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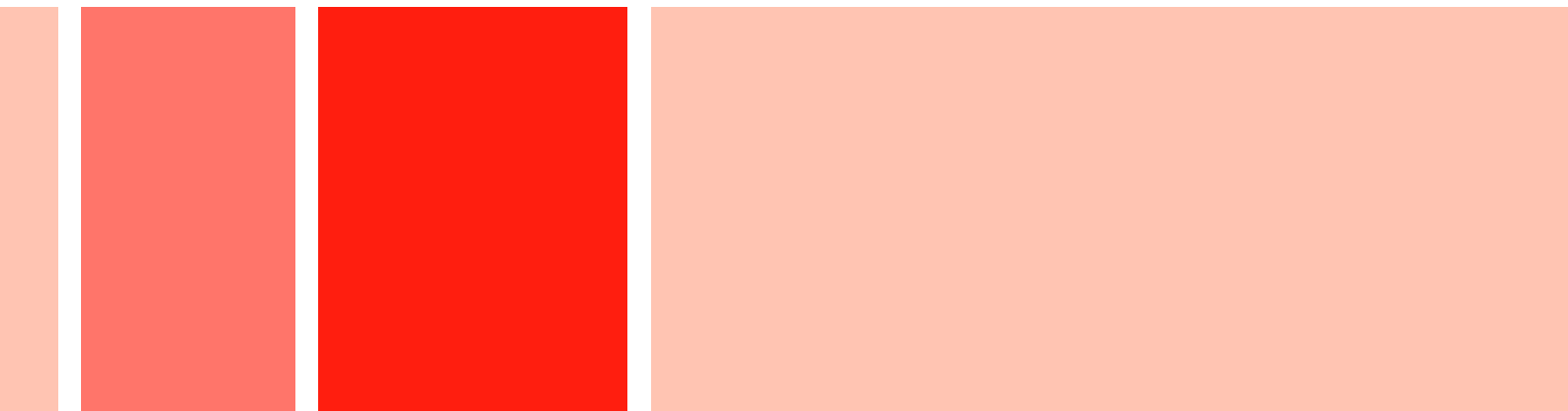
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National Survey for Wales, 2012-13 Satisfaction with education

Final report



National Survey for Wales, 2012-13

Satisfaction with education

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Views expressed in this report are those of the researcher and not necessarily those of the Welsh Government.

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Summary

Introduction

1. This report outlines and discusses analysis of the National Survey for Wales 2012-13 results on education. It explores which personal factors (such as demographics, income, qualifications, wellbeing, experience and views) and area-level factors (such as deprivation) were associated with differences in respondents':
 - satisfaction with their children's school;
 - involvement with their children's school;
 - assistance with their children's learning;
 - aspirations for their children; and
 - views on the education system.
2. It also looks at any differences found at local authority level. The analysis findings from each area of the survey are placed in the context of key research and policy developments.
3. Throughout the analysis, we simultaneously controlled for many different variables such as respondents' characteristics, experiences and opinions, and attributes of their local area. This is a powerful technique which allows us to look at the separate effect of each variable on the education results, while taking account of other factors that may affect the results.
4. For example, we found that parents who speak Welsh daily were more satisfied with primary schools when controlling for other factors such as age, qualifications, socio-economic status, etc. This means that the difference in satisfaction found between parents who speak Welsh and those who don't speak Welsh is not explained by differences between the two groups of parents in age, qualifications, socio-economic status, etc.

Key findings

Satisfaction with schools

5. Parental satisfaction with schools was high overall and only small differences were found at local authority level. Parents in one or more of the following groups were **more satisfied with primary schools**: those who lived in more educationally deprived areas; spoke Welsh daily; were more satisfied with their neighbourhood; were more satisfied with their work situation; were more satisfied with their child's wellbeing; and/or had younger children. Parents were **less satisfied with primary schools** if they lived in local authorities where a higher percentage of children achieved the expected level at Key Stage 2¹.
6. Parents in one or more of the following groups were **more satisfied with secondary schools**: those who lived in less educationally deprived areas; were more satisfied with their neighbourhood; were more satisfied with their child's wellbeing; and/or had a greater number of children.
7. These findings suggest that the interaction between socio-economic variables and satisfaction with schools is complex and further research is needed to understand it. It would also be useful to further explore the relationships between satisfaction with schools and broader factors.

Involvement with schools

8. The extent to which parents felt they were involved² with their child's school was generally high and only small differences were found at local authority level. Parents in one or more of the following groups reported that they felt **more involved with primary schools**: those who lived in urban areas; spoke Welsh daily; were more satisfied with their neighbourhood; were more satisfied with their child's wellbeing; and/or were more satisfied with the Welsh Government. Parents reported that

¹ Please note that this was not the scores of the respondents' children but an LA level variable representing the percentage of pupils achieving the expected level - Key Stage 2 (L4+) in the school year 2011-2012 (See Technical Appendix for more detail).

² Parents were asked about their involvement with their child's school; how readily they could meet with teachers, whether the school kept them informed about their child's progress, whether they were involved in decisions about their child's education and whether they were kept informed of the school's progress.

they were **less involved with primary schools** if they lived in less educationally deprived areas³ and/or had difficulty in keeping up with their financial commitments. Parents in one or more of the following groups reported that they felt **more involved with secondary schools**: those who were more satisfied with their neighbourhood; spoke Welsh daily; were more satisfied with their child's wellbeing; and/or were more satisfied with the Welsh Government. Parents felt they were **less involved with secondary schools** if they had a higher socio-economic classification and/or had difficulty in keeping up with their financial commitments.

9. Again, these findings suggest that socio-economic variables and involvement with schools is complex. Effective practice in engaging parents with schools in challenging circumstances has been a key focus of existing research.

Assistance with learning

Parental assistance with learning was generally high and was similar across local authorities. Parents in one or more of the following groups **assisted more with basic learning**⁴: those who had older children; had a university degree; and/or had fewer children in the household. Parents in one or more of the following groups **assisted less with basic learning**: those who were male; had difficulty keeping up with their financial commitments; and/or were more satisfied with their neighbourhood.

10. Parents in one or more of the following groups **assisted more with advanced learning**⁵: those who had younger children; were younger themselves; lived in less deprived areas; had a higher socio-economic

³ This is measured by the Welsh Index of Multiple Deprivation Education Index measured at the LSOA level. This measure takes into account average attainment at Key Stages 2, 3, and 4; percentage not entering higher education; the percentage of adults with no qualifications; and absence rates in primary and secondary schools. For more information please see <http://wales.gov.uk/docs/statistics/2011/110831wimd11summaryen.pdf>

⁴ Parents of children aged 3-7 were asked about basic learning. Basic learning was defined as looking at books or reading stories to your child; helping him/her to recognise or learn about letters, numbers and shapes; helping him/her to read or write; and helping him/her with school work.

⁵ Parents of children aged 8-17 were asked about advanced learning. Advanced learning was defined as helping your child to read or consult books, magazines or newspapers; helping him/her to look up or consult information on a computer or the internet; and supporting him/her with school work.

classification; had higher life satisfaction; were more satisfied with their neighbourhood; and/or lived in local authorities which spent more on education.

