What a waste of money!

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Abstract

Using data from the Qualifications and Curriculum Authority's (QCA) annual national survey of curriculum (which the authors have conducted since 1997) the authors have investigated the impact of the range of government supplied performance boosting measures on end of key stage national test outcomes at key stage 3, whilst controlling for other factors (school background variables and involvement in national initiatives) that might affect performance.

A nationally representative sample of 375 secondary schools which participated in the 2004 and 2005 curriculum surveys form the basis of the investigation. The data generated provided a comprehensive range of variables that enabled us to conduct an in-depth analysis of what actually impacts on test performance at key stage 3.

Introduction

A 'Standards' agenda based on pupil/school performance outcomes produced through national end of key stage tests and the resultant comparative ranking of schools through 'league tables' as measures of the success of government education policy interventions since the mid-1990s has resulted in strategic changes in schools' pedagogical thinking and their prioritisation of planning for teaching and learning. This governmental obsession with 'standards' in the narrowest definition of the term (ie percentage targets for population scores at fixed levels of performance on narrowly domained tests in a restricted number of subjects) has resulted in a situation in which 'quick fix' strategies to produce short term gains in 'test scores' over-rule the learning agenda. The problem with this single frame of reference is that it becomes, and in England has become, little more than a crude accounting and accountability measure which creates a simplistic and unrepresentative notion of pupil 'performance' and underperforming schools (Gray,2004, Wiggins & Timms,2002; Karsten et al,2001). It has also led to the bandying around of terms such as 'under-performance' and 'under-achievement' by education policymakers without any attempt to standardise definitions. For example does 'under-achievement' mean low achievement, lower achievement relative to another group of achievers or lower achievements than would be expected by an observer? (Gorard & Smith,2004). It is accepted (Hall et al, 2004; Brehony, 2005; de Waal 2006) that schools over the last decade have been and still are allocating more teaching time to the high priority tested subjects, are 'teaching to the test' and devoting more and more time to test preparation (Boyle and Bragg, 2006). 'Under pressure from bureaucrats to achieve, schools which desperately need to cater to their pupils' diverse requirements are having to tailor teaching to the tests. This distortion matters because of the gaps it leaves in understanding and learning' (de Waal, 2006, p.19). The government performance targets have necessitated the production by schools of quantifiable performance measures which in turn require an emphasis on external testing to generate nationally standardised performance data on the basis of which the government can self-congratulate on the success of their interventions in education! 'The result has been an obsession with target-chasing…instead of being a useful tool to measure pupils' achievements, standardised tests have become the 'raison d'etre' of teaching, the benchmark of whether a school lives or falls' (de Waal, 2006, p.19).

To achieve these targets or at least achieve accounting parity with their neighbours and therefore the anonymity of parity within the mass, many schools pay a substantial percentage of their resource budget to implement and mark Optional Tests (which are available in English and mathematics for every non-end of key stage tested school year group ie Y3, Y4, Y5, Y7 and Y8). Schools widely use government promoted 'catch up' programmes and 'booster classes' as more cost-free methods of improving test outcomes.

Involvement in Government schemes[1]

The government, in acknowledgment of the link between schools in disadvantaged circumstances and poor test performance, and concerned at the failure by many of these socially 'disadvantaged' schools to achieve the government set targets for external test performance (Lupton, 2004; Smith, 2003; Gorard & Smith, 2004; Gray, 2001, Gray 2004), have supplied a range of centre-periphery initiatives designed to address the issue of raising school performance. Although, Leithwood contests that 'actually improving achievement has proven to be an extraordinarily difficult and badly underestimated challenge, even when vastly greater resources are devoted to it' (Leithwood 2004, p460) and Gray maintains that 'the odds are still stacked against schools in poorer areas' (Gray 2004, p293). We therefore had to test the possibility that a school's participation in one or more of the various government schemes could have an effect on its performance. The list of programmes is quite extensive; Specialist School status, Excellence in Cities, KS3 National Strategy, National Secondary Strategy, Healthy Schools, Increased Flexibility Programme, 14-19 Enterprise (Pathfinders), Leadership Incentive Grant, Leading Edge, Federation, Youth Enterprise, Young Apprenticeships, Partnerships for Progression/Aim Higher, Networked Learning Community.

Data Held

Performance data

The only nationally standardised measurement of achievement available for key stage 3 (aged 14 years) is the percentage of pupils achieving level 5 or above in English, mathematics and science (DfES, 2005).

Background Data

There are a range of variables which help to describe each school and its cohort in context: percentage of pupils eligible for free school meals (FSM), percentage of pupils with special education needs (SEN) and percentages of pupils with English as an additional language (EAL) offer some insight into the socio-economic status of each school. Size of school, gender and whether the school is selective on ability or religion offer further variables for description and analysis.

