as a group, to non-attendance, with a minimum value of zero.

Finally, categories will be replaced by continuous variables wherever possible, and the associations with non-attendance reported as correlation coefficients. Thus the school categories Size, Gender Served and DEIS Status are replaced by the corresponding continuous variables N of Students, % Girls, and DEIS points rather than DEIS categories, and their association with Non-Attendance is reported as a correlation (r). When no continuous equivalent exists for categorical variables, as in the case of Urban vs Rural, or Membership in disadvantage projects, *eta* is reported.

2.3.1 Non-Attendance and School Setting

The extent to which non-attendance is associated with features of the school context or setting, namely (1) location (urban or rural), (2) size, and (3) gender served, is reported in Table 2.9. Non-attendance variables are in the columns, from left to right, abbreviated to *Abs, Abs20* and *Sus,* and aspects of the school setting are in the rows. Urban schools have higher rates of non-attendance and suspension than rural schools. Both phenomena are slightly higher in larger schools, and slightly lower in schools that are mostly, or entirely, girls schools.

Table 2.9
Non-Attendance and School Setting

School Setting	*Abs* *eta*	*Abs20* *eta*	*Sus* *eta*	*Avg*
Location: Urban or Rural (2)	0.34	0.35	0.20	0.30
	r	*r*	*r*	
School Size(N Students)	0.19	0.16	0.10	0.15
Gender Served (%Girls)	-0.03	-0.05	-0.15	0.08

2.3.2 Non-Attendance and Social Disadvantage
Table 2.10 gives the correlation of the three NEWB attendance variables with seven major indicators of disadvantage that primary school principals reported on in 2004/5.

Table 2.10 *Non-Attendance and Aspects of Disadvantage*

Aspects of Disadvantage	*Abs* *r*	*Abs20* *r*	*Sus* *r*	*Avg*
Local authority accommodation	0.49	0.58	0.34	0.47
DEIS Points Score	0.46	0.54	0.30	0.43
Lone parent family	0.42	0.52	0.30	0.41
Main family earner unemployed	0.39	0.47	0.25	0.37
GCEB Points Score	0.38	0.44	0.24	0.35
Membership of Traveller Community	0.37	0.37	0.14	0.29
Students in Free Books Scheme	0.28	0.34	0.19	0.27
Families of 5 or more	0.18	0.23	0.15	0.19
Average	0.37	0.44	0.24	

The principals gave numbers of students in the various conditions described, which were then converted into percentages of all students in the school. In this form they were correlated with the attendance variables, also expressed as percentages of all students or student/days for the school. The 7 aspects of disadvantage have been ranked, from top to bottom, in order of their average association with the 3 NEWB attendance variables. Local authority accommodation is the strongest correlate, then the DEIS Points score, and so on. The three average correlations at the bottom of the table are for the non-attendance variables. They show once again that absences for 20-days or more have the strongest average association with the disadvantage variables, followed by total absence, and finally, suspension.

2.3.3 Non-Attendance and Academic Performance
Correlations between non-attendance variables and academic achievement are based on estimates made by school principals of the numbers of students in the bottom 20% nationally in English and Maths, in First and in Sixth Classes are shown in Table 2.11. The association with non-attendance is stronger in Sixth Class than in First, which is as we would expect, when non-attendance has had 5 more years to have an effect, and perhaps stronger also in Mathematics than in English, in both classes, although the differences are not great. As before, 20-day absences have the strongest average correlation with academic measures (.24), followed by non-attendance (.20) and suspensions (.16)

Table 2.11
Non-Attendance and Academic Performance

School Performance: First Class	*Abs*	*Abs20*	*Sus*	*Avg*
N Students in bottom 20% in Maths	0.18	0.19	0.14	0.17
N Students in bottom 20% in English	0.14	0.18	0.12	0.15
School Performance: Sixth Class				
N Students in bottom 20% in Maths	0.24	0.31	0.20	0.25
N Students in bottom 20% in English	0.22	0.27	0.16	0.22
Average	0.20	0.24	0.16	

2.3.4 Non-Attendance in Disadvantage Projects
Data were available in the ERC file indicating whether or not schools were participants in disadvantage projects, and if the project had categories, into which category the school was admitted. The category 'not admitted' is always one of the categories. The associations are shown in Table 2.12.

