



Department
for Education

Topic Note: 2012 Phonics Screening Check

Research report

May 2013

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Executive Summary

This topic note presents statistics and analysis of the phonics screening check results in 2012. The key findings of this analysis are summarised below:

Phonics screening check results by pupil characteristics

- 58% of eligible pupils met the expected standard for the screening check, with a higher proportion of girls and a lower proportion of pupils eligible for Free School Meals (FSM) achieving this expected standard.
- The percentages of Indian and Chinese pupils meeting the expected standard was higher than other ethnic groups, while the first language of pupils made very little difference to meeting the standard.

Investigating the relationship between the Early Years Foundation Stage Profile and the phonics screening check

- Three quarters of pupils assessed in the phonics screening check were working securely within the linking sounds and letters assessment scale, the component of the Early Years Foundation Stage Profile with the strongest relationship to pupils' phonics screening check scores.
- A pupil who was working securely within the linking sounds and letters assessment scale at the Early Years Foundation Stage Profile was 2.5 times more likely to meet the expected standard in phonics than a pupil with the same characteristics but who did not work securely within linking sounds and letters.
- A pupil who was working securely within the writing assessment scale is 3 times more likely to meet the expected standard in phonics decoding than a pupil with the same characteristics who did not work securely within writing.

Key Stage 1 performance and participation in the phonics pilot check

- Nearly all pupils that reached the expected standard in the 2011 phonics pilot check achieved the expected level in 2012 Key Stage 1 speaking and listening, reading and writing.
- Schools that were selected to participate in the 2011 phonics pilot check had on average better Key Stage 1 performance in 2012 according to the Value Added measure, although there is no evidence of causation.

Pupils on the borderline of meeting the expected standard

- The national distribution of scores showed a spike at the threshold of meeting the expected standard, suggesting that pupils on the borderline may have been marked up. Statistical techniques estimate that only 46% of pupils would meet the expected standard if there was no spike.

1 Introduction

1.1 Aim

This topic note presents statistical analysis of the phonics screening check results in 2012. The paper initially investigates the relationship between the phonics screening check results and pupil characteristics, including ethnicity, Special Educational Needs (SEN) status and Free School Meals (FSM) eligibility in Chapter 2. Chapter 3 considers the relationship between pupils' results in the Early Years Foundation Stage at age 5 and the phonics screening check results a year later. The strength of the relationship between the phonics screening check and these two outcomes is explored using correlation and regression analysis.

Chapter 4 looks at the change in Key Stage 1 results for pupils who were assessed during the phonics pilot check to get an indication of how the phonics screening check will affect subsequent attainment.

Finally, Chapter 5 looks at the national distribution of the phonics screening check and considers the impact of borderline scores being marked up to the threshold.

1.2 Background

The phonics screening check was introduced in 2012 and results from the phonics screening check, covering all Year 1 pupils attending mainstream schools, academies and free schools in England, have been collected and analysed by the Department for Education (DfE). The data used for this analysis contains the total phonic screening check scores for each pupil and whether or not that pupil has met the expected standard in phonics decoding. The total available marks on the check are 40 and if a pupil is able to decode 32 or more words then they have met the expected standard.

The DfE also collects pupil-level data for all pupils attending mainstream schools via the School Census. The School Census collects data on a variety of pupil characteristics such as gender, ethnicity, and FSM eligibility. The School Census is linked to the National Pupil Database, which contains attainment data in national tests and examinations. By using the National Pupil Database, a comprehensive analysis of the phonics screening check results can be carried out.

1.2.1 The phonics screening check

In September 2011, the Government announced that a new statutory phonics screening check for all children in Year 1 would be introduced during the current academic year. The purpose of the check is to confirm whether each child has learnt phonic decoding to an age-appropriate standard. Children who have not reached this level should receive extra support from their school to ensure

they can improve their decoding skills, and will then have the opportunity to retake the phonics screening check in Year 2.

The check comprises a list of 20 words and 20 non-words that children read one-to-one with a teacher who is known to the child. The teacher is then expected to use their professional judgement about which responses are correct. The phonics screening check was administered during week commencing 18 June 2012. In 2012, pupils were deemed to have met the expected standard of phonic decoding if they scored 32 or more out of a possible 40 in the test. This mark was communicated to schools in advance of the phonics screening check being administered so that schools could immediately put in place extra support for pupils who had not met the expected standard.

1.2.2 The phonics pilot check

The phonics screening check was piloted in 296 schools in June 2011. The DfE invited a representative sample of schools to take part in the pilot and participation was optional. Each school in the pilot administered a version of the phonics screening check to their pupils in Year 1. There were 18 different versions of the phonics screening check trialled in pilot schools. As set out in the framework, 40 words were included in each form and a total of 360 words were trialled, meaning that each word appeared in two of the trial forms. Each version had a slightly different threshold for the expected standard ranging from 31 to 34 out of 40.

Each version of the check used in the trial, also comprised of 20 words and 20 non-words, with the same page by page structure as the check used in 2012. However, some adjustments to the check were made following the pilot, including;

- Inclusion of a picture of an imaginary creature next to each non-word rather than just some non-words as in the pilot.
- Provision of a greater number of words on the practice sheet.

2 Phonics Screening Check Results by Pupil Characteristics

Summary

- 58% of all eligible pupils met the expected standard of 32 marks out of 40 on the phonics screening check.
- A higher proportion of girls met the expected standard than boys, 62% and 54% respectively.
- The percentage of Indian pupils meeting the expected standard was higher than any other ethnic group at 70% and the percentage of Chinese pupils was slightly lower at 69%.
- A lower proportion of pupils known to be eligible for Free School Meals (FSM) achieved the expected standard, 44% compared to 62% of pupil not eligible for FSM.
- There was very little difference in the percentage of pupils meeting the expected standard for pupils with English as a first language and pupils whose first language was not English – 58% of pupils in both groups met the expected standard.

2.1 Introduction

This chapter presents analysis of the 2012 phonics screening check by pupil characteristics, including ethnicity, gender and Special Educational Needs (SEN) status, where the percentage of pupils in these pupil groups who have met the expected standard is compared. Pupils who scored at least 32 out of 40 on the screening check have met the expected standard in phonics decoding.

This section also looks deeper into the phonics screening check result by SEN primary need type.

2.2 Pupils meeting the expected standard in phonics decoding

Figure 2.1 on the following page shows the numbers and percentage of pupils meeting the expected standard in phonics decoding by ethnicity. The bars measure the percentage of pupils meeting the expected standard and the numbers above the bar show the actual numbers of pupils who met the expected standard. Nationally, 58% of pupils met the expected standard and this is shown by the dotted vertical line on the chart to aid comparisons to the national average for each pupil group.

There was a lot of variation in the proportion of pupils meeting the expected standard by ethnicity. The chart shows that Indian pupils was the ethnic group with the highest percentage of pupils meeting the expected standard at 70% and the percentage of Chinese pupils was slightly lower at 69%. Travellers of Irish Heritage had the lowest proportion of pupils meeting the expected standard at 16%. Pupils from a Gypsy/Roma background also had a low proportion of pupils meeting the expected standard at 17%.