Performance enhancing strategies

The other available data for this investigation describe each school's strategy for maintaining or improving performance in terms of teaching time allocation, that is the percentage of

[1] Schools facing issues of poverty, poor housing, located in areas of high unemployment, poor social welfare and, in some cases, difficult intercultural issues.

teaching time allocated to each tested subject by key stage in both 2004 and 2005.

Analysis and discussion

The first level of investigation analysed the effect of each variable on predicting or explaining test outcomes using simple linear regression statistics. In most cases, in order to simplify the analysis, the three performance indicators for English, mathematics and science on 2005 key stage three tests have been amalgamated into one overall average percentage of pupils.

Table 1 shows that all the school background variables, with the exception of school size, have a significant impact on overall test results at key stage 3. This analysis was also conducted for test performance in each core subject, with very similar results. School size does not have any impact on test outcome; this is probably due to the fact that although schools vary in size, student/teacher ratios are quite standardized. An analysis of class size might be interesting, but this information is not available for this sample.

Table 1: KS3 performance predicted by school background variables (2005)

Overall performance can be predicted by:	**R^2**	**Adjusted R^2**	**df & F**	**p-value**
% FSM	.587	.586	1, 362 = 514.310	< 0.0005
% no SEN	.395	.393	1, 362 = 236.385	< 0.0005
% SEN without statements	.342	.340	1, 362 = 187.835	< 0.0005
% SEN with statements	.161	.159	1, 362 = 69.417	< 0.0005
% EAL	.074	.072	1, 362 = 28.983	< 0.0005
School size	.016	.014	1, 370 = 6.175	=.013
School type (selective/non-selective)	.218	.216	1, 370 = 103.089	< 0.0005
Gender (single sex/co-educational)	.113	.110	1, 369 = 46.844	< 0.0005
Religious Status	.056	.054	1, 370 = 22.026	< 0.0005

All the improvement strategies in the individual analyses proved to impact significantly on test results, both on English and mathematics (Tables 2b and 2c) and also on the combined key stage 3 performance of English, mathematics and science (Table 2a). Time allocated to English had slightly more impact on English performance, accounting for 12% of test results (R^2 = .120) compared to mathematics where teaching time allocation accounted for 5% of test performance (R^2 = .049). There was some variation in the predictive relationship between the other strategies and the individual subjects compared to the combined test performance, but the differences were quite small. It would be possible to conduct individual analysis for each core subject, but it seemed most sensible to use the combined variable for the sake of simplicity and because there wouldn't be much difference in the end.

Table 2a: KS3 performance predicted by strategies for improvement (2005)

Overall performance can be predicted by:	**R^2**	**Adjusted R^2**	**df & F**	**p-value**

Time allocated to teaching core subjects (English, mathematics & science)	.056	.054	1, 352 = 20.984	< 0.0005
Booster classes	.093	.091	1, 361 = 37.089	< 0.0005
Catch up programmes	.125	.122	1, 347 = 49.497	< 0.0005
Summer schools	.083	.080	1, 337 = 30.589	< 0.0005
Y7 Optional English tests	.086	.084	1, 370 = 34.851	< 0.0005
Y7 Optional mathematics tests	.061	.058	1, 370 = 24.051	< 0.0005
Y8 Optional English tests	.078	.075	1, 370 = 31.154	< 0.0005
Y8 Optional mathematics tests	.065	.063	1, 370 = 25.853	< 0.0005

Table 2b: KS3 English performance predicted by strategies for improvement (2005)

English performance can be predicted by:	**R^2**	**Adjusted R^2**	**df & F**	**p-value**
Time allocated to teaching English	.120	.118	1, 353 = 48.242	< 0.0005
Booster classes	.070	.067	1, 362 = 27.241	< 0.0005
Catch up programmes	.108	.106	1, 348 = 42.303	< 0.0005
Summer schools	.082	.079	1, 338 = 30.255	< 0.0005
Y7 Optional English tests	.089	.086	1, 371 = 36.136	< 0.0005
Y8 Optional English tests	.085	.082	1, 371 = 34.426	< 0.0005

Table 2c: KS3 mathematics performance predicted by strategies for improvement (2005)