Table 2.12
Non-Attendance and School Participation in Disadvantage Projects

Projects (number of categories in brackets)	*Abs eta*	*Abs20 eta*	*Sus eta*	*Avg*
DEIS (5)	0.49	0.54	0.37	0.47
DAS (2)	0.38	0.42	0.30	0.37
School Completion Programme (2)	0.29	0.34	0.25	0.29
RAPID (3)	0.28	0.33	0.23	0.28
Breaking the Cycle (3)	0.18	0.23	0.17	0.19
Support Teachers Programme (2)	0.14	0.21	0.20	0.18
CLÁR (2)	0.05	0.05	0.05	0.05
Average	0.27	0.32	0.23	

Non-attendance has a substantial association with admission to disadvantage projects. The fact that the association is greater for some projects than for others is largely because they were larger projects. The ordering of the three NEWB variables with respect to degree of association with project membership is as before, 20-day absences first, then general non-attendance, and finally suspension.

Section 3

Non-Attendance in Post-Primary Schools, 2005/6

The same analyses that were done for primary schools in the previous section are repeated in this section for post-primary schools. The purpose is to link the non-attendance profiles of schools to the other forms of social and educational disadvantage in which they operate.

3.1. Merged NEWB and ERC Data

The numbers of schools providing both non-attendance and disadvantage data are shown in Table 3.1 The number of schools is also given in column 3 as a percentage of all post-primary schools in 2005/6 (N = 734).

Table 3.1
Number of Schools in the Merged NEWB/ERC Data Set

Variable	*Schools*	*% All Schools*
Non-Attendance	605	82.42%
20-Days Absences	607	82.70%
Expulsions	619	84.33%
Suspensions	604	82.29%

In the next section (3.2), entitled *Non-Attendance and School Setting*, we look at levels non-attendance in different types of schools, and in the following section (3.3) *Correlates of Non-Attendance*, we examine the strength of associations between the four forms of non-attendance and specific aspects of disadvantage.

Columns of figures reporting non-attendance are always in ascending order, with the highest figures towards the bottom of the column. Thus the school-type categories in the rows are ranked according to degree of non-attendance, and the ranking may change from table to table.

3.2 Non-Attendance and School Setting

In this section we compare non-attendance data for different kinds of schools

(1) secondary, vocational and community/comprehensive schools,
(2) small and large schools,
(3) boys, girls and mixed schools,
(4) schools in the five DEIS categories, and
(5) RAPID 1 schools.

3.2.1 Secondary, Vocational, and Community/Comprehensive Schools

Non-Attendance data for secondary, vocational, and community/comprehensive schools are shown in Table 3.2. All forms are highest in vocational schools, with the partial exception of expulsions, which are equally as common in community/comprehensive schools as they are in vocational schools. It is notable however that proportionality between mean scores and dispersions, which was so constant in primary schools, doesn't hold in all cases at post-primary level. In the case of 20-day absences and suspensions, Community/Comprehensive Schools tend to have the greatest dispersion of scores, even though vocational schools have higher mean scores. In other words, Community/Comprehensive Schools have more extreme scores, at both ends of the scale, high non-attendance and low, while Vocational Schools have the highest average non-attendance.

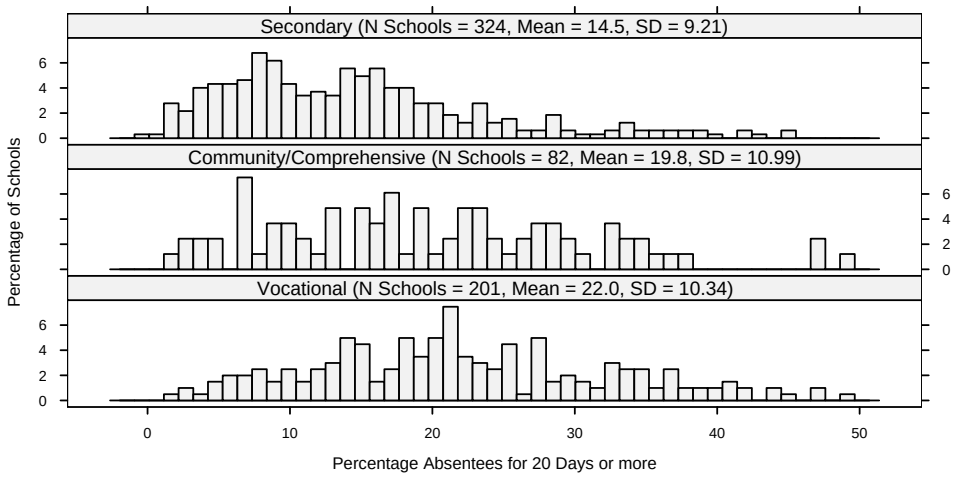
Table 3.2
Non-Attendance and Type of School