Figure 2.1 Percentage of pupils meeting the expected standard in phonics decoding by ethnicity, 2012

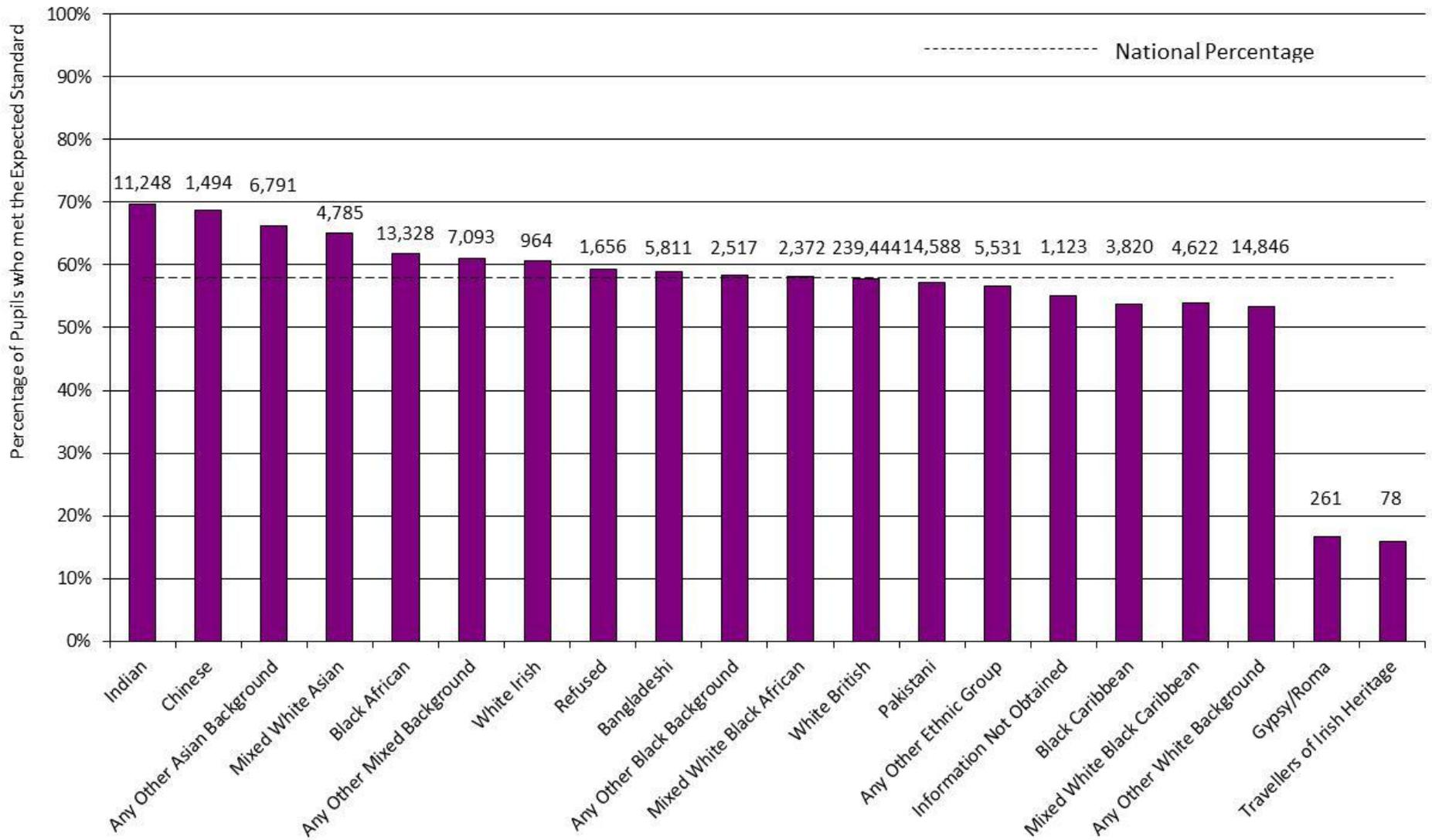
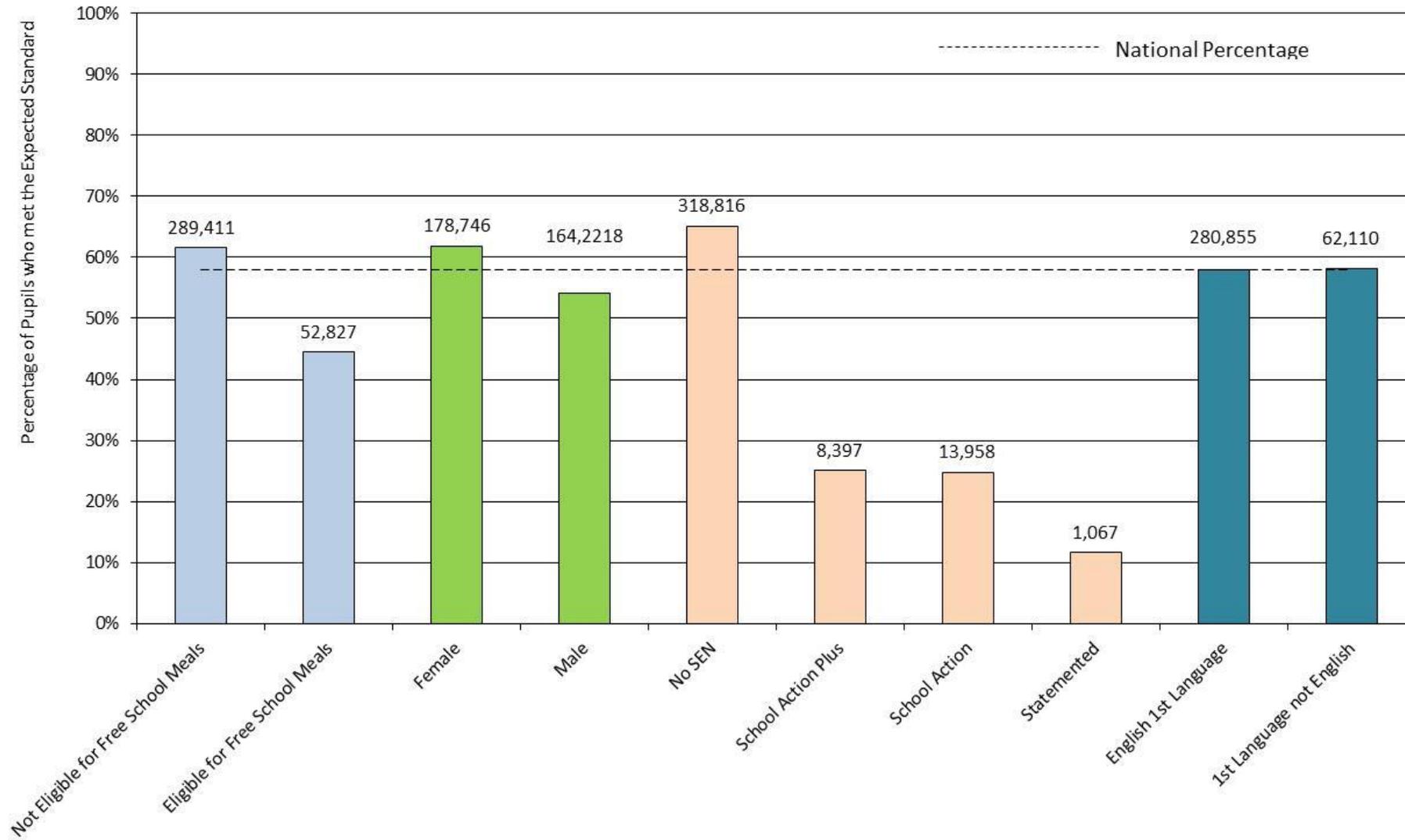


Figure 2.2 shows the percentage and numbers of pupils who met the expected standard by other pupil characteristics. The chart shows that girls performed better than boys, with a higher proportion of girls meeting the expected standard than boys, 62% and 54% respectively. Also, there was very little difference in the results of pupils whose first language was English and was not English. 58% of pupils whose first language was not English met the expected standard – the same as the percentage of pupils whose first language was English.