11. The findings were largely in line with existing research into the relationship between assistance with learning and socio-economic status, parental education, parental gender, and children's age.

Aspirations for children

12. Most parents across Wales wanted their children to stay in full-time education after the age of 16. Parents were **more likely to want their children to stay in full-time education after the age of 16** if their children were older. Parents who had no formal qualifications and/or lived in local authorities where a higher percentage of pupils achieved the level 2 threshold at GCSE were **less likely to want their children to stay in full-time education after the age of 16**.
13. These findings show some support for existing research. However, the factors which influence parents' aspirations for their children are complex and multiple. The culture within families is important in influencing children's aspirations.

Views on the education system

14. Respondents across Wales generally had positive views of the education system. Respondents in one or more of the following groups had **more positive views of the education system**: those who were younger; had higher life satisfaction; were more satisfied with their neighbourhood; and/or were more satisfied with the Welsh Government. Respondents had **less positive views of the education system** if they had a university degree and/or had a higher socio-economic classification.

Conclusion

15. The analysis is useful in showing which factors are statistically associated with the differences in National Survey response patterns. However, in

several cases⁶, the analysis outcomes were not in line with existing research. In addition, research into some of the aspects covered by the survey questions is scarce. This highlights the need for further robust, high-quality research; we cannot attribute causality on the basis of the findings of the analysis. However, the analysis does highlight some useful possibilities for research which is needed to strengthen the evidence base for future policy-making.

16. While there were differences in opinions and experiences across the 22 local authorities in Wales, these were relatively small. Once differences in the characteristics of the respondents were taken into account the differences between local authorities reduced and were no longer significant, meaning that differences between local authorities were due to differences in the characteristics of their populations. This was the case for all but three of the outcomes.

⁶ Satisfaction with school (some socio-economic variables, attainment and child's wellbeing); involvement with school (some socio-economic variables); and aspirations for children (child's age).

1 Introduction

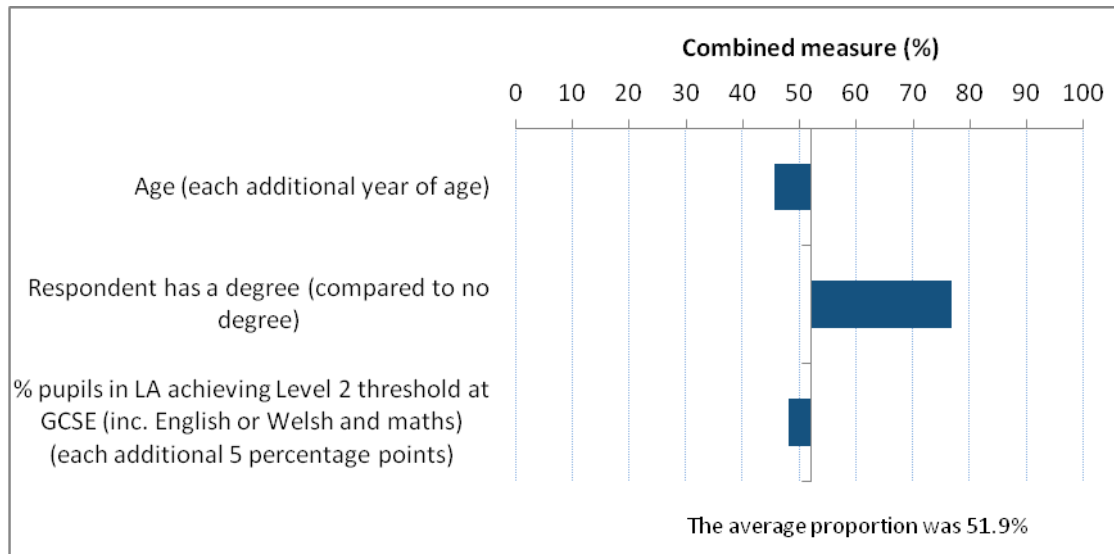
- 1.1 The National Survey for Wales⁷ is a large-scale annual survey of 14,500 people across Wales which has been running since 2012. Around 660 randomly-selected people in each of Wales' 22 local authorities complete the survey face-to-face in their own homes.
- 1.2 The main purpose of the survey is to find out what adults in Wales think about issues which are important to them and their neighbourhood. The survey covers a range of topics including wellbeing, local area, the Welsh language, education, health, transport and local authority services. The Welsh Government uses the survey data to inform its decision-making; to monitor trends and changes over time; to identify aspects of good practice for wider roll-out; and to identify areas or groups that need intensive support in order to target resources as effectively as possible.
- 1.3 The Welsh Government commissioned the National Foundation for Educational Research to analyse the National Survey for Wales 2012-13 results on education. The analysis identifies and explores the relationships between individual, area and local authority level characteristics. It focuses on parents':
 - satisfaction with their child's primary and secondary school
 - engagement with their child's primary and secondary school
 - assistance with their child's learning
 - aspirations for their child to remain in education at age 16, and
 - views of the state of education in Wales.
- 1.4 After discussing the analysis outcomes, we link them to current developments in research and policy. This places the outcomes in context and outlines their implications for policy making.
- 1.5 The analysis in this report uses regression models to explore whether relationships exist between each of the outcomes listed above and a number of potentially related background or explanatory variables. Some

⁷ Further information about the National Survey for Wales is available at www.wales.gov.uk/nationalsurvey

of the outcomes are single questions from the survey. Others are comprised of a number of survey questions. Factor analysis was used to combine a number of individual questions which are connected or highly correlated, so that we create a single measure which is more robust and comprehensive.

- 1.6 All regression models were multilevel and so took account of the inherent structure of the data with respondents clustered within local authorities. This allowed us to determine the extent to which local authorities differed from each other.
- 1.7 In each part of the analysis, we controlled for various factors or variables, such as respondents' demographics, experiences and opinions and attributes of their local area. From this collection of factors we determine which ones are related to each outcome, and which are not. Only factors that are related or associated are presented. The complete list of the variables used is given in the appendix.
- 1.8 Controlling for the factors means we were able to look at the effect of each factor on the education results separately. It means we are able to make comparisons on a 'like for like' basis, taking into account the differences that exist between different groups.
- 1.9 For example, we found that parents who speak Welsh daily were more satisfied with primary schools when controlling for other factors such as age, qualifications, socio-economic status, etc. This means that the difference in satisfaction found between parents who speak Welsh and those who don't speak Welsh is not explained by differences between the two groups of parents in age, qualifications, socio-economic status, etc.
- 1.10 For each outcome we present the results of the analysis with a chart.

Interpreting the charts



Please note this chart is a fictitious example and does not contain real data.

Each chart shows the average response. The average response is shown as a vertical line. Sometimes the average response is the proportion or percentage of people giving a particular answer, say 'strongly agree' (as in the example above – 51.9%) and sometimes it is the average value of an opinion rating.

The charts also show where people with different characteristics tend to have responses that are different from the average. The different characteristics are listed down the left hand side, and the amount by which their responses differ from the average is shown by blue bars.