Mathematics performance can be predicted by:	**R^2**	**Adjusted R^2**	**df & F**	**p-value**
Time allocated to teaching mathematics	.049	.046	1, 353 = 18.071	< 0.0005
Booster classes	.101	.099	1, 361 = 40.626	< 0.0005
Catch up programmes	.130	.128	1, 347 = 51.918	< 0.0005
Summer schools	.080	.078	1, 337 = 29.446	< 0.0005
Y7 Optional mathematics tests	.059	.056	1, 370 = 23.013	< 0.0005
Y8 Optional mathematics tests	.063	.061	1, 370 = 24.897	< 0.0005

There were certain national initiatives that impacted on test performance at key stage 3 (Table 3); specialist school status, Excellence in Cities, the Healthy Schools project, the Increased Flexibility Programme, Leadership Incentive Grant and Partnerships for Progression/Aim Higher. The Leadership Incentive Grant was able to predict 25% of test performance (R^2 = .251) while Excellence in Cities predicted 16% (R^2 = .160).

Table 3: KS3 performance predicted by involvement in national initiatives (2005)

Overall performance can be predicted by:	**R^2**	**Adjusted R^2**	**df & F**	**p-value**
Specialist status	.096	.093	1, 370 = 39.154	< 0.0005
Excellence in cities	.160	.158	1, 359 = 68.573	< 0.0005
KS3 National Strategy	.000	-.003	1, 359 = 0.050	= .823
The National Secondary Strategy	.005	.002	1, 359 = 1.861	= .173
Healthy Schools	.039	.037	1, 359 = 14.678	< 0.0005
Increased Flexibility Programme	.051	.049	1, 359 = 19.467	< 0.0005
14-19 Pathfinders	.025	.023	1, 359 = 9.365	= .002
Leadership Incentive Grant	.251	.249	1, 359 = 120.612	< 0.0005
Leading Edge	.001	-.002	1, 359 = 0.453	= .501
Federation	.016	.013	1, 359 = 5.729	= .017
Youth Enterprise	.003	.001	1, 359 = 1.181	= .278
Young Apprenticeships	.000	-.002	1, 359 = 0.105	= .746
Partnerships for Progression/Aim Higher	.079	.076	1, 359 = 30.653	< 0.0005
Networked Learning Communities	.004	.001	1, 359 = 1.380	= .241

Multiple Regression Modelling

The next stage of analysis was to take all those variables which had been found to positively impact on test performance and place them into the following multiple regression model:

$$\text{KS3 test performance} = \alpha + \beta_1 \%\text{ FSM} + \beta_2 \%\text{ SEN} + \beta_3 \%\text{EAL} + \beta_4 \text{ selective} + \beta_5 \text{ gender} + \beta_6 \text{ religious status} + \beta_7 \%\text{ teaching time allocation} + \beta_8 \text{ catch-up programmes} + \beta_9 \text{ booster classes} + \beta_{10} \text{ summer schools} + \beta_{11} \text{ Y7 Optional English test} + \beta_{12} \text{ Y7 Optional maths test} + \beta_{13} \text{ Y8 Optional English test} + \beta_{14} \text{ Y8 Optional maths test} + \beta_{15} \text{ specialist school status} + \beta_{16} \text{ Excellence in Cities} + \beta_{17} \text{ Healthy Schools} + \beta_{18} \text{ Increased Flexibility Programme} + \beta_{19} \text{ Leadership Incentive Grant} + \beta_{20} \text{ Partnerships for Progression/Aim Higher}$$

There were a lot of variables to consider within this model, which recorded an F value of 49.369 and R^2 = .787, but many did not prove significant when considered alongside the other factors. There followed a gradual whittling down process, to remove those variables with the least significance (refer to Appendix 1 for the statistical output).

The final model emerged as:

$$\text{KS3 test performance} = \alpha + \beta_1 \%\text{ FSM} + \beta_2 \%\text{ SEN} + \beta_3 \%\text{EAL} + \beta_4 \text{ selective} + \beta_5$$

gender + β_6 religious status + β_7 Y7 Optional English test + β_8 specialist school status + β_9 Leadership Incentive Grant

This model recorded an F value of 126.488 indicating a high significance and $R^2 = .768$ indicating that 77% of test performance could be predicted or explained by the model. More specifically, 77% of test performance can be predicted by %FSM whilst controlling for the other listed variables.

The first six variables in the model are all descriptors of school background, all highly significant predictive variables with $P < 0.0005$. Table 4 illustrates that as the percentage of FSM increases, test results decrease by -.634. As the percentage of pupils with EAL increases, test results increase by .120, a complete turnaround compared to the effect at key stage 1 (Dyson et al, 2004). The higher the proportion of pupils with no SEN, the higher the test results by .247. If a school is selective on ability (ie grammar schools) results are 10.023 units higher. If a school is single sex, then results record an increase of 4.553. Schools that select their cohort on the basis of religion also record higher results by 5.240.