A lower proportion of pupils known to be eligible for FSM achieved the expected standard, 44% compared to 62% of pupil not eligible for FSM.

A higher percentage of pupils without any identified SEN met the expected standard than other pupils with a recorded SEN, 65% and 24% respectively.

Figure 2.2 Percentage of pupils meeting the expected standard in phonics decoding by pupil characteristics, 2012



2.2.1 Special Educational Needs

In the previous section it was shown that pupils with SEN did not perform as well as pupils with no SEN. This section investigates if pupils with particular SEN Primary Needs performed differently. Table 2.1 shows the proportion of pupils who met the expected standard by primary need type. The results show that the percentage of pupils meeting the expected standard is lower than the national average for all primary need type. There is also a lot of variation of the results by primary need type. For example, pupils with visual impairments had the highest proportion meeting the expected standard with 35% of pupils achieving this. However, only 2% of pupils with severe learning difficulties met the expected standard – the lowest proportion of all primary need type.

Table 2.1 Percentage of pupils meeting the expected standard in phonics by SEN primary need, 2012

Primary Need Type	% of pupils meeting the expected standard	Number of pupils participating in the phonics screening check
Visual Impairment	35%	619
Hearing Impairment	30%	940
Behaviour, Emotional and Social Difficulty	29%	6,701
Physical Disability	28%	1,958
Other Difficulty/Disability	27%	1,708
Autistic Spectrum Disorder	24%	3,803
Multi-Sensory Impairment	24%	91
Speech Language and Communication Difficulty	23%	17,888
Specific Learning Difficulty	17%	1,516
Moderate Learning Difficulty	11%	5,157
Profound and Multiple Learning Difficulty	2%	784
Severe Learning Difficulty	2%	1,543

Note: some primary need groups have small numbers of eligible pupils and therefore these figures should be treated with caution

3 Investigating the relationship between the Early Years Foundation Stage Profile and the Phonics Screening Check

Summary

- Of the pupils assessed in the phonics screening check in 2012, 60% reached a Good Level of Development and 80% were working securely within the linking sounds and letters assessment scale when they were assessed the previous year at the Early Years Foundation Stage (EYFS).
- The mean Early Years Foundation Stage Profile (EYFSP) total point score for pupils who did meet the expected standard for the phonics screening check was 94.2 and was 79.2 for pupils who did not meet the expected standard.
- The linking sounds and letters assessment scale is the component of the EYFSP with the strongest relationship with pupils' phonics screening check scores with a correlation coefficient of 0.64.
- A pupil who was working securely within the linking sounds and letters assessment scale is 2.5 times more likely to meet the expected standard in phonics decoding than a pupil with the same characteristics who did not work securely within linking sounds and letters.
- A pupil who was working securely within the writing assessment scale is 3 times more likely to meet the expected standard in phonics decoding than a pupil with the same characteristics who did not work securely within writing.

3.1 Introduction

Pupils participating in the 2012 phonics screening check were also assessed a year earlier at the end of the EYFS in 2011. This chapter investigates the relationship between pupils' EYFSP results and their scores on the phonics screening check in Year 1. Correlation and regression were used to investigate this relationship.

3.2 The Early Years Foundation Stage

The EYFS is a framework that sets standards for development, learning and care of children from birth to five years old. A key component of this framework was the EYFSP, an observational based assessment which sums up and describes each child's development and learning achievements at the end of the EYFS when they turn five.

The EYFSP records each child's achievements at the end of the EYFS in six areas of learning and development, namely:

- Personal, social and emotional development (PSE)
- Communication, language and literacy (CLL)
- Problem solving, reasoning and numeracy (PSRN) ¹
- Knowledge and understanding of the world (KUW)
- Physical development (PD)
- Creative development (CD)

Table 3.1 Maps the thirteen assessment scales to the six areas of learning and development under which they are tested.

Areas of Learning	Assessment scale
Personal, social and emotional development	Dispositional and Attitudes
	Social Development
	Emotional Development
Communication, language and literacy	Language for Communication and Thinking
	Linking Sounds and Letters
	Reading
	Writing
Problem solving, reasoning and numeracy	Numbers as Labels and for Counting
	Calculating
	Shape, Space and Measures
Knowledge and understanding of the world	
Physical development	
Creative development	

These thirteen assessment scales, which were derived from the early learning goals², each have nine scale points that capture and describe children’s achievement at the end of the EYFS. Further details of the individual scale points which make up the thirteen scales can be found in the EYFSP Handbook³.

This section of the topic note mostly focuses on two components of the EYFSP:

- Children reaching a *Good Level of Development*; and
- Children *working securely* within the Linking Sounds and Letters Early Learning Goal, which requires pupils to apply phonics knowledge.

A child is said to have reached a Good Level of Development when he/she achieves a score of 78 points across the 13 assessment scales with at least 6 or more points in the communication, language and literacy and personal, social and emotional development scales.

¹ This was formerly referred to as Mathematical Development

² The early learning goals are a set of statutory expectations for most children to reach by the end of the EYFS, details of which are available on the following webpage:
<http://nationalstrategies.standards.dcsf.gov.uk/eyfs/site/requirements/learning/goals.htm>

³ <http://nationalstrategies.standards.dcsf.gov.uk/node/113520>

A child who achieves a scale score of 6 points or more for any assessment scale is classified as working securely within the Early Learning Goal for that assessment scale. So a child is expected to get 6 or more points in linking sounds and letters in order to be working securely in this assessment scale.

3.3 Early Years Foundation Stage Profile results, 2011

Of the pupils assessed in the phonics screening check in 2012, 60% reached a Good Level of Development and 80% were working securely within the linking sounds and letters Early Learning Goal in the EYFSP. Table 3.2 is a cross tabulation of the pupils meeting the expected standard in phonics decoding and achieving a Good Level of Development in the EYFS. The table shows that 46% of pupils who met the expected standard in phonics decoding had achieved a Good Level of Development at the EYFS and 27% of pupils neither met the expected standard in phonics decoding nor reached a Good Level of Development in the EYFS. This shows that pupils who reached a Good Level of Development were more likely to meet the expected standard in phonics decoding than not. Conversely, those who did not reach a Good Level of Development were more likely not to meet the expected standard.