Where the background characteristics are categories, the charts show the responses of people in that category compared to people in another category; so women compared to men, those who hold a university degree compared to those who don't, people who speak Welsh on a daily basis compared to those who do not. So for example, if women are more likely to give a particular response, for example to say that they want their child to continue in education post 16, the blue bar will indicate the proportion of women agreeing, compared to the proportion of men who agree with the statement (see example chart above).

Where the background characteristic is a measure, say age, or local authority spending on education, then the chart compares the responses of people with different values of the measure. The units are given on the chart. So, for example, if respondents of different ages give different responses, the chart compares the responses of people of different ages, the comparison being 'each additional year' (see example chart above). So the chart shows the average response of a respondent of a certain age compared to a respondent a year younger; so the average response of 25 year olds compared to 24 year olds, and 26 year olds compared to 25 year olds, and 38 year olds compared to 37 year olds, and so on. For each additional increment of age (measured in years) there is an additional increment in average response (in satisfaction rating or opinion).

For Welsh Index of Multiple Deprivation we compare the opinions of people of different rankings on the scale, so compare someone ranked at 20% on the scale to someone ranked 10%, and compare someone ranked 40% to someone ranked 30%, etc. For KS2 and GCSE results we compare people from LAs with different proportions achieving the expected level, so compare someone in a LA with 55% pupils achieving the level compared to someone from an LA with only 50% achieving the level, and compare someone from a LA with 60% achieving compared to people from an LA with 55% achieving, and so on (see example chart above).

It should be noted that the relationships identified are correlations or associations. The analysis does not show causal relationships. For example, people who speak Welsh on a daily basis hold some different opinions to those who don't. However, speaking Welsh on a daily basis doesn't necessarily cause a change in opinion. It is not possible to change the opinion of the population by changing the percentage of people who speak Welsh. This limit with regard to causality should be borne in mind when interpreting the results. It could also be that some of the differences we see e.g. difficulties paying bills, could be due to other factors not included in the analysis, e.g. local employment rates. These differences have not been explored here.⁸

⁸ Further details of both of the regression and the factor analyses are given in the appendix.

2 Satisfaction with schools

Key findings

After controlling for a range of factors such as gender, age of parent and age of child, educational background and socio-economic background, we found that:

- Parents were more likely to be satisfied with their child's primary school if they spoke Welsh daily; lived in more educationally deprived areas⁹; were more satisfied with their neighbourhood; were more satisfied with their work situation; were more satisfied with their child's wellbeing; or had younger children.
- Parents were less likely to be satisfied with their child's primary school if they lived in local authorities where a relatively high proportion of pupils reached the expected level at Key Stage 2.
- Parents were more likely to be satisfied with their child's secondary school if they lived in less educationally deprived areas; were more satisfied with their neighbourhood; had a greater number of children; or were more satisfied with their child's wellbeing.
- Parental satisfaction with schools was broadly similar across local authorities.
- The relationship between socio-economic status and parental satisfaction with schools is complex and warrants further investigation.
- It would be useful to explore the relationships identified further, possibly through a new survey.

How was satisfaction with schools measured?

In the National Survey¹⁰, parents and legal guardians of children who currently attended a local authority-funded primary or secondary

⁹ This is measured by the Welsh Index of Multiple Deprivation Education Index measured at the LSOA level. This measure takes into account average attainment at Key Stages 2,3, and 4; percentage not entering higher education; the percentage of adults with no qualifications; and absence rates in primary and secondary schools. For more information please see <http://wales.gov.uk/docs/statistics/2011/110831wimd11summaryen.pdf>

¹⁰ A copy of the 2012-13 National Survey for Wales questionnaire is available at <http://wales.gov.uk/docs/caecd/research/120130nswquestionnaire2012-2013en.pdf>. The 2012-13 headline results can be found at <http://wales.gov.uk/docs/statistics/2013/130530-national-survey-wales-2012-13-headline-results-en.pdf>.

school¹¹ were asked: 'Thinking about the last 12 months, how satisfied or dissatisfied are you with [name's] primary or secondary school?'

Respondents were asked to rate their satisfaction using the following five point scale:

1. Very satisfied
2. Fairly satisfied
3. Neither satisfied nor dissatisfied
4. Fairly dissatisfied
5. Very dissatisfied.

- 2.1 1,900 parents of children at primary school (aged 4-12) responded to this question, and 1,500 parents of children at secondary school (aged 11-19) responded to this question. Parents of children at primary and secondary school were asked these questions separately. This was in light of research which shows that differences tend to exist in parental satisfaction with primary and secondary schools (e.g. Ofsted, 2006).
- 2.2 The National Survey results showed that, overall, most parents were satisfied with their child's school, although they were slightly more satisfied with primary than secondary schools. 65% of parents were 'very satisfied' with their children's primary schools, and 27% were 'fairly satisfied'. In comparison, 50% of parents were very satisfied with their children's secondary schools, and 33% were fairly satisfied.
- 2.3 Initial analysis of the Survey results revealed some differences between parents' responses depending on where in Wales they lived¹²; how wealthy they were; and their level of education. We used regression analyses to explore these relationships further, running separate models for respondents with children in primary and secondary schools.

¹¹ If parents or guardians had more than one child in the household who was aged 4-19, interviewers randomly selected one of their children for them to think about when answering this question.

¹² Initial analysis of the Survey results looked at differences in parental satisfaction with their child's primary and secondary school by urban / rural area; region (public services footprint); ACORN classification; WIMD deprivation score; and WIMD education score.

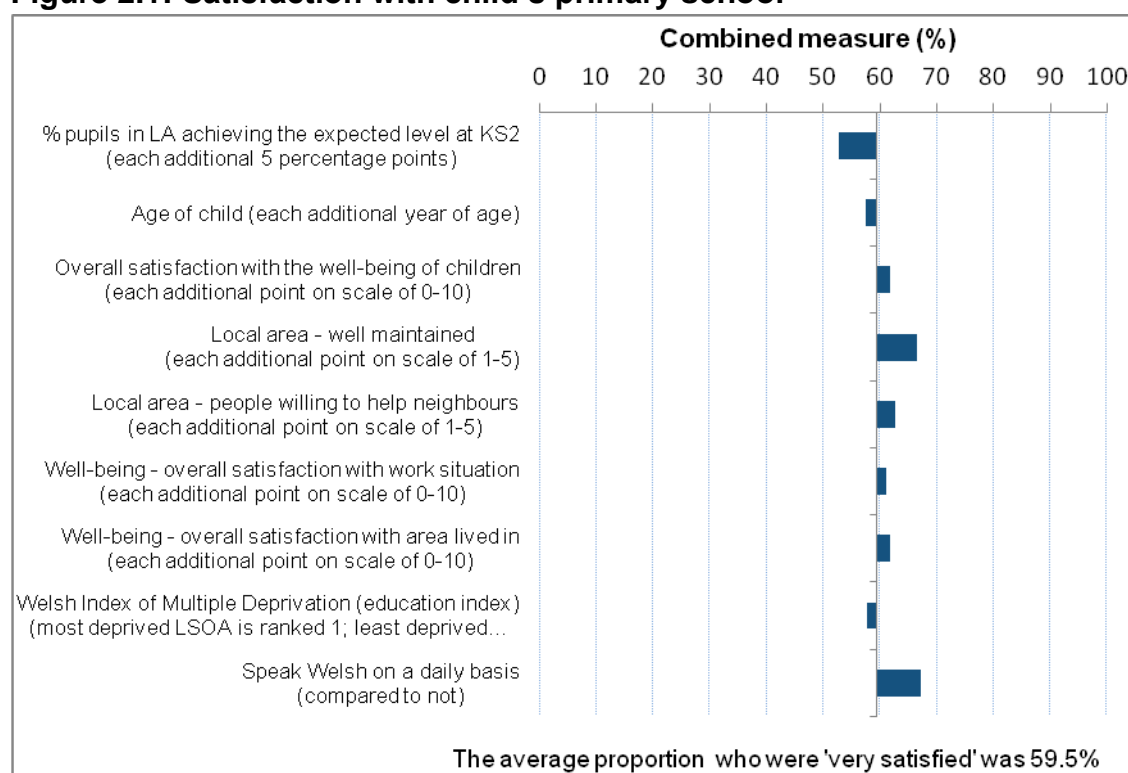
What underlies satisfaction with primary schools?

