

The National Singing Programme for Primary schools in England: An initial baseline study overview, February 2008

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I. INTRODUCTION

The National Singing Programme (2007) is part of a UK Government initiative to support the development of musical activities under the umbrella of its ‘Music Manifesto’, defined by the Department of Culture, Media and Sport (DCMS) as ‘campaign for improvement in music education. It is about creating more music for more people.’ Previously, in October 2006, the 2nd Report of the Music Manifesto group (‘Making every child’s music matter’) had recommended that singing be provided for all early years and primary children by 2012. In the introduction to this report, Marc Jaffrey, the ‘Music Manifesto Champion’ wrote ‘Singing has the potential to involve children and young people in music on a scale that we have not witnessed before. It is the most elemental form of music making, and is within the grasp of all of us, whatever our ability. It is a powerful community activity binding individuals and community together.’ In response, the UK Government’s then Secretary of State for Education and Skills, Alan Johnson, together with the then Culture Minister, David Lammy, announced the launch of an additional £10m funding package in January 2007 to support school singing, both in and out of school hours, through a major national singing campaign for primary schools, led by the British composer and broadcaster Howard Goodall in a new role as the ‘Singing Ambassador’ for England (DfES Press Notice, 16th January 2007 - <http://www.dfes.gov.uk/pns/DisplayPN.cgi?pnid=20070009>). Subsequently, following a tendering process, two Government Departments (DCMS, DfES) jointly appointed a consortium of Youth Music, The Sage Gateshead, Faber Music, and advertising agency Abbot Mead Vickers to lead on the actual provision of the National Singing Programme in 2007-2008. Included in the intentions of the Programme are that ‘children experience high-quality singing, both within and without their daily school curriculum, on a daily basis’ and that ‘Every school has a teacher committed to facilitating high quality singing and vocal work for the whole school’. The ‘Sing Up’ National Singing Programme was launched in November 2007 and a team from the Institute of Education, University of London, led by the first author, were appointed to

undertake a research evaluation of key elements of the Programme. Two prime foci were: (i) to undertake an initial baseline audit of singing in randomly selected schools and (ii) to link this baseline data collection to a pre- and post-impact evaluation of particular ‘Sing Up’ Programme interventions with children and adults (teacher, parents and other professionals involved in promoting singing in community contexts). This paper reports an overview of key outcomes of first five months of baseline profiling (October, 2007 to February 2008 ¹) with regard to participant children’s singing and other vocal behaviours. These findings are complimented by other aspects of the research evaluation concerning children’s views on singing in and out of school and teachers’ views on their abilities related to the teaching of singing.

II. METHODOLOGY

The research protocol for the assessment of singing and other vocal behaviour (i) drew on established models on singing development from the literature (see below) and (ii) focused on a geographical spread of schools across the country, including five major city conurbations: the South-East (London), South-West (Bristol), Midlands (Birmingham), North-East (Newcastle) and North-West (Manchester), supplemented by small numbers of schools in other parts of the country in urban, suburban and rural settings, as well as a number of Cathedral Choir Schools. Contacts were made with Local Authority music advisors and university music education colleagues for advice on possible participant schools ², seeking to draw on local knowledge to ensure that a diverse range of school singing ‘cultures’ were accessed. Within each school, participant children were drawn from two contrasting age groups, 7-year-olds and 10-year-olds, representing the youngest and oldest children in the Upper Primary school age phase of Primary schools in England. Previous research (e.g. Welch, 1998; 2006a, 2006b; 2007) had demonstrated that clear developmental differences in singing behaviour by age and sex were likely to be evidenced by the selection of these two age groups. Other recent findings from research into the acoustics of children’s singing voices (Sergeant & Welch, in press) and children’s vocal health in singing and speaking (Rinta & Welch, in press; Williams et al,