	Type of School	*Mean*	*Schools*	*SD*
Non-Attendance				
	Secondary	7.25	319	2.84
	Community / Comprehensive	8.69	83	3.13
	Vocational	9.08	203	3.58
	Total	8.06	605	3.26
20-Day Absences				
	Secondary	14.52	324	9.21
	Community / Comprehensive	19.81	82	10.99
	Vocational	22.03	201	10.34
	Total	17.72	607	10.43
Expulsions				
	Secondary	0.04	327	0.12
	Community / Comprehensive	0.06	84	0.17
	Vocational	0.06	208	0.18
	Total	0.05	619	0.15
Suspensions				
	Secondary	4.57	323	4.55
	Community / Comprehensive	6.23	82	5.82
	Vocational	6.50	199	5.74
	Total	5.43	604	5.23

Twenty-day absences and expulsions separate the three types of schools more decisively than general non-attendance or suspensions. The figures for non-attendance are only 25% higher in vocational schools than they are in secondary schools (9.08 compared to 7.25), while the figures for 20-day absences are 50% higher (22.03 compared to 14.52). This indicates that 20-day absences is the non-attendance variable that is most closely aligned to the continuum of disadvantage that runs from secondary schools, through community/comprehensive schools, to vocational schools. This is consistent with the findings reported earlier (in section 2.2.4) showing that categories of disadvantage in primary schools are also more closely related to the 20-day absence variable than they are to the other measures of non-attendance.

The distributions for 20-day absences in the three types of school, in Figure 3.1 below, shows that community/comprehensive schools match secondary schools more closely than they match vocational schools at the lower end of the distribution, whereas they match Vocational Schools more closely than they match secondary schools at the top of the distribution. It would seem that the inclusiveness that is among the objectives of the community/comprehensive schools is reflected in the wide range of non-attendance figures they show.

Figure 3.1
The Distribution of 20-Day Absences (%) by Type of School



3.2.2 Small and Large Schools

The schools were allocated to four size-categories, 1 (< 300), 2 (301-400), 3 (401-600), and 4 (> 600). Table 3.3 below shows the means and dispersions of non-attendance variables for each size category. As always, means are in ascending order, as you go down the columns, and the size categories of the schools are re-ordered as necessary.

All forms of non-attendance increase as schools get smaller. There is only a single reversal, for the two smallest school-size categories in the case of expulsions. Although the exact opposite is true in primary schools (see Table 2.7), neither result is surprising. The largest primary schools are urban schools, where disadvantage is greatest. At second level, on the other hand, the urban-rural divide is largely absent and there is no prior reason to suppose that larger schools would tend to have a higher proportion of disadvantaged students. The opposite would be expected, on the grounds that vocational schools are smaller on average than either secondary or community/comprehensive schools. This pattern will be confirmed later by more general indicators of disadvantage.

3.2.3 Boys, Girls and Mixed Schools

Non-attendance data were broken down by the gender category of schools, Boys, Girls, and Mixed. The results are shown in Table 3.4.

Table 3.3
Non-Attendance and Size of School

Non-Attendance		*Mean*	*Schools*	*SD*
	Size of School (Largest) 4	6.82	125	2.29
	3	7.90	184	3.45
	2	8.13	109	3.27
	(Smallest) 1	8.91	149	3.18
20-Day Absences				
	Size of School (Largest) 4	13.08	127	8.03
	3	16.88	182	10.37
	2	19.44	110	11.19
	(Smallest) 1	20.90	147	10.00
Expulsions				
	Size of School (Largest) 4	0.03	128	0.09
	3	0.04	186	0.13
	(Smallest) 1	0.05	151	0.17
	2	0.06	112	0.18
Suspensions				
	Size of School (Largest) 4	3.84	128	3.80
	3	5.41	184	5.56
	2	5.82	110	4.88
	(Smallest) 1	6.48	150	5.85