2.4 Controlling for a range of factors, we found that in general parents are more likely to be satisfied with their child's primary school if they fall in to one of the following groups:

- speak Welsh daily
- live in an area that is more educationally deprived
- are more satisfied with the area where they live
- are more satisfied with their work situation
- think people in their local area are willing to help their neighbours
- think the area where they live is well maintained
- are more satisfied with their children's well-being
- their child (who they are responding about) is younger
- live in a local authority with a relatively low proportion of pupils reaching the expected level at Key Stage 2.

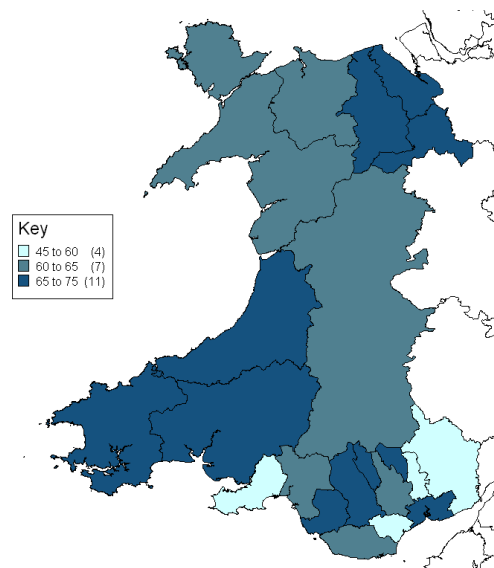
2.5 The chart below illustrates these results. It shows the average proportion (as a percentage) of parents who were 'very satisfied' with their child's primary school and also the proportion of respondents with each particular characteristic who are likely to report they were 'very satisfied'.

Figure 2.1: Satisfaction with child's primary school



- 2.6 There was little variation in the satisfaction ratings of parents of primary school children, with the vast majority of respondents responding that they were either 'satisfied' or 'very satisfied'.
- 2.7 The percentage of parents in each local authority who said that they were 'very satisfied' with their child's primary school is shown in the map below, and ranges from 45% to 75% with the majority over 60%. After taking account of the differences in respondents' characteristics that were shown to be associated with satisfaction, there are no real differences between local authorities. This means that the differences found are due to differences in the characteristics of the local authorities' populations.

Figure 2.2: Percentage of parents in each local authority saying they were 'very satisfied' with their child's primary school



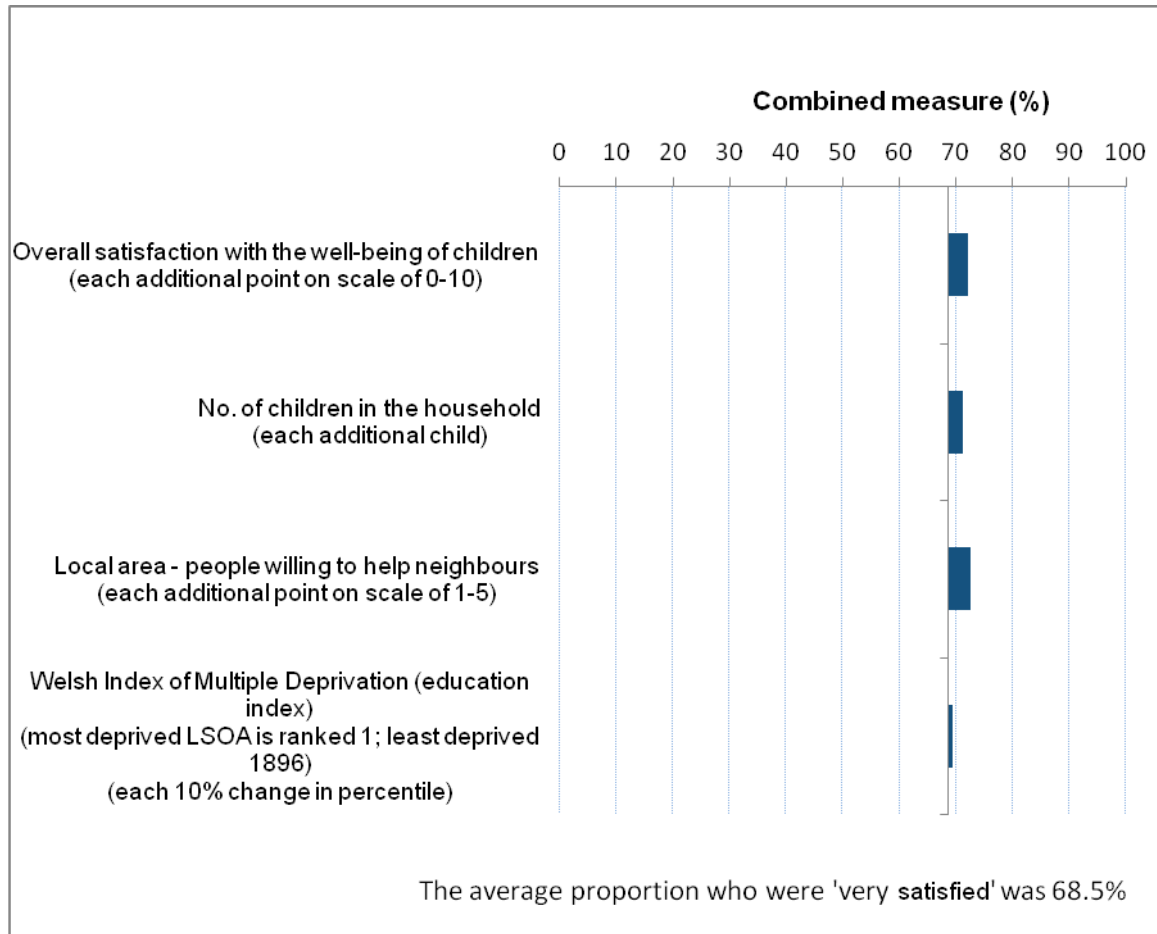
What underlies satisfaction with secondary schools?