2005) similarly supported such a conception. Furthermore, the previous research literature indicated that it would be helpful to assess several aspects of children’s vocal behaviour in order to build a composite, rounded picture. The protocol, therefore, investigated (i) the children’s habitual speech pitch centre (by asking each participant to count backwards from ten and noting the pitch in relation to an adjacent piano keyboard), (ii) comfortable singing range³ (by imitative singing of a musical song fragment at various pitches, transposed upwards and downwards on the keyboard), (iii) singing behaviour in two well-known song items (either ‘Twinkle, Twinkle’ and ‘Happy Birthday’ or one or other items that the particular child knew well on advice from the teacher if these were unknown). Children were visited at their schools where they were recorded individually in a quiet space. In addition, headteachers and teachers arranged for the completion of two questionnaire surveys, one for the Year 3 and Year 6 class teachers on their singing self-efficacy (how they saw themselves as singers) and another by the pupils that explored their attitudes to singing at school and elsewhere. In accordance with the ethical guidance of the British Educational Research Association, all participation was voluntary, allowing for participant withdrawal at any time and with resultant data anonymised in any subsequent reporting. Developmental singing competency for these two songs was assessed against two established rating scales (Rutkowski, 1997; Welch, 1998). Previous research (Mang, 2006) had demonstrated that the two scales could be used alongside each other to investigate complimentary aspects of singing development. Collectively, they offer a more holistic perspective of current singing behaviour. The Rutkowski (1997) scale is a measure of singing voice development, whereas the Welch (1998) scale assesses vocal pitch-matching development⁴.

III. OVERVIEW OF MAIN RESEARCH FINDINGS

Across the first five months of baseline profiling (October, 2007 to February 2008), 76 schools were visited across England and data gathered from 3,472 children and 93 class teachers. Although the prime focus was on Years 3 and 6 (n=2,952; 85%, a relatively small number of children in Years 2, 4 and 5 were also included if they were in the same classes (as mixed age groups). The geographical spread is illustrated in Table 1, showing the numbers of pupils assessed in each location.

A. Children’s Spoken Pitch Centres

An analysis of children’s spoken pitch suggested that, for the vast majority, this lies within the region a3 to c4 (‘middle C’). Older children have slightly lower speaking voices, as might be expected because the vocal mechanism is slightly larger by the age of 10 (see Figure 1).

The spoken pitch centres for the two sexes were virtually identical. With regard to ethnicity, ‘white’ and ‘black’ children exhibited virtually identical spoken pitch centres. Pupils with an ‘Asian’ background had a slightly wider

Research Sites	Total
BRISTOL	46
CAMBRIDGE	182
COVENTRY	44
DERBY	151
DISS	57
DURHAM	45
EALING	53
ELY	30
ESSEX	340
FULHAM	43
GATESHEAD	325
GLOUCESTER	131
HAMMERSMITH AND	42
HARINGEY	50
HEREFORD	17
HERTFORDSHIRE	18
KENT	58
LAMBETH	50
LEICESTERSHIRE	9
LICHFIELD	46
MANCHESTER	472
NEWCASTLE	211
NORMICH	87
OXFORD	45
PETERBOROUGH	97
SOMERSET	40
ST.PAUL’S	36
SUFFOLK	57
TOWER HAMLETS	371
TRURO	35
YORK	110
YORKSHIRE	118
BIRMINGHAM	38

Table 1
LOCATIONS AND PUPIL NUMBERS APPROXIMATELY EQUAL NUMBERS OF FEMALE (N=1,637) AND MALE (N=1,835) CHILDREN WERE ASSESSED. AN ANALYSIS OF ETHNICITY (PROVIDED BY THE SCHOOLS) INDICATED THAT 73% OF PUPILS WERE ‘WHITE’, ALONGSIDE 13% ‘ASIAN’, 7% ‘BLACK’ AND 7% WITH OTHER ETHNIC BACKGROUNDS.

spread of pitches (up to e4), but with the majority similarly located to other groups around c4 (‘middle C’).

B. Children’s Comfortable Singing Ranges

Children’s comfortable singing ranges by age group were similar at the extremes, but differed in terms of the most common pitches that they shared (see Figure 2). The most common comfortable range exhibited by the youngest age group (aged 7+) was a tenth from g3 to b3. In contrast, the most common comfortable singing range for the oldest age group (aged 10+) was wider from f3 to c5. This older group comfortable range is virtually identical to that reported in a summary of Primary-aged children in the research literature almost three decades ago (namely, a3 to c5, see Welch, 1979). The main change in the intervening thirty years appears to be at the lower end of the vocal pitch range. (It is conjectured that this could be related to changes in diet and body weight as these have had the effect of increasing the size of the vocal folds (the voice source), resulting in the easier contemporary production of slightly lower vocal pitches.) However, whilst it has