The remaining three variables in the model reported more borderline significance; Y7 Optional English tests (P=.007), specialist school status (P=.006), Leadership Incentive Grant (P=.005) although their effect on test outcome could be equally influential and maybe even more than some of the other variables within this predictive model. It is very interesting to note from this analysis that the impact of conducting Y7 Optional English tests was negative, as was being a recipient of the Leadership Incentive Grant. If a school implemented Y7 Optional English tests the effect on overall test outcome was a decrease of 2.280. If a school receives the Leadership Incentive Grant, test performance was 2.724 lower.

Due to there being a large number of variables in the model, some predictions were conducted to establish the level of significance of each, in order to try to reduce the model. Tables 4 and 5 demonstrate that each variable has a considerable impact on the predicted test score outcome.

Table 4: Test result predictions – changing parameters for School A

School A: % FSM = 27.41
% EAL = 4.57
% SEN = 25.38
% L5 or above at KS3 = 62.59

School A	Selective	Gender	Religious status	Y7 Opt English	Specialist status	LIG	Predicted score	Lower Confidence Interval	Upper Confidence Interval
A1	No	Co-ed	Yes	Yes	Yes	Yes	64.68	50.54	78.82
A2	No	Co-ed	Yes	Yes	Yes	**No**	67.28	53.08	81.48
A3	No	Co-ed	Yes	Yes	**No**	Yes	62.23	48.06	76.39
A4	No	Co-ed	Yes	**No**	Yes	Yes	66.89	52.75	81.03
A5	No	Co-ed	Yes	No	No	**Yes**	64.42	50.24	78.60
A6	No	Co-ed	Yes	No	**Yes**	No	69.48	55.27	83.68
A7	No	Co-ed	Yes	**Yes**	No	No	64.83	50.60	79.06
A8	No	Co-ed	No	No	No	No	61.99	47.89	76.09

A9	No	Co-ed	**Yes**	No	No	No	67.00	52.76	81.25
A10	No	**Single sex**	No	No	No	No	66.31	52.01	80.61
A11	**Yes**	Co-ed	No	No	No	No	71.21	56.69	85.74
A12	**Yes**	**Single sex**	**Yes**	No	No	No	79.90	65.17	94.63

School A (Table 4) has quite a disadvantaged cohort and below average performance at key stage 3 (sample average = 74%), it is co-educational, has religious status and is not selective. It has specialist status, receives the Leadership Incentive Grant and uses the Y7 Optional English tests. Changing the parameters had a dramatic influence on the predicted test score. It was interesting to note how the positive effect of having specialist school status was counteracted by the negative effects of using Optional tests and receiving the LIG.

Table 5: Test result predictions – changing parameters for School B

School B: Selective
Co-educational
No religious status
% L5 or above at KS3 = 100.00

School B	%FSM	%EAL	%SEN	Y7 Opt English	Specialist status	LIG	Predicted score	Lower Confidence Interval	Upper Confidence Interval
B1	0.87	0.00	0.87	No	Yes	No	96.11	81.42	110.79
B2	**15.00**	0.00	0.87	No	Yes	No	88.63	74.25	103.02
B3	0.87	**10.00**	0.87	No	Yes	No	98.17	83.87	112.47
B4	0.87	0.00	**25.00**	No	Yes	No	91.48	77.09	105.88

School B (Table 5) has a more advantaged cohort with 100% of pupils achieving level 5 at key stage 3, it is co-educational, and selective but does not have religious status. It has specialist status, does not receive the Leadership Incentive Grant and does not use the Y7 Optional English tests. Changing the parameters to vary the level of disadvantage, % FSM, % EAL and % SEN had a marked effect on the predicted test score. An increased percentage of pupils whose mother tongue is not English actually resulted in a higher predicted score.

In order to demonstrate a good model-fit, how well the model works as a predictive tool, the residuals were plotted against the dependent variable, performance at key stage 3. Figures 1 and 2 both show a normal distribution, indicating a reliable and robust model.