- 2.8 Controlling for a range of factors, we found that on average parents are more likely to be satisfied with their child's secondary school if they:
- lived in an area that is less educationally deprived
 - thought that people in their local area were willing to help their neighbours
 - had more children in their household

- were satisfied with their children’s well-being.

2.9 The chart below illustrates these results. It shows the average proportion (as a percentage) of parents who were ‘very satisfied’ with their child’s secondary school and how these proportions change with changes in each of the background variables.

Figure 2.3: Satisfaction with child’s secondary school

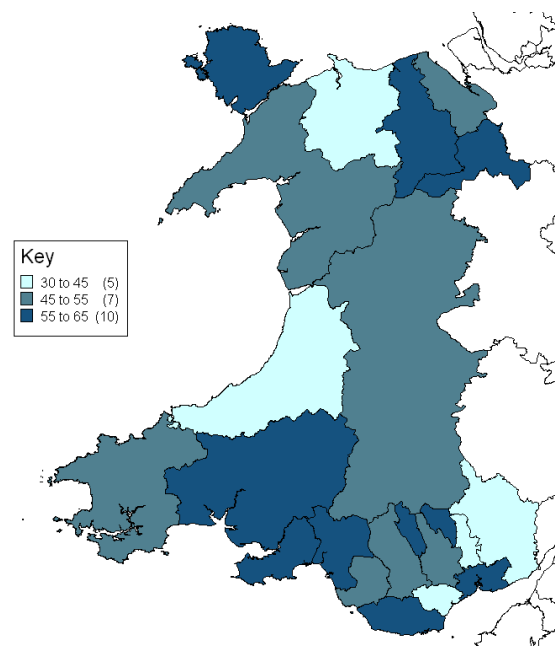


2.10 As with parents of primary school children, the majority of parents of secondary school children also rated their satisfaction with their child’s secondary school highly. There is a greater degree of variation in ratings for each local authority for secondary schools than for primary schools with the percentage of parents in each local authority being ‘very satisfied’ with their child’s secondary school ranging from 30% to 65%.

2.11 As for primary schools, after taking account of the differences in respondents’ characteristics that were shown to be associated with satisfaction, the small differences that originally existed between local

authorities have now become even smaller. This indicates that most of the difference between local authorities is due to differences in the characteristics of their populations. However, although small, this variation between local authorities is still statistically significant. So, either these are genuine differences or there are other characteristics that have not been measured and accounted for in the survey.

Figure 2.4: Percentage of parents in each local authority saying they were ‘very satisfied’ with their child’s secondary school



Key messages from research and implications for policy making

Overall satisfaction with schools

2.12 Overall, respondents reported high levels of satisfaction with the primary and secondary schools their child attended. The outcomes of the analysis show that parental satisfaction with schools is high across Wales, which is commendable. The analysis outcomes are useful in helping us to understand the factors which underlie parental satisfaction with school. They enable us to highlight some implications for policy, and to make suggestions for further research which is needed to permit more insight into why the identified relationships exist – this would strengthen

the evidence base for subsequent policy-making. However, it should be borne in mind that this analysis only highlights statistical associations – it cannot allow us to say definitively why these associations were found.

2.13 At primary level, a number of variables usually associated with higher socio-economic status together with other variables usually associated with lower socio-economic status were attributed to parental satisfaction with school. These mixed outcomes are difficult to interpret. Parents in one or more of the following groups were more satisfied with their child's primary school: living in more educationally deprived areas; spoke Welsh daily; were more satisfied with their neighbourhood; were more satisfied with their work; were more satisfied with their child's well-being; and were responding about younger children. We found that parents who lived in local authorities where a higher percentage of children typically achieved the expected level at Key Stage 2 tended to be less satisfied with their child's primary school.

2.14 At secondary level, the findings suggest that parents with a higher socio-economic status were more satisfied with school. Subject to further research (as outlined below), this could highlight that there is a need to target policy and practice at improving satisfaction with school among parents of lower socio-economic status.

2.15 Parents in one or more of the following groups were more satisfied with secondary schools: those who lived in less educationally deprived areas; were more satisfied with their neighbourhood; were more satisfied with their child's wellbeing; or had a greater number of children.

2.16 Parents' responses were very similar across local authorities in Wales in relation to their satisfaction with primary and secondary schools. Slightly more variation existed between local authorities in relation to secondary schools, but these differences were small.

2.17 The analysis suggests that the interaction between socio-economic status-related variables and parental satisfaction with their child's primary and secondary schools is complex. Parents living in areas of higher educational deprivation (usually associated with lower socio-

economic status) were typically more satisfied with their children's primary schools. This relationship reversed among parents of secondary school children, however: those living in less educationally deprived areas and parents with more children (factors which are usually statistically associated with higher socio-economic status) were *more* satisfied with their children's schools. In addition, parents of secondary school children who were more satisfied with their neighbours and neighbourhood (which is usually statistically associated with higher socio-economic status) were more satisfied with their child's school. At primary level, parents who were happier with their work situation (possibly associated with higher socio-economic status) were also more satisfied with their child's school.

- 2.18 Speaking Welsh on a daily basis was significantly associated with higher parental satisfaction with primary schools. It is not known whether parents expressed these opinions in relation to Welsh or English medium schools, because this information is not collected in the survey.
- 2.19 Our analysis found that parents who reported higher levels of satisfaction with their child's wellbeing were more satisfied with their primary and secondary schools. This suggests that parents in Wales place a high value on their children's wellbeing and may consider schools to be an important source of influence on this.
- 2.20 In tandem with the above finding, we also identified that parents living in local authorities where attainment is higher at Key Stage 2 tend to be less satisfied with their child's primary school. These two findings oppose existing research. Research shows that school performance (as measured by test scores) is strongly linked to parent's satisfaction with school, whereas children's wellbeing is not (Gibbons and Silva, 2009). It should be borne in mind, however, that Gibbons and Silva used attainment measured at the individual school level and controlled for a range of school, individual and neighbourhood characteristics, whereas our research used a local authority level measure of average attainment and took fewer factors into account.

2.21 Looking at the variables which we found to be significant, the findings suggest that the factors which influence parental satisfaction are clearer at secondary level than primary level, particularly those which are related to socio-economic status.

The evidence in context

2.22 The 2012 *Growing Up in Scotland* study revealed a similarly complex relationship between socio-economic status-related variables and parental satisfaction with the primary school attended by their children. In that study, no significant relationship was found between deprivation or income and the percentage of parents reporting that they were 'very satisfied' with their child's primary school. However, other characteristics associated with lower socio-economic status (living in social housing and being unemployed) were linked with lower satisfaction. The relationship between parents' qualification level (statistically associated with higher socio-economic status) and their satisfaction with their child's primary school was unclear (Scottish Government, 2012).