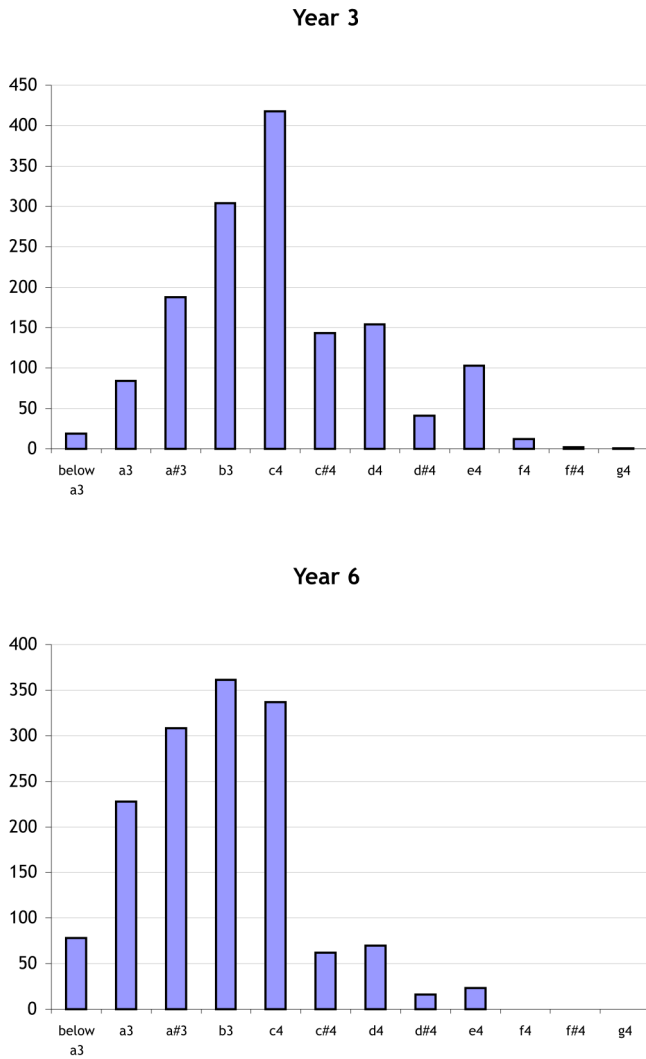


Figure 1. Children’s spoken pitch centre by age group (Year 3/aged 7+ and Year 6/aged10+)

long been recognised that there is considerable individual variety in children’s ranges, these differences in most common comfortable ranges by age group are not necessarily recognised in the available published song repertoire (e.g. Plumridge, 1972).

C. Children’s Singing Competency

There were two complimentary measures of children’s singing competency, one focused on a measure of singing voice development (Rutkowski, 1997) and the other on vocal pitch-matching development (Welch, 1998) (see footnote 4 above for details). On both measures, the mean ratings for older children (Year 6) were higher than for the younger children (Year 3). This provides evidence of an overall trend towards increased singing competency with age (see Figure 3) that, although not dramatic, is in line with findings in the previous literature (e.g. Welch 2006a).

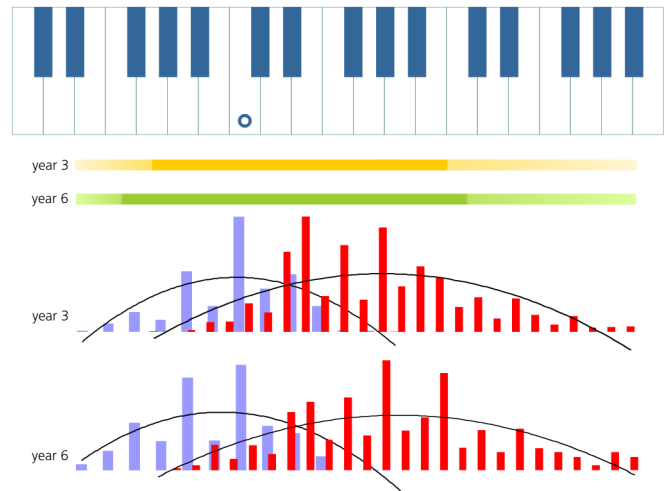


Figure 2. Children’s comfortable singing ranges for Year 3 (age 7+, n=1,469) and Year 6 (age 10+, n=1,483). The horizontal lines indicate range extremes, with the darker elements the comfortable ranges of 75% of that age group. The charts below illustrate the distribution of lower pitch extremes (blue) and upper pitch extremes (red)