Figure 1: Dependent Variable: Grouped variable of performance at KS3 2005

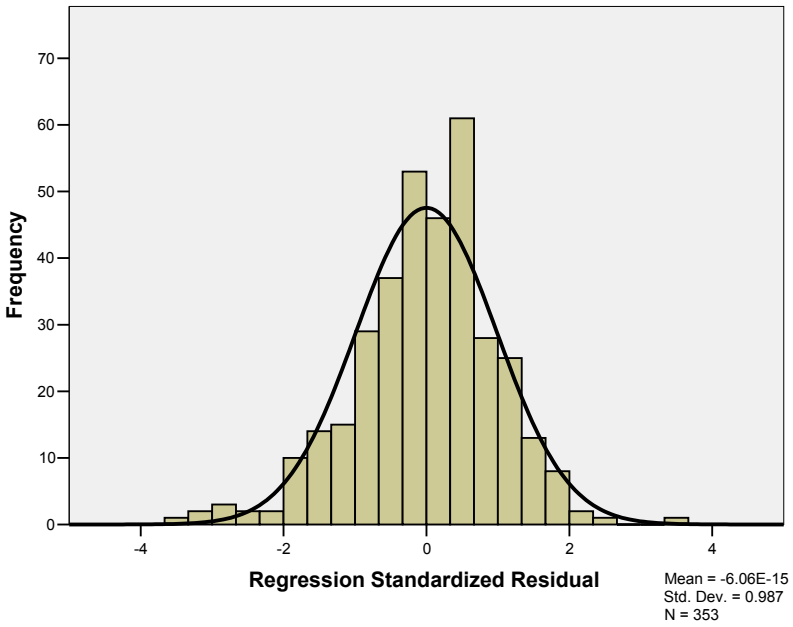
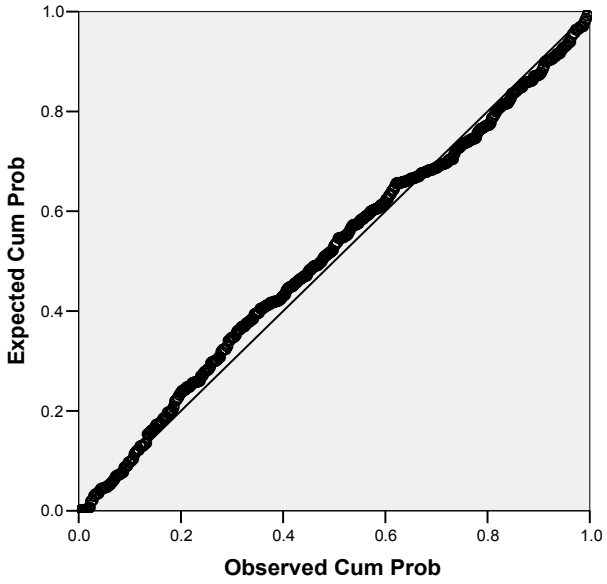


Figure 2: Dependent Variable: Grouped variable of performance at KS3 2005



Conclusion

The analysis indicates that the composition of a school ie school type and socio-economic status of its cohort has a significant influence on test performance at key stage 3. Schools with fewer pupils disadvantaged by social/cultural circumstances and schools that carefully select their pupils according to ability and religion (which following recent research we can take to mean by social class, ie middle class parents migrating to faith schools and faith schools 'selecting' their own intake (Waterman, 2006)) will achieve higher test results. As already discussed, the relationship between disadvantage and attainment has been widely researched

eg Bracey shows that 'among 17,000 US schools all sustained success as measured by test scores came in more affluent schools, not one school out of 2,100 with a poverty rate above 75% and hardly any of the 7,000 more with the rate above 25% were able to show consistent improvement over more than two years' (Bracey, 2004, p635). This has been acknowledged by the government who, in response, provided the numerous national initiatives aimed at helping the more disadvantaged schools. One might therefore expect these national initiatives to have impacted on test outcome although research previous to ours (eg Harris & Ransom, 2005) has alluded to failures in externally funded improvement programmes raising achievement in the poorest schools. However, the only national initiatives that figured significantly in the multiple regression analysis were specialist school status, which exerted a positive impact and the Leadership Incentive Grant, which had a negative effect.

Schools must meet certain criteria in order to apply for specialist school status, they must raise £50,000 from private sector sponsors and devise a four year development plan, clearly outlining targets that relate to learning outcomes. Successful schools are granted £100,000 plus £50,000 from the sponsors and £129 per pupil for the following four years. These criteria are naturally more difficult for schools in more disadvantaged situations to achieve, one might therefore expect that having specialist status would relate to better test performance due in part to the profile of schools involved but also due to the increased resources. The Leadership Incentive Grant, however, is aimed at schools in deprived areas and those facing tough challenges elsewhere. Successful schools receive £125,000 per year for three years. One might therefore expect receipt of the LIG to be associated with poorer test outcome, as the targeted schools will be those that are struggling. Over time one might expect or hope to see an improvement in results, but such changes take time especially when social and cultural infrastructures within whole communities need to be reformed first. Recent research has shown how much harder schools in disadvantaged areas need to work in achieving and sustaining performance levels than schools in more privileged areas 'as success can be short lived and fragile in difficult or challenging circumstances' (Whitty, 2001, p9).