2.23 Estyn, in their 2012-13 annual report, highlighted some good practices of schools in deprived areas which were found to have 'outstanding' leadership and teaching. These schools tried their best to ensure that there were systems and procedures in place to address the needs of disadvantaged pupils and parents. These included sensitive deployment of support staff (who understand the challenges faced by pupils and parents), and working effectively with outside agencies to broker targeted support (Estyn, 2014). While not formally investigated, it could be assumed that effective practices such as this may have a positive influence on parental satisfaction.

2.24 The findings from our analysis and those from the *Growing Up in Scotland* study reflect the need to clarify how socio-economic status-related variables affect parental satisfaction with their children's schools.

2.25 It was also interesting that we found parental satisfaction with children's wellbeing to be positively associated with parental satisfaction with

school, and attainment (at local authority level) to be negatively associated, when existing research has established these relationships in the opposite direction. This could suggest that policy and initiatives which target educational and wider wellbeing outcomes should be considered together in order to emphasise the relationships between, and importance of, all wellbeing outcomes. Egan (2013) makes a similar suggestion in his review of student, community and family interventions in Wales: 'Until recently, more research had been carried out on learning- and teaching-focused interventions...than on student-, family-, and community-focused interventions...This *Viewpoint* recommends that future policy initiatives in the Welsh education system should combine both approaches, with a particular emphasis on programmes that focus on parental involvement, extra-curricular activities and mentoring' (Egan, 2013, p3).

Further research

- 2.26 Parental satisfaction with schools across Wales could be explored through a standardised, bilingual questionnaire. Including specific questions would provide a basis to investigate any differences and their relationship with the individual-level and area-level factors we identified as important (alongside additional aspects to provide a rounded understanding). The questionnaire could also be used to gather parental opinions on the other education aspects focused on by the National Survey and covered in this report, namely engagement with schools, assistance with learning, aspirations for children, and views on the education system in Wales.
- 2.27 National-level data on parental satisfaction with special schools or Pupil Referral Units (PRUs) attended by their children is currently not collected in Wales; the National Survey only asks parents about their satisfaction with local authority-funded primary and secondary schools. The Welsh Government is committed to providing an inclusive education which meets the needs of all children, and is currently making changes to existing systems for supporting and safeguarding vulnerable children or those with particular learning needs. As the children who attend these

establishments have a wide range of learning needs which may require intensive specialist support, it is important that we also understand the factors which influence parental satisfaction with special schools and PRUs.

- 2.28 If the Welsh Government chooses to develop the standardised questionnaire as we suggest, they should seek advice from specialist agencies with specific knowledge and expertise in physical and psychological disabilities and social, emotional and behavioural difficulties. This would ensure that questions could capture the unique perspectives of parents with children attending special schools and PRUs in the same way as the current questions do of parents with children attending mainstream primary and secondary schools. However, due to the relatively small number of special schools in Wales (and the possibility that response rates to a parental questionnaire could be low (and/or biased depending how it was sampled) such a questionnaire may not elicit all the unique perspectives of parents of special school children. The same would be the case in relation to PRUs.
- 2.29 Data from the questionnaire should be analysed in depth using techniques such as regression analyses which show the strength of the relationships between variables of interest. The analysis would build on the outcomes from our analysis, allowing further insight into the factors which influence satisfaction with school which could then be used to shape policy and practice across Wales.
- 2.30 In addition, examples of what constitutes effective and less effective practice in promoting parental satisfaction with schools could be extracted from the questionnaire's open response data. This could then be shared with schools across Wales in the form of a report, guidance document or toolkit in order to maintain high levels of parental satisfaction with school and address any shortcomings.
- 2.31 It would be important for the questionnaire to include open response as well as closed response questions to give parents the opportunity to

expand on their answers, providing qualitative data which adds depth and meaning.

2.32 Such a questionnaire should be developed by a specialist organisation and should be implemented separately from the Estyn inspection cycle so that it is independent and objective.

3 Involvement with schools

Key findings

Overall, parents reported positive experiences of involvement with their children's primary and secondary schools. However, parents seemed to be slightly less involved with secondary schools than primary schools.

After controlling for a range of factors such as gender, age of parent and age of child, educational background and socio-economic status, we found that:

- Parents felt they were more involved with their child's primary schools if they lived in urban areas; spoke Welsh daily; were more satisfied with their neighbourhood; were more satisfied with their child's wellbeing; or were more satisfied with the Welsh Government.
- Parents felt they were less involved with their child's primary schools if they lived in less educationally deprived areas; or had difficulty keeping up with their financial commitments.
- Parents felt they were more involved with their child's secondary schools if they were more satisfied with their neighbourhood; spoke Welsh daily; were more satisfied with their child's wellbeing; or were more satisfied with the Welsh Government.
- Parents were likely to feel less involved with their child's secondary school if they were in a higher socio-economic group; or had difficulty keeping up with their financial commitments.
- Parent's experiences of involvement with schools were very similar across Wales' local authorities.
- The relationship between involvement with schools and socio-economic status is complex, although existing research has focused on identifying effective practice for schools in engaging parents living in deprived areas of Wales.
- Schools should consider the barriers to involvement that parents may face and should tailor their communication with them in line with their needs and preferences.

How was involvement with schools measured?

- 3.1 In the National Survey¹³, parents and legal guardians of children who currently attended a local authority-funded primary or secondary school¹⁴ were asked:
- 3.2 'To what extent do you agree or disagree with each of the following statements about your overall experience of [name]'s primary or secondary school?
- When I've wanted to meet with [name]'s teachers I have been able to meet with them within a reasonable period of time.
 - I'm kept informed as much as I want to be about [name]'s progress, for example, through parents' evenings or school reports.
 - I'm involved as much as I want to be in decisions about [name]'s education.
- 3.3 Respondents were asked to rate their agreement on the following five point scale:
1. Strongly agree
 2. Tend to agree
 3. Neither agree nor disagree
 4. Tend to disagree
 5. Strongly disagree.
- 3.4 Respondents were also asked to answer 'yes' or 'no' to the following question:
- 'Do you feel you are kept informed about the performance of [name]'s primary or secondary school?'
- 3.5 Parents of children at primary and secondary school were asked these questions separately. This was in light of research which shows that parents tend to engage differently with primary and secondary schools (e.g. Ofsted, 2011, cited in Grayson, 2013). 1,900 parents of children at

¹³ A copy of the 2012-13 National Survey for Wales questionnaire is available at <http://wales.gov.uk/docs/caecd/research/120130nswquestionnaire2012-2013en.pdf>. The National Survey's headline results can be found at <http://wales.gov.uk/docs/statistics/2013/130530-national-survey-wales-2012-13-headline-results-en.pdf>.

¹⁴ If parents or guardians had more than one child in the household who was aged 4-19, one of their children was randomly selected for them to think about when answering this question.

primary school (aged 4-12) and 1,500 parents of children at secondary school (aged 11-19) responded to each of these questions.