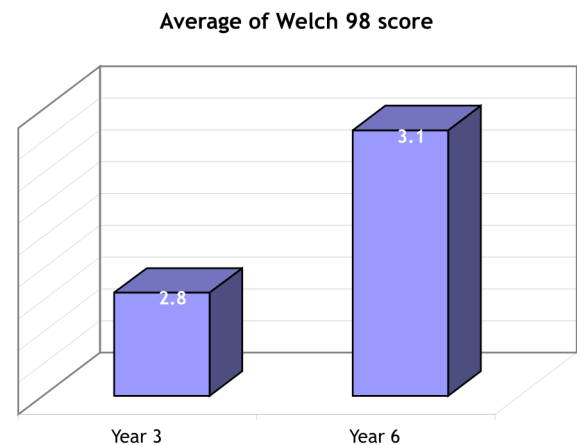
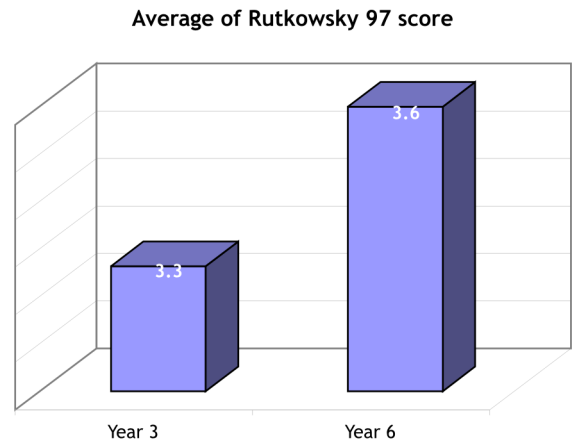


Figure 3. Ratings of children’s singing competencies by age group on the two scales (Rutkowski, 1997; Welch, 1998) Within these trends, girls tend to have slightly higher scores on each scale and within each age group.

	school	score	population (%)					% of total is FEMALE	
			Other	Asian	Black	Chinese	Mixed		White
top 15	CATHEDRAL	99.44	0.00	0.00	5.56	0.00	0.00	94.44	0.00
	YORKSHIRE	83.87	0.00	1.54	0.00	0.00	4.62	93.85	56.92
	ESSEX	83.59	0.00	0.00	0.00	0.00	0.00	100.00	35.42
	FULHAM	83.37	0.00	20.93	27.91	0.00	6.98	44.19	48.84
	YORK	83.17	0.00	0.00	0.00	0.00	3.33	96.67	43.33
	CAMBRIDGE	83.13	2.08	27.08	4.17	0.00	0.00	66.67	60.42
	CAMBRIDGE	81.96	0.00	1.89	1.89	1.89	3.77	90.57	47.17
	YORKSHIRE	80.61	0.00	3.77	0.00	0.00	7.55	88.68	43.40
	SOMERSET	80.38	0.00	2.50	0.00	0.00	0.00	97.50	47.50
	SUFFOLK	80.33	0.00	1.75	1.75	0.00	0.00	96.49	36.84
	NEWCASTLE	78.70	0.00	9.26	1.85	0.00	0.00	88.89	46.30
	ESSEX	78.24	0.00	0.00	0.00	0.00	0.00	100.00	52.94
	TOWER HAMLETS	78.07	4.17	58.33	6.25	4.17	0.00	27.08	56.25
	DISS	77.89	0.00	0.00	3.51	0.00	3.51	92.98	57.89
	MANCHESTER	77.24	0.00	5.13	2.56	0.00	7.69	84.62	46.15
bottom 15	NEWCASTLE	59.60	2.00	42.00	36.00	0.00	0.00	20.00	44.00
	DERBY	58.86	0.00	75.76	0.00	0.00	0.00	24.24	42.42
	MANCHESTER	58.39	0.00	5.45	5.45	1.82	0.00	87.27	47.27
	ESSEX	58.36	0.00	0.00	4.44	0.00	2.22	93.33	55.56
	YORK	57.60	0.00	0.00	0.00	0.00	0.00	100.00	39.58
	HEREFORD	56.62	5.88	0.00	0.00	0.00	0.00	94.12	52.94
	TOWER HAMLETS	55.88	0.00	97.73	0.00	0.00	0.00	2.27	43.18
	ESSEX	55.08	0.00	4.08	0.00	2.04	0.00	93.88	65.31
	NEWCASTLE	54.04	0.00	1.64	0.00	0.00	0.00	98.36	45.90
	LEICESTERSHIRE	54.03	0.00	0.00	0.00	0.00	0.00	100.00	66.67
	TOWER HAMLETS	54.02	0.00	95.24	4.76	0.00	0.00	0.00	52.38
	MANCHESTER	53.93	1.56	56.25	20.31	3.13	3.13	15.63	45.31
	DERBY	53.87	1.64	0.00	0.00	0.00	0.00	98.36	50.82
	GATESHEAD	49.63	0.00	0.00	5.88	0.00	0.00	94.12	35.29
	HERTFORDSHIRE	38.68	0.00	0.00	0.00	0.00	5.56	94.44	50.00