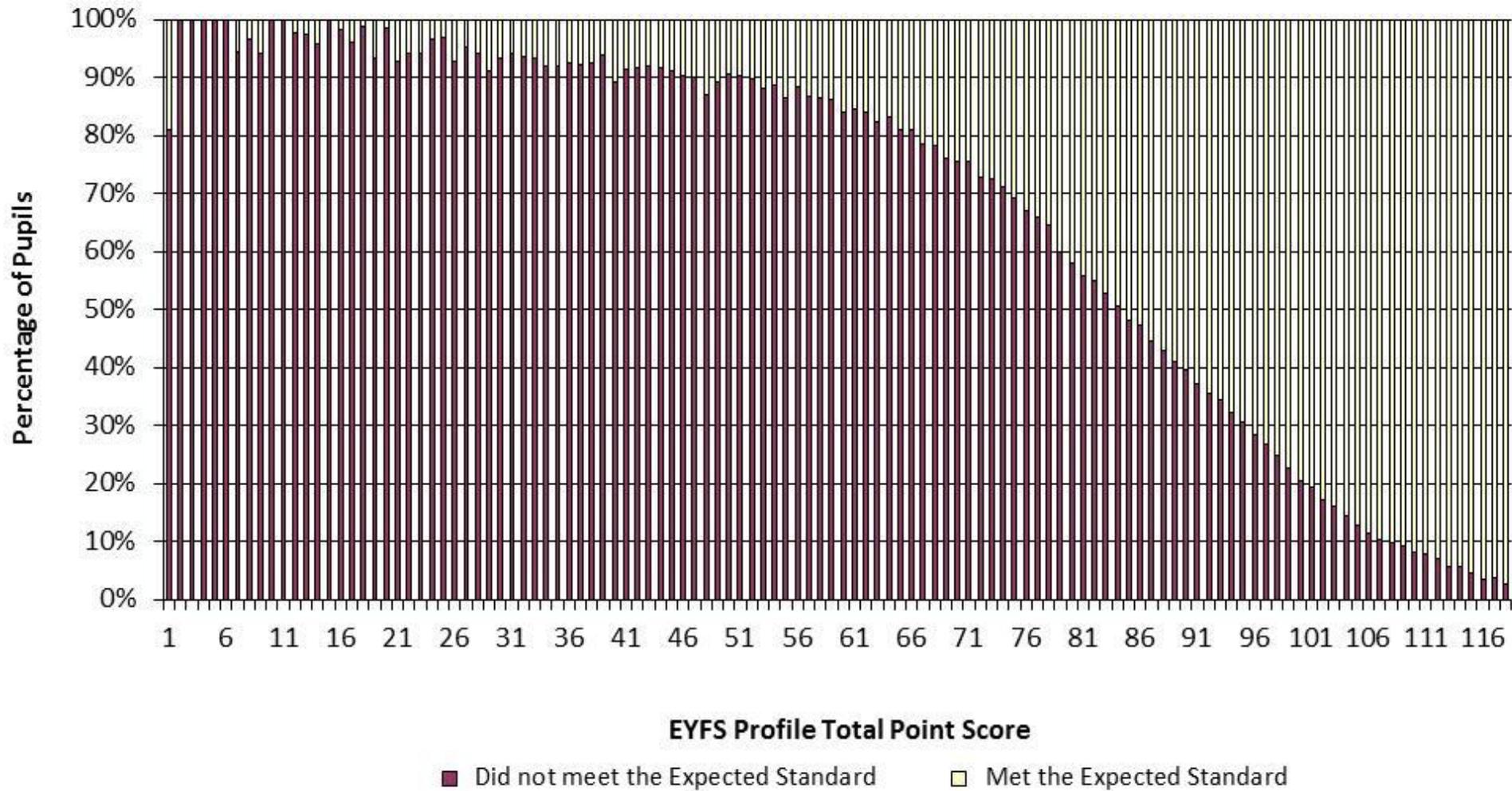
Table 3.2 Cross-tabulation of Phonics and Early Years Foundation Stage outcomes

		Early Years Foundation Stage		Total Phonics
		Did not Reach a Good Level of Development	Reached a Good Level of Development	
Phonics	Did not Meet the Expected Standard	27%	14%	40%
	Met the Expected Standard	14%	46%	60%
Total EYFS		40%	60%	100%

Note: only pupils with both a valid EYFS result and phonics results have been included in this table and so the total may differ from national results.

Figure 3.1 on the following page shows the distribution of EYFS Profile Total Point Score split by pupils who did and did not meet the expected standard. Figure 3.1 shows that the proportion of pupils meeting the expected standard is higher for pupils who get higher EYFSP scores. This is also demonstrated by the mean total point score for the EYFSP where the mean score for pupils who did meet the expected standard for the phonics screening check was 94.2 and 79.2 for pupils who did not meet the expected standard.

Figure 3.1 Early Years Foundation Stage Profile by Phonics Check Outcome, 2011 and 2012



3.4 Analysis of the relationship between the EYFS Profile and Phonics Screening Check results

Two statistical approaches were used to investigate the relationship between the EYFSP and the phonics screening check results; correlation and regression.

3.4.1 Correlation

Correlation can be used to measure the strength of the statistical relationship between pupils' EYFSP results and their phonics screening check score. Different components of the EYFSP can be considered separately. The components we are interested in are:

- Early Years Foundation Stage Profile Total Point Score (which includes Communication, Language and Literacy)
- Communication, Language and Literacy; which includes the following:
 1. Language for Communication and Thinking
 2. Linking Sounds and Letters
 3. Reading
 4. Writing

Correlations were estimated for other components of the EYFS and can be seen in Annex A.

The Pearson Correlation Coefficient is used to calculate the correlation between the phonics screening check score and the EYFSP outcomes. The Pearson Correlation Coefficient is a value between -1 and 1 where a correlation of 1 or -1 shows a strong linear relationship between the two variables of interest. This means that if the correlation coefficient is close to 1 then there is a very strong positive relationship between the variables, and as one variable increases so does the other variable. If the correlation coefficient is zero there is no linear relationship between the two variables and a change in one variable does not affect the outcome of the other.

The Pearson Correlation Coefficient has been calculated and the results are summarised in Table 3.3

Table 3.3 Pearson Correlation Coefficients between the phonics screening check outcome and components of the Early Years Foundation Stage Profile, 2012

	Pearson Correlation Coefficient
Early Years Foundation Stage Profile Total Point Score	0.60
Communication, Language and Literacy	0.64
Language for Communication and Thinking	0.45
Linking Sounds and Letters	0.64
Reading	0.60
Writing	0.62

Note: All coefficients were shown to be statistically significant at the 5% level

Table 3.3 shows that the correlation coefficient is highest for the linking sounds and letters assessment scale. This shows that this component of the EYFSP has the strongest relationship with pupils' phonics screening check scores with a correlation coefficient of 0.64.

Another interesting result is that the association between the phonics screening check score and the writing assessment scale (0.62) is stronger than the association with the reading assessment scale (0.60).

While correlation can tell us about the strength of a relationship it does not take into account whether there is a third (or more than 3) variable that is the source of the relationship. To control for this we must use regression techniques.