Table 3.4
Non-Attendance and Gender Served by School

Non-Attendance		*Mean*	*Schools*	*SD*
	Boys	6.90	89	2.87
	Girls	7.87	121	3.21
	Mixed	8.41	396	3.33
	Total	8.08	606	3.28
20-Day Absences		*Mean*	*Schools*	*SD*
	Boys	12.54	90	8.84
	Girls	16.35	124	10.33
	Mixed	19.34	393	10.38
	Total	17.72	607	10.43
Expulsions		*Mean*	*Schools*	*SD*
	Girls	0.01	128	0.06
	Boys	0.05	90	0.15
	Mixed	0.06	401	0.17
	Total	0.05	619	0.15
Suspensions		*Mean*	*Schools*	*SD*
	Girls	2.88	127	3.52
	Mixed	6.01	390	5.40
	Boys	6.57	87	5.39
	Total	5.43	604	5.23

Elected non-attendance is higher in mixed schools than in same-sex schools, and higher in girls schools than in boys schools. Expulsions and suspensions are rare in girls schools.

3.2.4 Non-Attendance and Categories of Disadvantage

The ERC post-primary data-set contains a single index of disadvantage for all the schools in the file (N = 633), similar to that used to define the DEIS categories for primary schools. Five categories of disadvantage were defined on this 400-point scale, proportional in size to the DEIS categories used in Section 2. Means and dispersions for the four non-attendance variable were then computed for each of these categories. The results are in Table 3.5. Disadvantage 1 is the highest level of disadvantage. However, they do not appear in order, from 5 down to 1 if their non-attendance scores rank them differently, as in the first panel of Table 3.5.

Table 3. 5
Varieties of Non-Attendance and Degree of Disadvantage

Non-Attendance	*Mean*	*Schools*	*SD*
Disadvantage (Least) 5	7.07	328	2.58
4	8.13	69	2.73
3	9.33	145	3.52
Disadvantage (Most) 1	10.25	33	4.29
2	10.45	31	4.35
	8.06	605	3.26
20-day Absences	*Mean*	*Schools*	*SD*
Disadvantage (Least) 5	13.76	332	8.22
4	17.63	69	9.26
3	23.36	144	10.85
2	25.35	30	10.45
Disadvantage (Most) 1	26.53	32	10.98
Total	17.72	607	10.43
Expulsions	*Mean*	*Schools*	*SD*
Disadvantage (Least) 5	0.02	334	0.08
4	0.05	148	0.13
3	0.06	69	0.16
2	0.16	36	0.31
Disadvantage (Most) 1	0.16	32	0.32
Total	0.05	619	0.15
Suspensions	*Mean*	*Schools*	*SD*
Disadvantage (Least) 5	3.51	331	3.64
Disadvantage 4	5.19	67	3.89
Disadvantage 3	7.86	145	5.87
Disadvantage 2	8.76	30	6.07
Disadvantage (Most) 1	11.84	31	6.79
Total	5.43	604	5.23

The same pattern is observed that was previously seen in the primary school data. All forms of non-attendance are closely linked to degree of disadvantage. Thus, the rankings by non-attendance and by disadvantage are the same in every case, with the exception of general non-attendance in the two highest categories of disadvantage.

Comparing the lowest to the highest disadvantage categories, the increase is less than 50% for general non-attendance (7.07 compared to 10.25) and almost 100% for 20-day absences (13.76 compared to 26.53). In addition, expulsion and suspension, since they are more frequent occurrences in post-primary schools, have a far closer association with disadvantage than was the case in primary schools. Expulsions are 8 times more likely in the top disadvantage category than in the lowest, and suspensions 3 times more likely.

3.2.5 Non-Attendance in RAPID 1 Schools

Non-attendance data in RAPID 1 and all other schools are summarised in Table 3.6. The numbers of schools providing data are given in brackets.

Table 3.6
Non-Attendance in RAPID 1 Schools

	RAPID 1	*Other*
Non-Attendance	10.01 (37)	7.94 (568)
20-Day Absences	27.51 (35)	17.12 (572)
Expulsions	0.11 (39)	0.04 (580)
Suspensions	11.42 (36)	5.05 (568)

There are 60% more 20-day absences in RAPID 1 schools than in other schools, and twice as many expulsions and suspensions. As observed earlier (p. 20, in connection with Table 2.9), this is not as extreme a contrast as that seen in RAPID 1 primary schools.

3.3 Correlates of Non-Attendance

Non-attendance is now correlated with four general features of school setting,

(1) school setting (type, size and gender served),
(2) degree of disadvantage,
(3) dropout, and
(4) academic achievement.

The measure of correlation used is the correlation coefficient *r*, when both variables are measured on a continuous scale, and the correlation ratio *eta*, when one of the variables is categorical. (See pp. 11 and 21-22 for a fuller explanation.)