Table II

AGGREGATE RATINGS FOR CHILDREN WITHIN EACH SCHOOL. 100% POSSIBLE MAXIMUM. UPPER AND LOWER QUANTILES (30 SCHOOLS)

D. School differences

It is possible to create a picture of singing competency within a particular school by converting the individual child ratings to a percentage of the maximum possible scores across the two songs, then aggregating the rating data for all the Year 3 and Year 6 pupils. If a child achieved the highest ranking on both scales for both focus songs, this would be portrayed as a 100% overall competency ranking. Using this procedure, it is possible to rank all 76 participant schools in this baseline survey to see if there are any particular school characteristics that might provide some clues to children's observed singing competencies. An overview of the top and bottom quartiles in the scoring (the top and bottom 15 schools) reveals a wide variety of demographic components, with no particular feature more strongly represented than another (Table 2). The highest ranked school achieved 99.44%, demonstrating a very high overall level of singing competency by its pupils. As these particular participants were male cathedral choristers, previously selected at cathedral audition for their basic singing competency and then further developed in a professional performance context, we would expect such a high score. Nevertheless, the other fourteen schools in this upper quartile also had relatively high overall scores. These were all state maintained primary schools from a wide variety of geographical locations across England, embracing inner city, suburban and rural locations, a

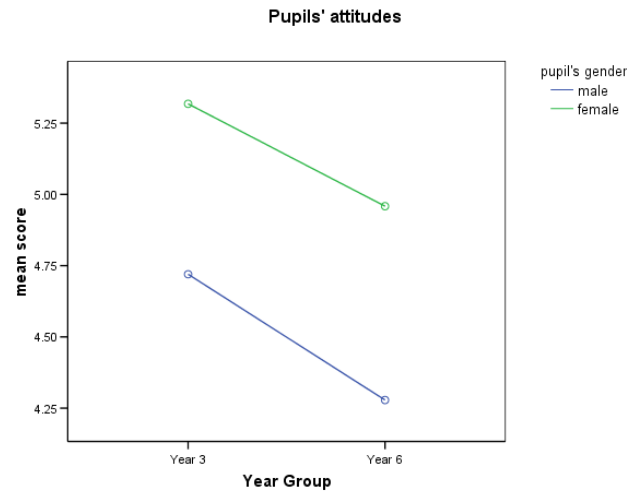


Figure 4. Mean responses of pupils concerning their attitudes to singing by sex and age group (Year 3 and Year 6)

mix of ethnic backgrounds, and with male and female participants in varied proportions. Similarly, schools in the lowest quartile demonstrated correspondingly varied pupil demographics, being often located in the same parts of the country and under the same Local Authorities as those in the upper quartile. Whilst the variability in the schools data requires further investigation, it demonstrates that children who sing competently may be found in any type of school. This implies, perhaps, that school policy and leadership may be more crucial than pupils' backgrounds and school locality in determining whether children achieve their singing potential. In this regard, the questionnaire data (below) are also illuminative.

E. Teachers' self-ratings

The teacher questionnaire data indicated that there was a slight tendency for singing self-efficacy to increase with age, with the older female teachers to regard themselves as more competent singers. Teachers tended to suggest that they were relatively confident in their knowledge of how to teach singing and of the diverse range of music available. Again, older teachers tended to rate themselves more highly in these areas. However, all teachers apart from those in the youngest age group (20-29 years) were slightly less confident about their knowledge of how children learn to sing.