3.4.2 Regression

Regression techniques were used to investigate the relationship between a pupils' phonics screening check outcome and the pupils' characteristics and their EYFSP results. The result of the regression analysis will show two things; firstly, if attainment at the EYFS has a statistically significant relationship with meeting the expected standard in phonics decoding and secondly, the odds of a pupil meeting the expected standard in phonics decoding. Other characteristics that have been controlled for in the regression model are:

- Free School Meals Eligibility
- Special Education Needs status
- English as a first language
- Ethnic Group
- Gender
- Month of Birth

The effect of these characteristics can be seen in Annex B. Figure 3.2 below summarises the relationship between each assessment scale at the EYFS whether pupils met the expected standard in phonics decoding. Where odds for a given characteristics are greater than one, a pupil with this characteristic is more likely to meet the expected standard, all other things being equal.

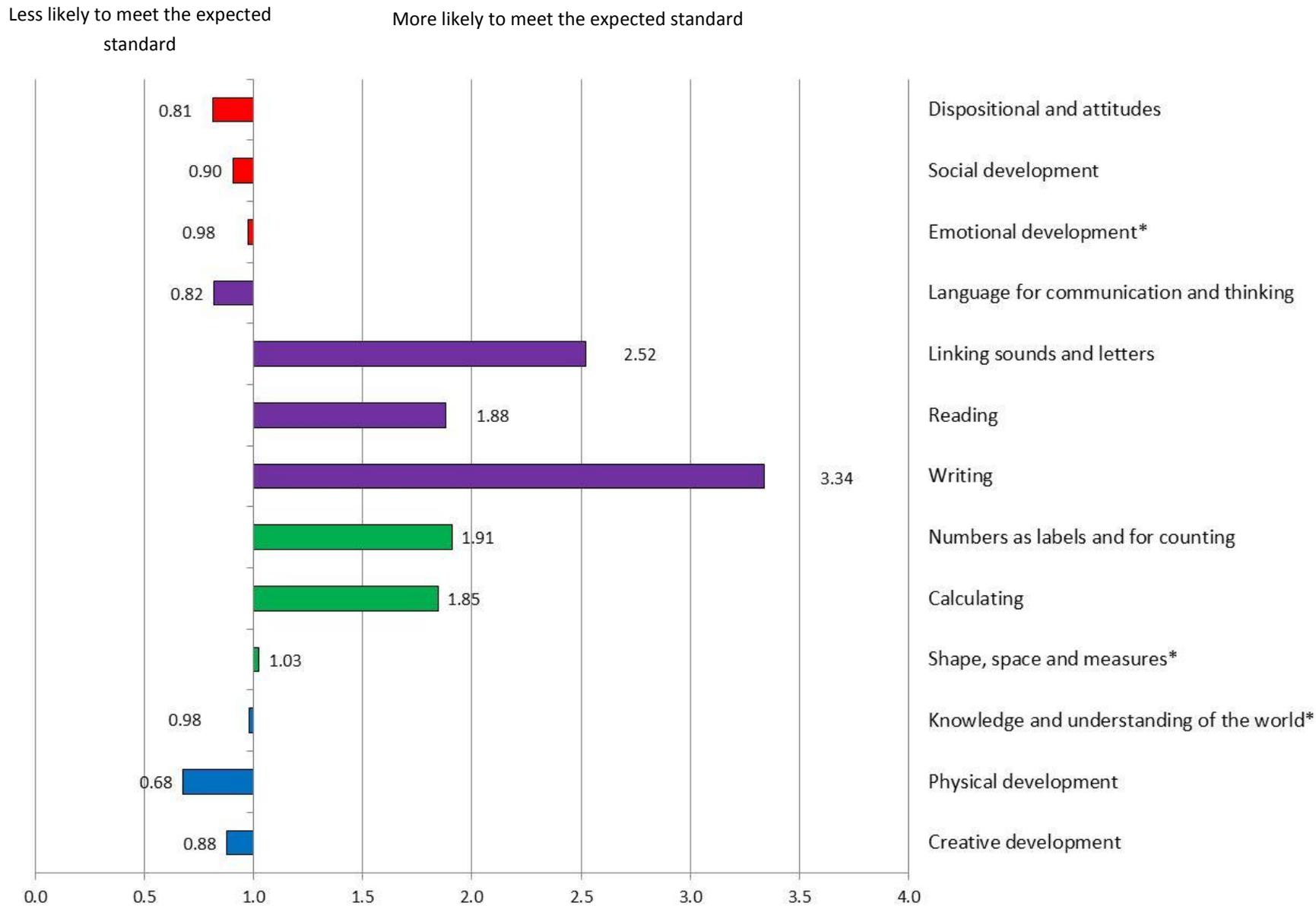
The chart shows that most of the assessment scales at the EYFS have a statistically significant relationship with pupils meeting the expected standard in phonics. The assessment scales that do not have a statistically significant relationship with meeting the expected standard in phonics decoding are emotional development, shape, space and measures and knowledge and understanding of the world.

The two assessment scales that are shown to have the largest influence on the phonics screening check are linking sounds and letters and writing. If a pupil has been shown to be working securely in linking sounds and letters assessment scale then they are 2.5 times more likely to meet the expected standard in phonics decoding than a pupil with the same characteristics who did not work securely within this assessment scale. Also, a pupil working securely in writing at the EYFS were 3.3 times more likely to meet the expected standard in phonics decoding than a pupil who did not work securely in writing but otherwise had the same characteristics.

Figure 3.2 also shows that some of the EYFS assessment scales have a negative effect on meeting the expected standard in phonics decoding, and pupils who are working securely within these assessment scales are less likely to meet the expected standard in the phonics screening check. This is the case for all components of the personal, social and emotional development scale. A possible explanation for this is that the benchmark for working securely within these assessment scales is lower for less academic pupils, who did not meet the expected standard in phonics decoding. However, there is no evidence to support this hypothesis

Other pupil characteristics which are shown to have a negative effect on meeting the expected standard in phonics decoding which are statistically significant are being eligible for Free School Meals, having a Special Educational Need, being female and being born later in the academic year.

Figure 3.2 Effects of pupil characteristics on odds of meeting the expected standard in the phonics screening check, 2012



4 Key Stage 1 Performance and Participation in the Phonics Pilot Check

Summary

- Nearly all pupils that achieved the expected standard in the 2011 phonics pilot check went on to achieve the expected level in 2012 Key Stage 1 speaking and listening, reading and writing. 63% of these went on to achieve above the expected level in reading.
- Higher percentages of pupils at schools included in the original representative pilot sample achieved above expected level at 2012 Key Stage 1 speaking and listening, reading and writing than pupils at opt in pilot schools.
- Schools that were selected to participate in the 2011 phonics pilot check had on average a higher, positive Key Stage 1 Value Added score than all schools, but regression analysis found the effect of selection for phonics pilot participation and not have a significant effect on Key Stage 1 performance.

4.1 Introduction

Pupils attending schools that participated in the phonics pilot check in 2011 reached the end of Key Stage 1 in 2012. This means that data is available to consider their performance following the phonics screening check, and indeed the 2011 phonics pilot check. Section 4.2 considers the pupil level relationship between levels attained in reading, writing and mathematics at Key Stage 1 in 2012 and phonics pilot check outcomes.