3.3.1 Non-Attendance and School Setting

The association of non-attendance with four aspects of the school setting, namely (1) type of school (secondary, vocational, community and comprehensive), (2) RAPID classification, and (2) size, and gender served, is reported in Table 3.7.

The higher rates of non-attendance in vocational schools, compared with secondary schools, is evident, which also accounts in large part for the association of non-attendance with smaller-sized schools. Elected non-attendance has a slight association with higher proportions of girls, but expulsions and suspensions are associated with higher proportions of boys.

Table 3.7
Non-Attendance and School Setting

	Abs	*Abs20*	*Exp*	*Sus*	*Avg*
School Setting	*eta*	*eta*	*eta*	*eta*	*eta*
Type: Sec, Voc, C/C (3)	0.27	0.34	.07	0.18	0.22
RAPID Categories (3)	0.16	0.25	0.12	0.29	0.21
	r	*r*	*r*	*r*	*r*
Size(N Students)	-0.23	-.27	-.06	-0.15	-0.18
Gender Served (%Girls)	0.04	0.07	-0.18	-0.26	-0.08

3.3.2 Non-Attendance and Educational Disadvantage

The five measures of educational disadvantage listed in Table 8 were available from the ERC data set. The Disadvantage Index and the Total Poverty Index are the sums of various individual items of information relating to disadvantage, such as the three other indicators that were selected, (1) the award of medical cards in Junior and (2) Senior Cycle, and (3) admission to the Free Books Scheme. Correlations with varieties of non-attendance are in Table 3.8.

Table 3.8
Non-Attendance and Disadvantage

Disadvantage	*Abs*	*Abs20*	*Exp*	*Sus*	*Avg*
Disadvantage Index (ERC)	0.39	0.47	0.23	0.50	0.40
Total Poverty Index (ERC)	0.40	0.50	0.15	0.37	0.36
Medical Cards Junior Cycle	0.40	0.45	0.07	0.30	0.31
Medical Cards Senior Cycle	0.32	0.40	0.08	0.25	0.26
Students in Free Books Scheme	0.38	0.46	0.13	0.36	0.33
Average	0.39	0.47	0.23	0.50	

Looking at the bottom row of the table, the average figures for elected non-attendance, .39 and .47, are similar to the figures of .37 and .44 recorded in primary schools. However, the figure for suspension (.50) is double what it was in primary schools (.24), and expulsions, which were too few in primary schools to be analysed, now enter the picture as another major correlate of disadvantage.

3.3.3 Non-Attendance and Dropout

No figures for non-completion of primary school were available in the ERC first-level data set on disadvantage. In any case, dropout, like expulsion, would probably be too rare in primary schools to warrant further analysis. Two measures of dropout are contained in the post-primary data-set. They are derived from DES retention rates of students to Junior Certificate and to Senior Certificate, based on figures for the

national cohorts entering second-level schools in 1996, 1997 and 1998. Subtracted from 100 they give dropout rates, which are 6% to Junior Certificate, and 13% to Leaving Certificate.

The correlations of the four non-attendance variables with dropout are shown in Table 3.9.

Table 3.9
Non-Attendance and Dropout

	Abs	*Abs20*	*Exp*	*Sus*	*Avg*
Junior Certificate	0.31	0.39	0.23	0.41	0.34
Leaving Certificate	0.33	0.40	0.24	0.48	0.37
Average	0.32	0.40	0.24	0.45	

The correlations are high, as would be expected, given that dropout is also a form of non-attendance, in effect, the top end of the non-attendance scale. It is notable, however, that although dropout may be considered as another form of elected non-attendance, its highest correlation is with suspension, i.e. school-imposed non-attendance, and not with the two measures of elected non-attendance. The need of the school to intervene through suspension is the best predictor of eventual dropout.

3.3.4 Non-Attendance and Academic Performance

One measure of academic performance by school was available, namely an overall score for all students in the 2002 and 2003 Junior Certificate Examinations. The correlation of the school average on the JCE with varieties of non-attendance are reported in Table 3.10.

Table 3.10
Non-Attendance and Performance on the Junior Certificate Examination

Academic Performance	*Abs*	*Abs20*	*Exp*	*Sus*	*Avg*
Junior Certificate	-.39	-.44	-.21	-.55	-.46

The large negative correlations between non-attendance and academic performance are not surprising. Here too, as in the case of dropout, it is the necessity of the school authorities to intervene, by imposing suspensions, rather than the rates of elected non-attendance determined by the students themselves, that is most strongly associated with poor academic performance.