F. Children's attitudes to singing

All children completed a 45-question survey of their attitudes to different aspects of singing in school, at home and elsewhere. The data analyses reveal that, on average, (i) young children (Year 3, n=1,469) were more positive about singing than older children (Year 6, n=1,483) and (ii) girls tend to be more positive about singing than boys in each age group (Figure 4).

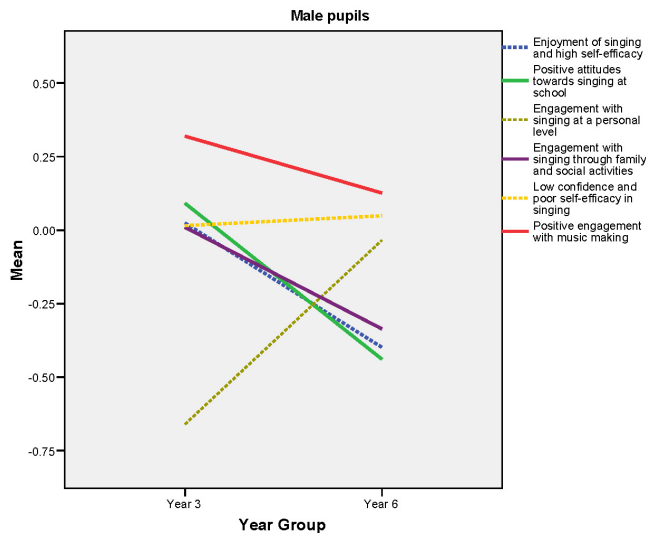


Figure 5. Six questionnaire components extracted for male participants for two age groups

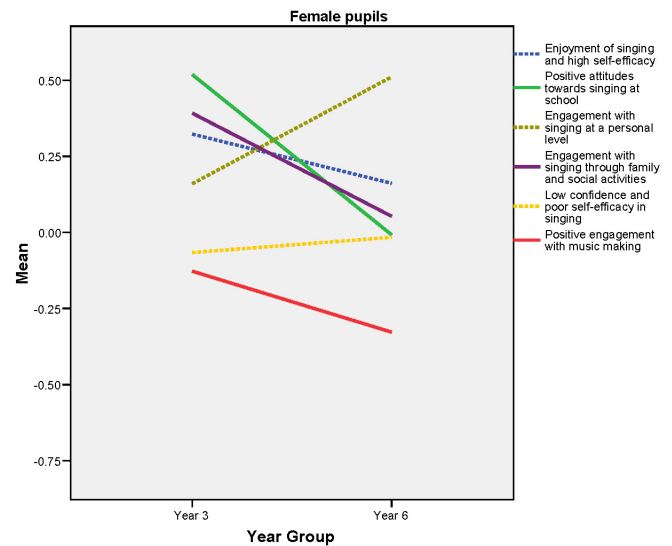


Figure 6. Six questionnaire components extracted for female participants for two age groups

This finding is somewhat surprising when set against the earlier data on children’s increasing singing competency with age. Overall, there is an inverse relationship between children’s singing development and their overall attitudes to singing. The older children are more competent singers, but generally less positive about singing. In order to explore this finding in more detail, a further statistical analysis was undertaken of children’s responses within the 45 questions to see if there were any groupings evident in the way that they answered. Six clusterings emerged, embracing (1) enjoyment of singing and high self-efficacy, (2) positive attitudes to singing at school, (3) engagement with singing at a personal level, (4) engagement with singing through family and social activities, (5) low confidence and poor self-efficacy in singing and (6) positive engagement with music making. These are displayed for the two sexes and age groups in Figure 5 and 6.

For both males and females, the majority of responses tend to be less positive for children in the oldest age group, but with a few exceptions. In general, older children of both sexes report less enjoyment and engagement with singing compared with their younger peers, whether in school or at home with the family. Similarly, in line with other research literature, these older Primary children are less positive about music making. However, they are more positive about singing at a personal level. Overall, the data suggest that, as students become older, their engagement with music changes in quality. It becomes more of a personal activity rather than social for both sexes. Older children use singing to express themselves individually at a time when other literature suggests that they are forming stronger musical identities and musical preferences (e.g. Welch, 2005).