To attempt to isolate the effects of these phonics checks on performance at Key Stage 1, it is essential to account for pupils' prior attainment at the Early Years Foundation Stage (EYFS). The use of Value Added scores allows this. Value Added is the calculation used to assess a pupil's attainment accounting for their prior attainment, and is aggregated up to school level allowing comparison. Section 4.3 considers school level Value Added scores between EYFS and Key Stage 1 in 2012, splitting schools by 2011 phonics pilot status⁴.

This section of the topic note considers:

- The levels reached at 2012 Key Stage 1 speaking and listening, reading and writing for pupils according to their 2011 phonics pilot outcome.
- Average school level EYFS to Key Stage 1 Value Added in 2012, and the effect of pilot participation on Key Stage 1 performance.

⁴ We have chosen to compare 2012 Key Stage 1 results for pupils at schools by 2011 phonics pilot check participation status, *not* necessarily by pupil participation status. For example, we consider pupil Key Stage 1 performance of pupils at schools that participated in the pilot check which includes pupils that have moved to these schools after Year 1 from schools that did not participated in the pilot check. This allows a direct comparison to the 2011 Key Stage 1 cohort for the same school later in the section.

4.2 The 2011 phonics pilot check

Before the phonics screening check was implemented in 2012, it was piloted in the summer term of 2011 at some 296 schools. 18 different checks of the phonics pilot check comprising different words (or pseudo words) were trialled, with different checks being used at the same school. The expected standard mark differed across these 18 checks, as each check had different levels of difficulty. The form and expected standard for the 2012 phonics screening check was identical across all schools. Other changes in the organisation of the 2012 full roll out following the 2011 pilot included:

- Inclusion of a picture of an imaginary creature next to each non-word rather than some non-words as in the pilot.
- Provision of a greater number of words on the practice sheet
- Schools were made aware of their participation at the start of the academic year whereas for the pilot, schools were only informed by the start of the term of the check.
- The content of the 2012 check was provided to schools much earlier in the academic year than for pilot schools in 2011.
- The expected standard of a score of 32 was set prior to the 2012 phonics screening check. No standard was set prior to the pilot.

Due to the above, results derived from this pilot check analysis can only be seen as indicative.

Table 4.1 displays the percentage of pupils achieving the expected standard for each of the 18 phonics pilot checks of 2011, as well as the same information across all pilot checks and the 2012 phonics screening check. However, the 18 checks had varying levels of difficulty, which is demonstrated by different thresholds. The thresholds were derived following a standard setting process involving phonics experts and teachers involved in the administration of the pilot. And they differ to account for the difficulty of each check. The final column gives the threshold score for each pilot test; the score needed by pupils to achieve the expected standard that range between 32 and 34. The percentage achieving the expected standard ranged from 26% in Check 4 to 36% in Check 12. On average 30% of pupils who took part in the phonics pilot check achieved the expected standard. In the 2012 phonics screening check 58% of pupils who took the check achieved the expected standard.

Table 4.1 Average 2011 phonics pilot check and 2012 phonics screening check scores

Phonics Check	Number of Pupils	Percentage Achieving Expected Standard	Threshold Mark to meet Expected Standard
2011 Pilot Check 1	652	29%	33
2011 Pilot Check 2	843	32%	31
2011 Pilot Check 3	668	29%	33
2011 Pilot Check 4	820	26%	33
2011 Pilot Check 5	751	27%	32
2011 Pilot Check 6	675	28%	34
2011 Pilot Check 7	660	30%	34
2011 Pilot Check 8	680	27%	33
2011 Pilot Check 9	721	36%	33
2011 Pilot Check 10	657	34%	33
2011 Pilot Check 11	720	29%	34
2011 Pilot Check 12	694	36%	33
2011 Pilot Check 13	669	32%	33
2011 Pilot Check 14	702	32%	33
2011 Pilot Check 15	680	28%	34
2011 Pilot Check 16	622	28%	32
2011 Pilot Check 17	756	26%	33
2011 Pilot Check 18	816	30%	32
Average 2011 Pilot Check	12,786	30%	n/a
2012 Check	580,127	58%	32

4.3 Key Stage 1 attainment by pupils according to their phonics pilot check score

Table 4.2 on the following page considers the percentages of pupils achieving the expected and above expected level in reading, speaking and listening and writing at Key Stage 1 in 2012 according to their 2011 phonics pilot check outcome. For comparison, the final column shows the percentages for all pupils regardless of whether their school participated in the 2011 pilot check.

The tables show that nearly every pupil that attained the expected standard in the phonics pilot check went on to achieve the expected level at Key Stage 1 for each subject considered. There was variation between subjects when considering the percentages of pupils that attained the expected standard in the phonics pilot checks who then achieved above the expected level at Key Stage 1: 46% for speaking and listening, 63% for reading and 36% for writing. Interestingly, these percentages are lower for each subject in opt-in schools, compared to ones included in the representative sample.

Percentages for pupils that failed to meet the expected standard in the phonics pilot check in 2011 but then achieved the expected level in Key Stage 1 in 2012 are similar for speaking and listening and reading (86% and 85%), and again lower in writing (80%). Once more the percentages are higher at representative sample schools than opt-in schools across each Key Stage 1 subjects considered. The percentage of pupils not attaining the expected standard in the phonics pilot check but then achieving above the expected level is much lower on average for Key Stage 1

writing: 5% compared to 14% for reading and 13% for speaking and listening; and on average lower still at schools that opted in to the pilot.

Table 4.2 Percentages of Pupils who met the Expected and Above Level in 2012 Key Stage 1 speaking and listening, reading and writing by 2011 Phonics Pilot outcome

		2011 Phonics Pilot Schools		Representative Sample Pilot Schools		Opt-In Pilot Schools		All Schools
Outcome Key Stage 1 Assessment		Achieved Expected Standard	Did not achieve Expected Standard	Achieved Expected Standard	Did not achieve Expected Standard	Achieved Expected Standard	Did not achieve Expected Standard	
Speaking and Listening	Achieved Expected Level	99%	86%	99%	87%	97%	82%	88%
	Achieved Above Expected Level	47%	13%	47%	14%	45%	12%	22%
Reading	Achieved Expected Level	100%	85%	100%	85%	100%	84%	87%
	Achieved Above Expected Level	63%	14%	65%	14%	58%	12%	27%
Writing	Achieved Expected Level	94%	80%	99%	80%	100%	81%	83%
	Achieved Above Expected Level	36%	5%	38%	5%	32%	4%	14%

4.4 Value Added for phonics pilot participating schools

Table 4.3 displays average school level Value Added scores in 2012 for all schools and schools who were selected in the 2011 phonics pilot check sample (excluding schools who opted in the pilot check). Value Added is derived from pupils' average score in reading, writing and mathematics at Key Stage 1 in 2012, accounting for their prior attainment measured by the EYFSP total score. The results show that the representative sample schools had, on average, a positive Value Added score and for all schools nationally, the average score is zero.

Table 4.3 Average School Level EYFS to Key Stage 1 Value Added Score, 2012

	Number of Schools	2012 Value Added Score
Representative Sample Pilot Schools	230	0.6
All Schools	15,542	0.0

5 Pupils on the borderline of meeting the expected standard in phonics decoding

Summary

- The national distribution of scores in the 2012 phonics screening check shows a spike at the threshold of meeting the expected standard, suggesting that pupils on the borderline may have been marked up.
- By removing pupil scores around the spike and using regression techniques, it is estimated that 46% of pupils would meet the expected standard if there was not a spike at the borderline.