With the immense pressure placed on schools to achieve nationally set targets, one would expect the wide implementation of performance enhancing measures that are evidently in use. It was interesting to note that within the final model, only the use of Year 7 Optional English tests appears to have any effect on test outcome. It was quite puzzling to note that this was a detrimental effect on test outcome, B = -2.280 (refer to Appendix 1, Regression 7) indicating that test score decreases by -2.280 due to use of this practice test. This is a puzzling result and warrants further investigation. Could it be that schools spending lots of time administering practice tests, which evidently many do throughout year 6 especially, aren't spending enough time actually 'teaching' rather than test practicing the subject? Perhaps those schools who spend most time actually teaching the core subjects achieve higher results? In our analysis, the amount of time allocated to teaching the tested subjects does not record a significant relationship in the regression model, but it is impossible to disaggregate the proportion of subject teaching time allocated to practice tests.

It must be noted that this analysis is at the school level and exploration at pupil level would be necessary before making any recommendation to change practice in schools. However, the suggestion from the analysis is that if the large proportion of teaching time allocated to teaching core subjects and administering practice tests is not directly impacting on test outcome, then perhaps some of the time could be directly elsewhere in order to enrich pupils' school-learning experiences. Also, if the use of expensive practice tests does not improve test results then perhaps this money could be better spent elsewhere, it really could be seen as a "waste of money". The government implemented national initiatives do not create a

significant impact on test outcomes either, but this should not be seen as their sole objective (even if it is the government's intention). Those projects which aim to improve social and cultural circumstances in highly deprived areas will impact over a wide range of factors. The impact of such initiatives will be very hard to evaluate and should ultimately improve test performance over a period of time. Cultural and social changes cannot and will not happen in the short term.

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Appendix 1: Statistical Output

Regression 1

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status + β_7 % teaching time allocation + β_8 catch-up programmes + β_9 booster classes + β_{10} summer schools + β_{11} Y7 Optional English test + β_{12} Y7 Optional maths test + β_{13} Y8 Optional English test + β_{14} Y8 Optional maths test + β_{15} specialist school status + β_{16} Excellence in Cities + β_{17} Healthy Schools + β_{18} Increased Flexibility Programme + β_{19} Leadership Incentive Grant + β_{20} Partnerships for Progression/Aim Higher

$R^2 = .787$
Adjusted $R^2 = .771$
$F = 49.369$

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	63.741	8.091		7.878	.000
	Percentage eligible for FSM	-.652	.054	-.590	-12.103	.000
	Percentage of pupils with mother tongue not English	.103	.037	.102	2.801	.005
	Percentage of pupils with no SEN	.223	.049	.176	4.505	.000
	Selective	7.922	1.956	.155	4.051	.000
	Gender coded	4.452	1.451	.110	3.068	.002
	Religious Character coded	3.667	1.252	.086	2.930	.004
	KS3 Ave %tt allocated to core subjects	-.218	.156	-.042	-1.391	.165
	B5: Pupils attend - catch up programmes	1.646	1.246	.049	1.321	.188
	B5: Pupils attend - booster classes	-1.075	1.300	-.029	-.826	.409
	B5: Pupils attend - summer schools	-.018	.974	-.001	-.019	.985
	C1: Y7 Optional English - use in 2005	-6.376	2.164	-.205	-2.946	.004
	C1: Y7 Optional Maths - use in 2005	2.082	2.155	.067	.966	.335
	C1: Y8 Optional English - use in 2005	4.559	2.261	.148	2.016	.045
	C1: Y8 Optional Maths - use in 2005	-2.912	2.269	-.094	-1.284	.200
	Specialist status coded	2.402	1.061	.070	2.265	.024
	Q6: 34 Excellence in Cities	-1.259	1.532	-.039	-.822	.412
	Q6: 34 Healthy Schools	-.168	.922	-.006	-.182	.856
	Q6: 34 Increased Flexibility Programme	2.509	.944	.083	2.658	.008
	Q6: 34 Leadership Incentive Grant	2.814	1.366	.094	2.061	.040
	Q6: 34 Partnerships for Progression/Aim Higher	.193	1.012	.006	.190	.849

a. Dependent Variable: Grouped variable of performance at KS3 2005

Regression 2

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status + β_7 % teaching time allocation + β_8 catch-up programmes + β_9 booster classes + β_{10} Y7 Optional English test + β_{11} Y7 Optional maths test + β_{12} Y8 Optional English test + β_{13} Y8 Optional maths test + β_{14} specialist school status + β_{15} Excellence in Cities + β_{16} Increased Flexibility Programme + β_{17} Leadership Incentive