IV. SUMMARY

In summary, this initial baseline data survey of singing in 76 Primary schools in England provides a snapshot of current behaviours and attitudes. Although further and more detail statistical analyses are necessary, there are some emergent themes:

- As children age, the data suggest that there is an increase in measured singing competency and also in their sense of singing self-efficacy.
- Nevertheless, although most children enjoy singing, there are age and sex differences.
- Younger children tend to be more positive about singing; older children are less positive.
- At each age group, girls are more positive than boys.
- As children become older, they have less positive attitudes towards singing in school, socially and in the home, but engage with singing more at a personal (private) level.
- Although boys’ answers suggest that they are less positive than girls about singing, the majority of boys appear to be intrinsically motivated to engage with singing at a personal level as they get older, suggesting that it may be something about school singing that creates increased negativity.
- Overall, the school data suggest that some schools are better at fostering singing development in their pupils. Skilled singers in such schools come from diverse backgrounds. There is no one particular demographic feature of a ‘singing’ school.
- Older teachers tend to be more comfortable about their own singing and promoting singing. But all teachers appear to be less confident about how children learn to sing.

The research is ongoing, not least in exploring how the various Sing Up interventions with children and adults

have an impact in achieving the Sing Up vision. We also hope to be able to revisit participant schools if possible to build a more composite and longitudinal perspective of how and why singing develops for particular children.

V. ACKNOWLEDGEMENTS

The research team wish to thank Maurice Walsh, Senior Vocal Tutor with Manchester Music Service; Ula Weber of Ex Cathedra; Dr Penelope Harnett, University of West of England; Dr Liz Mellor, York St John University; and Sarah Kekus and Edward Milner of The Sage Gateshead for their invaluable support in identifying participant schools. We are also extremely grateful to all the 76 schools (pupils, teachers and headteachers) for their time and commitment to participate in this baseline singing research activity.

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NOTES

¹ A pilot of the singing development assessment protocol and questionnaire surveys were undertaken in London schools in September 2007.

² See Acknowledgements.

³ Comfortable singing range, rather than singing range limits, is considered to be a more valid measure of children's customary singing behaviour with regard to song items in their local culture (Welch, 1979).

⁴ *Rutkowski (1997) Singing Voice Development Measure (SVDM)*

- 1 "Pre-singer" does not sing but chants the song text.
- 1.5 "Inconsistent Speaking Range Singer" sometimes chants, sometimes sustains tones and exhibits some sensitivity to pitch, but remains in the speaking voice range (usually a3 to c4 [note: the pitch labels have been altered to bring them in line with modern conventions in which middle C = c4, 256 Hz]).
- 2 "Speaking Range Singer" sustains tones and exhibits some sensitivity to pitch but remains in the speaking voice range (usually a3 to c4).
- 2.5 "Inconsistent Limited Range singer" waivers between speaking and singing voices and uses a limited range when in singing voice (usually up to f4).
- 3 "Limited Range Singer" exhibits consistent use of initial singing range (usually d4 to f4).
- 3.5 "Inconsistent Initial Range Singer" sometimes only exhibits use of limited singing range, but other times exhibits use of initial singing range (usually d4 to a4).
- 4 "Initial Range Singer" exhibits consistent use of initial singing range (usually d4 to a4).
- 4.5 "Inconsistent Singer" sometimes only exhibits use of initial singing range, but other times exhibits use of extended singing range (sings beyond the register lift: bb4 and above).
- 5 "Singer" exhibits use of extended singing range (sings beyond the register lift: bb4 and above).

Welch (1998) A revised model of vocal pitch-matching development (VPMD)

- "Phase 1" The words of the song appear to be the initial centre of interest rather than the melody, singing is often described as chant-like, employing a restricted pitch range and melodic phrases. In infant vocal pitch exploration, descending patterns predominate.
- "Phase 2" There is a growing awareness that vocal pitch can be a conscious process and that changes in vocal pitch are controllable. Sung melodic outline begins to follow the general (macro) contours of the target melody or key constituent phrases. Tonality is essentially phrase based. Self-invented and schematic songs borrow elements from the child's musical culture. Vocal pitch range used in song singing expands.
- "Phase 3" Melodic shape and intervals are mostly accurate, but some changes in tonality may occur, perhaps linked to inappropriate register usage. Overall, however, the number of different reference pitches is much reduced.
- "Phase 4" No significant melodic or pitch errors in relation to relatively simple songs from the singers musical culture.