- 3.6 The National Survey results showed that most parents of children at primary and secondary schools agreed¹⁵ that they were able to meet with their child's teacher within a reasonable period of time (96% of primary school parents and 85% of secondary school parents); were kept informed as much as they wanted to about their child's progress (92% of primary school parents and 86% of secondary school parents); were involved as much as they wanted to be in decisions about their child's education (87% of primary school parents and 79% of secondary school parents); and were kept informed about the performance of their child's school (86% of primary school parents and 81% of secondary school parents).
- 3.7 The initial survey results showed that some differences existed between the responses of primary school and secondary school parents. To explore these differences further, we firstly scored the responses to these questions with +2 for strongly agree, 0 for neither and -2 for strongly disagree and then combined them using factor analysis¹⁶ to create a measure of the level to which parents felt they were involved with their child's school.
- 3.8 We then used regression analyses to explore which personal factors (such as demographics, income, qualifications, wellbeing, experience and views) and area-level factors (such as deprivation) were most closely associated with any differences in the response patterns to these questions, running separate models for the primary and secondary sector.

¹⁵ 'Agree' is defined as those who said 'strongly agree' and 'tend to agree' for the first three questions, and as a 'yes' response for the fourth question.

¹⁶ Please see Technical Appendix for further explanation of this technique.

Modelling involvement with schools

Involvement with primary schools

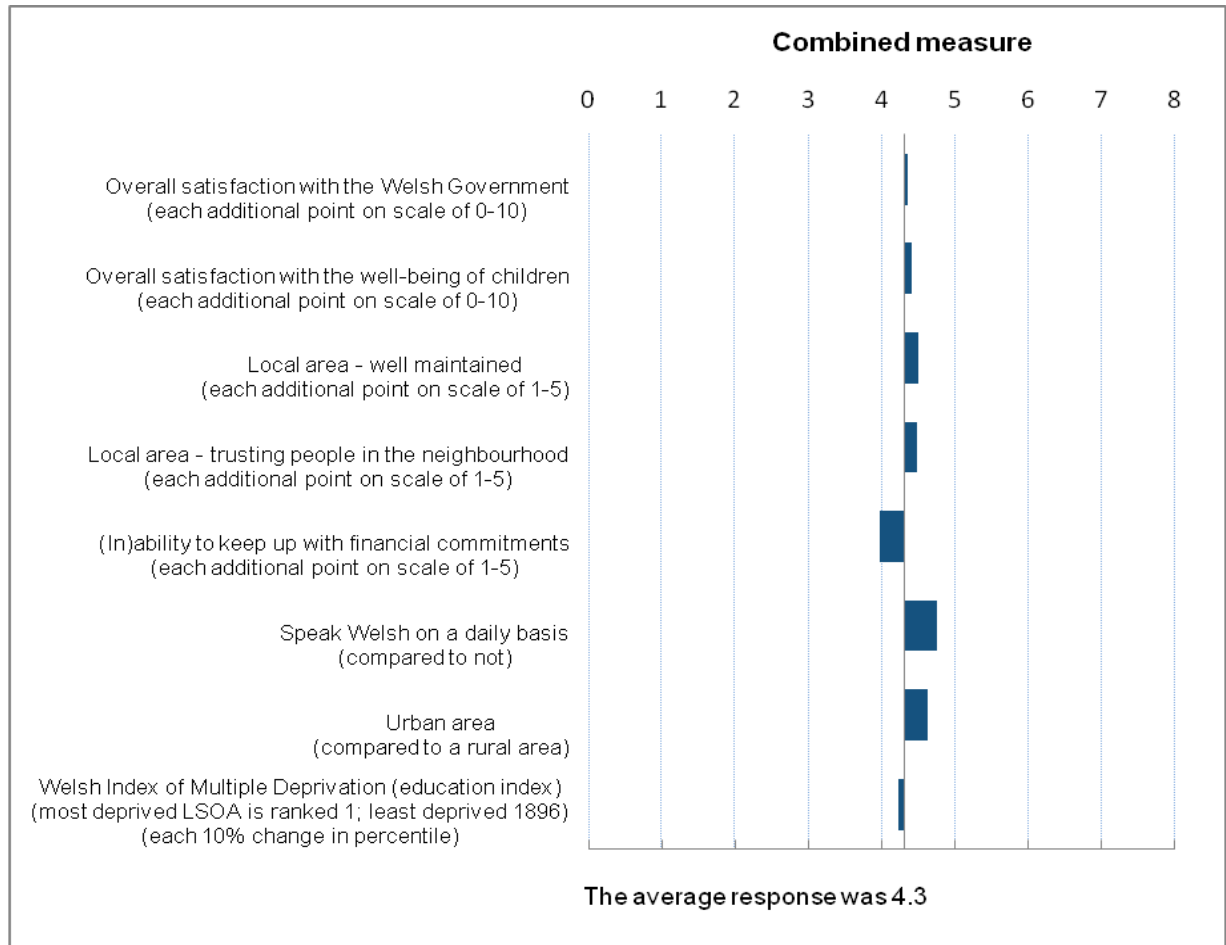
3.9 The relationship between parents' feelings of involvement with their child's primary school and the set background variables¹⁷ were modelled. We found, after controlling for a range of factors, that parents were likely to feel more involved with their child's primary school if they:

- lived in an area that was more educationally deprived
- lived in an urban area
- spoke Welsh on a daily basis
- reported that they didn't have difficulties keeping up with bills and credit commitments
- thought that they could trust people in their neighbourhood
- thought that their neighbourhood was well maintained
- had higher levels of satisfaction with the well-being of their children
- had higher levels of satisfaction overall with the Welsh Government.

3.10 The chart below indicates the size of these relationships. It shows the average level of reported involvement and how much this changes for different values of each of the background variables.

¹⁷ A list of all of the set variables is presented in the technical appendix.

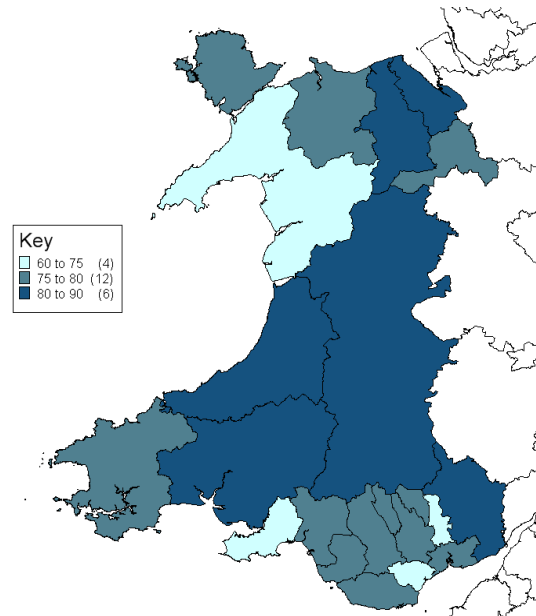
Figure 3.1: Involvement with child's primary school



3.11 The level of reported involvement with primary schools was generally high with the majority of parents responding positively, agreeing with or saying yes to all four statements. The map below shows the percentage of parents in each local authority who agreed with or said yes to all four statements, which varies from 60% to 90%, with the majority of local authorities clustered around 80%. These small differences between local authorities are reduced further after taking account of differences in the characteristics of respondents who record involvement with primary schools. However, the variations between them are still statistically significant. This means that most of the apparent differences between local authorities are due to differences in the characteristics of their populations but that there are still small differences between local authorities that remain unaccounted for. So, either these are genuine

differences or there are other characteristics that have not been measured and accounted for in the survey.