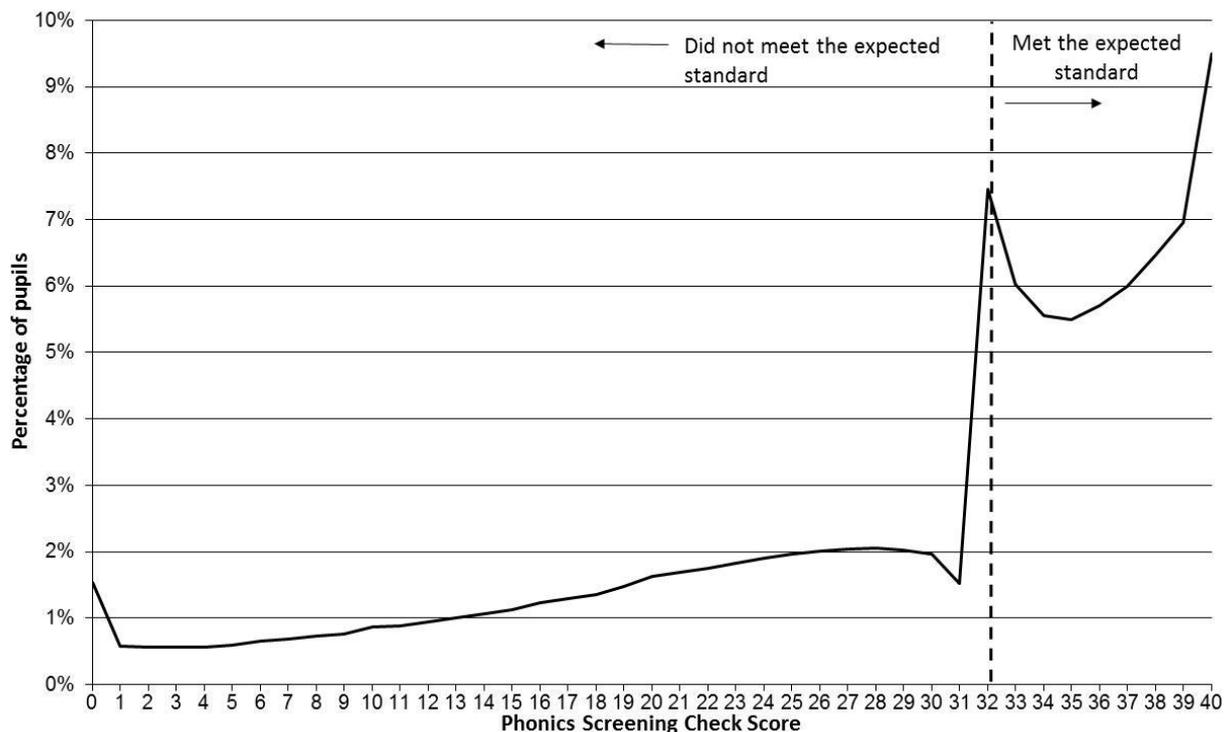
5.1 Introduction

This chapter explores the national distribution of the 2012 phonics screening check scores. The national distribution suggests that many pupils who were on the boundary of meeting the expected standard may have been marked at the expected standard. This chapter estimates the percentage of pupils who would meet the expected standard in phonics if there was not a spike at the threshold of 32.

5.2 National distribution of the phonics screening check

Figure 5.1 below shows the national distribution of the 2012 phonics screening check. The distribution shows that the number of pupils achieving each score increases as the score gets higher. This trend stops at 26 where the rate of increase in the number of pupils achieving the scores slows down and then at 28 the number of pupils achieving the scores starts to decrease. Then at 32 points there is a spike – this is also the point at which pupils have met the expected standard. The frequency then decreases after 32 and starts to increase again at 35. The change in trend and the spike at 32 suggests that pupils who on the borderline of meeting the expected standard may have consciously or unconsciously been given the benefit of the doubt and been marked at 32. As mentioned in previous sections, 58% of pupils met the expected standard. 7% of pupils got a mark of exactly 32, however, just under 2% of pupils got a mark of 31.

Figure 5.1 National distribution of the phonics screening check score, 2012

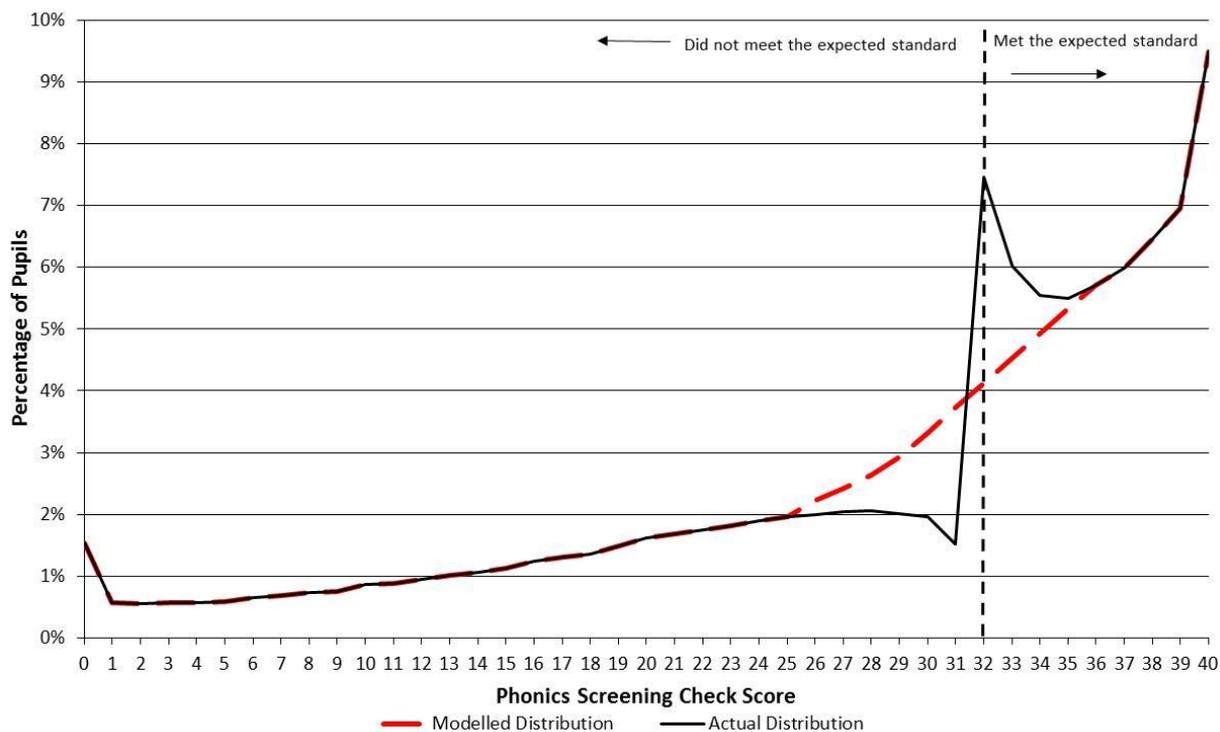


5.3 Modelling results without the spike at the expected standard on phonics decoding

Due to the spike at 32, it is possible that the distribution shown in Figure 5.1 may not truly reflect the national distribution. As mentioned previously, the national distribution of scores suggests that pupils on the borderline may have been marked up to meet the expected standard. To estimate how the national distribution would look if there was not a spike, we have removed all results for pupils with a mark between 26 (where the trend starts to change and the rate of increase in the number of pupils achieving that score starts to slow down) and 35 (where the number of pupils achieving that score starts to increase following the spike). Between this range we then interpolate the distribution, which is reflected both and after the spike. It is important to note that this method makes a number of assumptions and so should only be seen as indicative.