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Appendix I

Student-Level and School-Level Percentages

Student-level percentages are preferred in the 2005/6 report as summaries of the extent of absenteeism in schools nationwide, in contrast with the school-level percentages used in the two earlier reports (Weir, 2004, Ó Briain, 2006). In computational terms, the student-level percentages are ordinary percentages, in the sense that express an observed count as a proportion of a possible maximum, the proportion then being multiplied by 100. The school-level percentage, on the other hand, is the average of the percentages for each school. Both figures are valid and meaningful, and both are required in the analysis of non-attendance data. In particular, school-level percentages have to be used when non-attendance is correlated with aspects of disadvantage, as in Chapters 2 and 3 of this report. They have slightly different interpretations, however, and the purpose of this note is to explain briefly the difference between the two figures, and in doing so to reconcile the figures in the reports for 2003/4 and 2004/5 with those in the present report for 2005/6.

1 Non-Attendance

Table 1 shows Percentage Non-Attendance from 2003/4 to 2005/6 as it appears in Table 1.3 of the 2005/6 report. However, the earlier figures reported in Weir (2004, pp. 20, 8) and Ó Briain (2006, pp. 10, 19) are different. They have been added to

Table 1
Percentage Non-Attendance 2003/4 to 2005/6: Student-Level Analysis

Primary	*2003/4*	*2004/5*	*2005/6*	
Number of Schools	2,427	2,606	3,016	
Number of Students	334,720	365,008	424,138	
School Days per Year	183	183	183	
Total Student/Days	61,253,760	66,796,464	77,617,254	
Student/Days Lost	3,880,465	4,163,321	4,901,703	
% Non-Attendance	**6.3%**	**6.2%**	**6.3%**	
% Non-Attendance	**5.9%**	**5.8%**		*
% Attendance	**94.1%**	**94.2%**		
Post-Primary				
Number of Schools	383	539	637	
Number of Students	164,417	233,331	283,187	
School Days per Year	167	167	167	
Total Student/Days	27,457,639	38,966,277	47,292,229	
Student/Days Lost	2,225,792	3,075,797	3,536,414	
% Non-Attendance	**8.1%**	**7.9%**	**7.5%**	
% Non-Attendance	**8.7%**	**8.4%**		
% Attendance	**91.3%**	**91.6%**		

* School-level figures previously reported are in the shaded cells

Table 1 in the shaded cells. They are given both as *%Non-attendance*, and also as *%Attendance*, which ia the form in which they were reported.

The difference between the school-level and the student-level figures is about half a percentage point. Moreover, the direction of the difference depends on whether the schools are primary or post-primary. The school-level percentage of non-attendance is lower than the student-level figure in primary schools, and the opposite is the case in post-primary schools. Here the school-level figure is higher than the student-level figure. This is because all schools contribute equally to the school-level average, regardless of their size and the figure is therefore slightly biased towards the figure obtaining in smaller schools, since there are more of them. Combining this with the fact that smaller primary schools are predominantly rural schools, with lower rates of non-attendance, while smaller post-primary schools are predominantly vocational schools, with higher rates of non-attendance, the reversal of the difference between the two figures in primary and post-primary schools in Table 1 is also explained.

2 Absences of 20 Days or More

The same is true for absences of 20 days or more. The figures for 2003/4 to 2005/6 are given in Table 3. The difference between school-level and student-level percentages are larger than they are for Total Absence, around 1% in primary schools and 1.5% in post-primary schools. This is consistent with the finding that the number of 20-Day Absences in a school is a better measure of unacceptable absence than Total Absence.

Table 3
Percentage of Students Absent for 20 Days or More, 2003/4 to 2005/6: School- and Student-Level Analyses Compared

		2003/4	*2004/5*	*2005/6*
Primary				
	Level of Analysis: School	**10.7%**	**10.0%**	**10.9%**
	Student	**11.7%**	**11.1%**	**11.6%**
Post-Primary				
	Level of Analysis: School	**18.9%**	**18.8%**	**17.6%**
	Student	**17.2%**	**17.2%**	**16.1%**

3 Expulsions and Suspensions

In the case of expulsions and suspensions, there is no problem of continuity between earlier reports and the 2005/6 report. This form of non-attendance is mostly reported there as a count of students expelled or suspended, or the same count as a percentage of all students, as in the present report..