Grant

$R^2 = .790$
Adjusted $R^2 = .778$
F = 64.992

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	66.465	7.672		8.663	.000
	Percentage eligible for FSM	-.653	.050	-.592	-13.128	.000
	Percentage of pupils with mother tongue not English	.102	.035	.101	2.945	.003
	Percentage of pupils with no SEN	.210	.046	.166	4.585	.000
	Selective	8.030	1.885	.152	4.261	.000
	Gender coded	4.407	1.348	.109	3.268	.001
	Religious Character coded	3.639	1.166	.088	3.121	.002
	KS3 Ave %tt allocated to core subjects	-.255	.151	-.048	-1.687	.093
	B5: Pupils attend - catch up programmes	1.781	1.204	.052	1.478	.140
	B5: Pupils attend - booster classes	-1.123	1.265	-.029	-.888	.375
	C1: Y7 Optional English - use in 2005	-6.187	2.095	-.198	-2.953	.003
	C1: Y7 Optional Maths - use in 2005	2.206	2.084	.071	1.058	.291
	C1: Y8 Optional English - use in 2005	4.397	2.189	.143	2.009	.045
	C1: Y8 Optional Maths - use in 2005	-3.312	2.184	-.107	-1.516	.131
	Specialist status coded	2.507	.995	.072	2.519	.012
	Q6: 34 Excellence in Cities	-1.894	1.383	-.058	-1.370	.172
	Q6: 34 Increased Flexibility Programme	2.317	.879	.077	2.637	.009
	Q6: 34 Leadership Incentive Grant	3.454	1.242	.115	2.781	.006

a. Dependent Variable: Grouped variable of performance at KS3 2005

Regression 3

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status + β_7 % teaching time allocation + β_8 catch-up programmes + β_9 Y7 Optional English test + β_{10} Y8 Optional English test + β_{11} Y8 Optional maths test + β_{12} specialist school status + β_{13} Excellence in Cities + β_{14} Increased Flexibility Programme + β_{15} Leadership Incentive Grant

$R^2 = .788$
Adjusted $R^2 = .777$
F = 73.890

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	65.459	7.528		8.696	.000
	Percentage eligible for FSM	-.642	.049	-.582	-13.078	.000
	Percentage of pupils with mother tongue not English	.099	.034	.098	2.889	.004
	Percentage of pupils with no SEN	.214	.046	.169	4.688	.000
	Selective	7.717	1.862	.146	4.145	.000
	Gender coded	4.581	1.337	.113	3.426	.001
	Religious Character coded	3.837	1.147	.093	3.346	.001
	KS3 Ave %tt allocated to core subjects	-.256	.150	-.048	-1.707	.089
	B5: Pupils attend - catch up programmes	1.257	1.098	.037	1.145	.253
	C1: Y7 Optional English - use in 2005	-4.558	1.468	-.147	-3.104	.002
	C1: Y8 Optional English - use in 2005	2.836	1.675	.092	1.693	.092
	C1: Y8 Optional Maths - use in 2005	-1.268	1.118	-.041	-1.134	.258
	Specialist status coded	2.442	.976	.071	2.502	.013
	Q6: 34 Excellence in Cities	-1.808	1.375	-.056	-1.315	.190
	Q6: 34 Increased Flexibility Programme	2.222	.866	.074	2.566	.011
	Q6: 34 Leadership Incentive Grant	3.493	1.235	.117	2.829	.005

a. Dependent Variable: Grouped variable of performance at KS3 2005

Regression 4

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status + β_7 % teaching time allocation + β_8 Y7 Optional English test + β_9 Y8 Optional English test + β_{10} specialist school status + β_{11} Increased Flexibility Programme + β_{12} Leadership Incentive Grant

$R^2 = .777$
Adjusted $R^2 = .768$
$F = 93.610$

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	64.026	7.088		9.033	.000
	Percentage eligible for FSM	-.644	.046	-.581	-14.020	.000
	Percentage of pupils with mother tongue not English	.114	.034	.113	3.386	.001
	Percentage of pupils with no SEN	.226	.042	.179	5.344	.000
	Selective	8.785	1.815	.164	4.841	.000
	Gender coded	4.540	1.292	.113	3.514	.001
	Religious Character coded	4.431	1.098	.110	4.034	.000
	KS3 Ave %tt allocated to core subjects	-.254	.145	-.049	-1.748	.081
	C1: Y7 Optional English - use in 2005	-3.432	1.396	-.111	-2.459	.014
	C1: Y8 Optional English - use in 2005	1.221	1.385	.040	.882	.379
	Specialist status coded	2.284	.956	.067	2.390	.017
	Q6: 34 Increased Flexibility Programme	2.177	.834	.074	2.610	.009
	Q6: 34 Leadership Incentive Grant	2.439	.997	.082	2.445	.015

a. Dependent Variable: Grouped variable of performance at KS3 2005

Regression 5

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status + β_7 % teaching time allocation + β_8 Y7 Optional English test + β_9 specialist school status + β_{10} Increased Flexibility Programme + β_{11} Leadership Incentive Grant