Figure 5.2 shows the modelled distribution compared to the actual distribution observed in 2012. Using the modelled distribution below, it is estimated that 54% of pupils met the expected standard – which is four percent lower than the actual results.

Figure 5.2 National distribution of the phonics screening check score – actual and modelled, 2012



5.4 Logistic regression without the spike at the expected standard in phonics decoding

The method shown in Section 5.3 relies on a number of assumptions about the distribution of scores. A more statistically robust approach in estimating the percentage of pupils who met the expected standard in phonics decoding would be to use regression techniques. In section 3.4.2 we used logistic regression to look at the effect of a number of pupil characteristics on meeting the expected standard in phonics decoding. By removing pupils on the borderline and repeating the logistic regression analysis, it is possible to see what effect pupil characteristics have on meeting the required standard for pupils not on the borderline. This will mean that the new regression will explain the effect of pupil characteristics for pupils who have clearly not met the expected standard or have clearly met the required standard.

The new pupil characteristic effects can then be applied to the borderline pupils to estimate the probability of each pupil meeting the expected standard. If the probability of a pupil passing is more than 50% we can assume that they are at the expected standard in phonics decoding. However, if a pupil's probability of meeting the expected standard is less than 50% then we assume that they are not at the expected standard in phonics.

The results of this analysis estimates that 46% of Year 1 pupils are at the expected standard in phonics decoding in 2012.

Annex A – Correlation between Early Years Foundation Stage Profile and the phonics screening check scores

The table below shows the Pearson Correlation Coefficient values for the phonics screening check scores and each assessment scale of the EYFS Profile.

Table A.1 Correlation between the phonics screening check scores and each assessment scale of the EYFS Profile

EYFS Assessment Scale	Pearson Correlation Coefficient
EYFS Total Point Score	0.60
Personal, social and emotional development	0.44
Dispositions and attitudes	0.43
Social development	0.39
Emotional development	0.40
Communication, language and literacy	0.64
Language for communication and thinking	0.45
Linking sounds and letters	0.64
Reading	0.60
Writing	0.62
Problem and solving, reasoning and numeracy	0.59
Numbers and labels and for counting	0.56
Calculating	0.39
Shape, space and measures	0.50
Knowledge and understanding of the world	0.42
Physical development	0.40
Creative development	0.37

Annex B - Logistic Regression Model Coefficients for the relationship between the Early Years Foundation Stage Profile and meeting the required standard in phonics decoding

Table B.1 below shows the model coefficients for the Early Years Foundation Stage Profile in predicting the probability of a pupil meeting the required standard in phonics with associated confidence limits and odds ratios. Table B.2 shows the model coefficients for other pupil characteristics that were controlled for in the model.

Table B.1 Early Years Foundation Stage Profile Logistic Regression Model Coefficients

EYFS Assessment Scale	Coefficient	Lower Confidence Limit	Upper Confidence Limit	Odds Ratio
Working securely within creative development	-0.13	-0.16	-0.11	0.88
Working securely within Physical development	-0.39	-0.43	-0.36	0.68
Working securely within Knowledge and understanding of the world*	-0.02	-0.05	0.01	0.98
Working securely within Shape, space and measures*	0.03	0.00	0.05	1.03
Working securely within Calculating	0.61	0.59	0.64	1.85
Working securely within Numbers as labels and for counting	0.65	0.61	0.68	1.91
Working securely within Writing	1.21	1.19	1.23	3.34
Working securely within Reading	0.63	0.61	0.66	1.88
Working securely within Linking sounds and letters	0.93	0.90	0.95	2.52
Working securely within Language for communication and thinking	-0.20	-0.23	-0.17	0.82
Working securely within Emotional development*	-0.02	-0.05	0.00	0.98
Working securely within Social development	-0.10	-0.13	-0.07	0.90
Working securely within Dispositional and attitudes	-0.21	-0.24	-0.17	0.81

***shows assessment scales that do not have a statistically significant relationship with meeting the expected standard in phonics decoding**

Table B.2 Early Years Foundation Stage Profile Logistic Regression Model Coefficients for Pupil Characteristics

Pupil Characteristic	Coefficient	Lower Confidence Limit	Upper Confidence Limit	Odds Ratio
Constant	-1.34	-1.38	-1.30	0.26
Not Eligible for Free School Meals	0.00			1.00
Eligible for Free School Meals	-0.36	-0.38	-0.34	0.70
First Language English	0.00			1.00
First Language Not English	0.09	0.06	0.13	1.10
Ethnicity - Bangladesh	0.57	0.50	0.64	1.77
Ethnicity - India	0.71	0.65	0.76	2.03
Ethnicity - Asian Other	0.74	0.68	0.80	2.09
Ethnicity - Pakistan	0.49	0.45	0.54	1.64
Ethnicity - Black African	0.60	0.56	0.65	1.82
Ethnicity - Black Caribbean	0.10	0.03	0.16	1.10
Ethnicity - Black Other	0.43	0.34	0.51	1.53
Ethnicity - Chinese	0.74	0.62	0.86	2.09
Ethnicity - Mixed Other	0.35	0.30	0.40	1.41
Ethnicity - Mixed White Asian	0.48	0.41	0.54	1.61
Ethnicity - Mixed White Black African	0.29	0.21	0.37	1.33
Ethnicity - Mixed White Black Caribbean*	0.04	-0.02	0.09	1.04
Ethnicity – Information Not Yet Obtained	0.16	0.04	0.28	1.17
Ethnicity - Other	0.44	0.37	0.50	1.55
Ethnicity - Refused	0.23	0.13	0.32	1.25
Ethnicity - White British	0.00			1.00
Ethnicity - White Irish	0.20	0.07	0.33	1.22
Ethnicity - White Irish Traveller	-0.82	-1.15	-0.50	0.44
Ethnicity - White Other	0.27	0.23	0.31	1.31
Ethnicity - White Romany Gypsy	-0.96	-1.13	-0.79	0.38
Male	0.00			1.00
Female	-0.02	-0.04	-0.01	0.98
No SEN	0.00			1.00
SEN - Action	-0.96	-0.99	-0.93	0.38
SEN - Action Plus or Statemented	-0.98	-1.02	-0.93	0.37
Did not attend a Pilot School	0.00			1.00
Did attend a Pilot School (Representative)*	-0.01	-0.14	0.12	0.99
Month of Birth	-0.03	-0.03	-0.03	0.97

***shows characteristics that do not have a statistically significant relationship with meeting the expected standard in phonics decoding**



Department
for Education

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Ref: DFE-RR287

ISBN: 978-1-78105-227-3

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