$R^2 = .776$
Adjusted $R^2 = .769$
F = 102.120

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	64.197	7.083		9.063	.000
	Percentage eligible for FSM	-.640	.046	-.578	-14.005	.000
	Percentage of pupils with mother tongue not English	.113	.034	.111	3.357	.001
	Percentage of pupils with no SEN	.223	.042	.177	5.301	.000
	Selective	8.756	1.814	.163	4.828	.000
	Gender coded	4.589	1.290	.114	3.556	.000
	Religious Character coded	4.464	1.098	.111	4.067	.000
	KS3 Ave %tt allocated to core subjects	-.254	.145	-.049	-1.750	.081
	C1: Y7 Optional English - use in 2005	-2.457	.851	-.079	-2.887	.004
	Specialist status coded	2.306	.955	.068	2.414	.016
	Q6: 34 Increased Flexibility Programme	2.202	.833	.074	2.642	.009
	Q6: 34 Leadership Incentive Grant	2.450	.997	.083	2.458	.015

a. Dependent Variable: Grouped variable of performance at KS3 2005

Regression 6

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status + β_7 % teaching time allocation + β_8 Y7 Optional English test + β_9 specialist school status + β_{10} Increased Flexibility Programme + β_{11} Leadership Incentive Grant

$R^2 = .772$
Adjusted $R^2 = .765$
F = 115.828

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	53.617	3.825		14.017	.000
	Percentage eligible for FSM	-.640	.045	-.577	-14.347	.000
	Percentage of pupils with mother tongue not English	.115	.033	.114	3.499	.001
	Percentage of pupils with no SEN	.236	.041	.187	5.749	.000
	Selective	9.248	1.764	.172	5.243	.000
	Gender coded	4.398	1.251	.109	3.514	.000
	Religious Character coded	4.973	1.057	.125	4.705	.000
	C1: Y7 Optional English - use in 2005	-2.204	.832	-.071	-2.650	.008
	Specialist status coded	2.531	.920	.075	2.752	.006
	Q6: 34 Increased Flexibility Programme	1.893	.817	.064	2.318	.021
	Q6: 34 Leadership Incentive Grant	2.569	.963	.087	2.667	.008

a. Dependent Variable: Grouped variable of performance at KS3 2005

Regression 7

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status + β_7 Y7 Optional English test + β_8 specialist school status + β_9 Leadership Incentive Grant

$R^2 = .768$
Adjusted $R^2 = .762$
$F = 126.488$

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	60.347	3.671		16.440	.000
	Percentage eligible for FSM	-.634	.045	-.571	-14.135	.000
	Percentage of pupils with mother tongue not English	.120	.033	.120	3.663	.000
	Percentage of pupils with no SEN	.247	.041	.196	6.025	.000
	Selective	10.023	1.743	.187	5.752	.000
	Gender coded	4.553	1.257	.113	3.621	.000
	Religious Character coded	5.240	1.057	.132	4.956	.000
	C1: Y7 Optional English - use in 2005	-2.280	.836	-.074	-2.725	.007
	Specialist status coded	2.538	.926	.075	2.742	.006
	Q6: 34 Leadership Incentive Grant	-2.724	.967	-.092	-2.816	.005

a. Dependent Variable: Grouped variable of performance at KS3 2005

Regression 8

KS3 test performance = $\alpha + \beta_1$ % FSM + β_2 % SEN + β_3 %EAL + β_4 selective + β_5 gender + β_6 religious status

$R^2 = .752$
Adjusted $R^2 = .748$
F = 179.882

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	59.298	3.539		16.754	.000
	Percentage eligible for FSM	-.734	.041	-.657	-18.105	.000
	Percentage of pupils with mother tongue not English	.133	.034	.131	3.975	.000
	Percentage of pupils with no SEN	.278	.041	.219	6.763	.000
	Selective	9.495	1.775	.177	5.351	.000
	Gender coded	4.334	1.292	.107	3.354	.001
	Religious Character coded	5.327	1.062	.135	5.018	.000

a. Dependent Variable: Grouped variable of performance at KS3 2005