Figure 3.2 Percentage of parents in each local authority agreeing to all four statements about involvement with their child's primary school



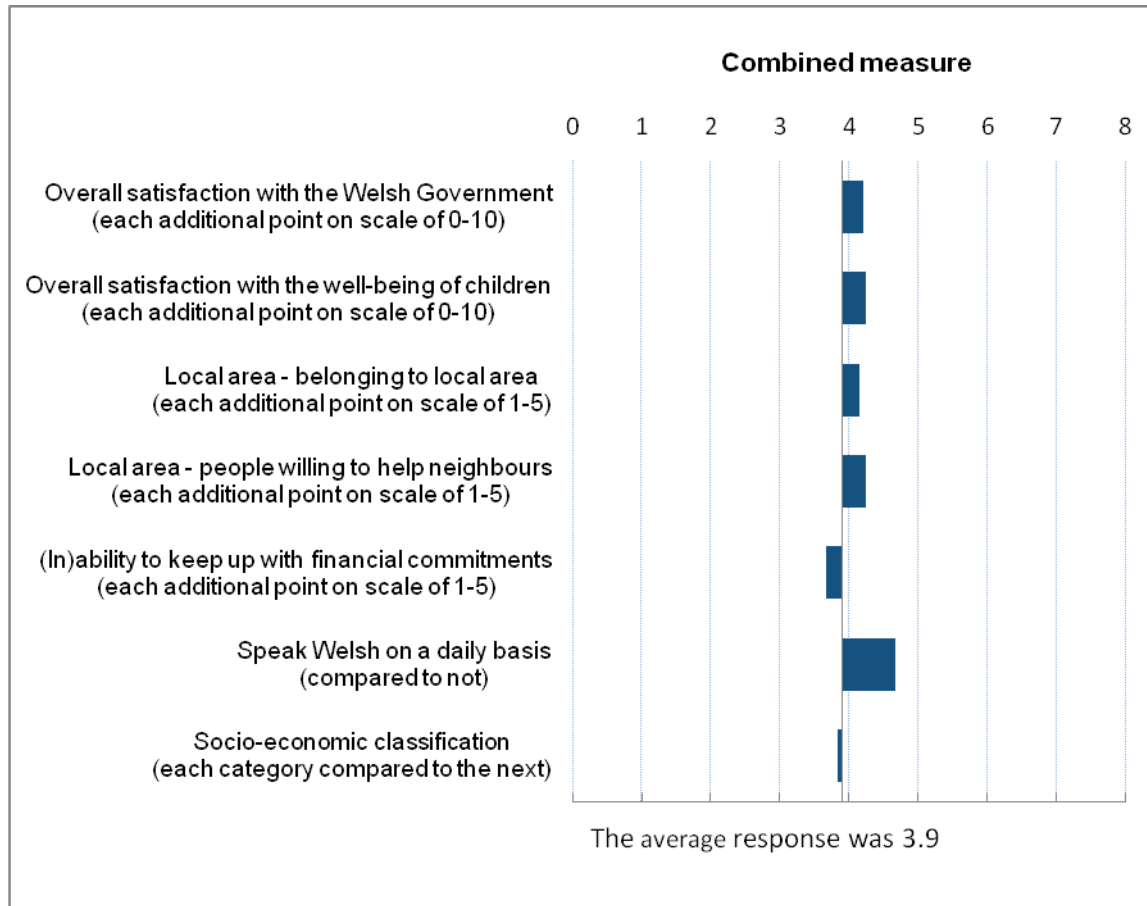
Involvement with secondary schools

3.12 The relationship between parents' reported levels of involvement with their child's secondary school and the set background variables were modelled. Controlling for a range of factors, we found that parents tended to feel more involved with their child's secondary school if they:

- were from a lower socio-economic group
- spoke Welsh on a daily basis
- reported that they didn't have difficulties in keeping up with bills and credit commitments
- thought that people in their neighbourhood helped one another
- had a relatively higher sense of belonging to their local area
- reported higher levels of satisfaction with the well-being of their children
- had higher levels of satisfaction overall with the Welsh Government.

3.13 The chart below indicates the size of these relationships. It shows the average level of reported involvement and how much this changes for different values of each of the background variables.

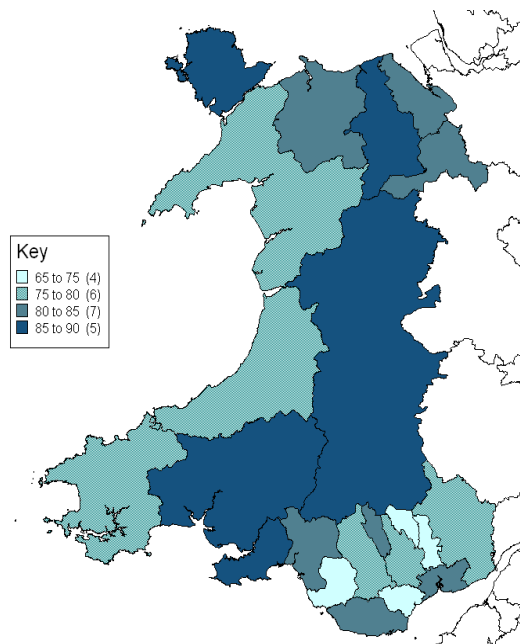
Figure 3.3: Involvement with child’s secondary school



3.14 The level of reported involvement with secondary schools was lower than that for primary schools, but still relatively high. The map below shows the percentage of parents in each local authority who responded positively, agreeing with or saying yes to, all four statements. While the local authority percentages are less clustered, this still represents a small amount of variation between local authorities. After taking account of differences in the characteristics of respondents recording involvement with secondary schools, the differences between local authorities are reduced and they are not statistically significantly different. This means that the apparent difference between local

authorities is due to differences in the characteristics of their populations.

Figure 3.4: Percentage of parents in each local authority agreeing to all four statements about involvement with their child's secondary school



Key messages from research and implications for policy making

Involvement with schools

3.15 Most respondents across Wales reported high levels of involvement with their children's primary and secondary schools. Controlling for a range of factors, the variables we found to be significant for parents of primary and secondary school children were linked to socio-economic status; speaking Welsh; satisfaction with neighbourhood; child's well-being; and satisfaction overall with the Welsh Government. We also identified that respondents living in urban areas reported higher levels of involvement

with their children's school, although this relationship was only significant at primary level.

- 3.16 As with satisfaction with school, only very small differences existed between parents' responses across the local authorities in Wales in relation to their involvement with primary and secondary schools. After modelling, these differences were significant for involvement with primary schools, but not for involvement with secondary schools.
- 3.17 Our analysis identified that the relationships between socio-economic status and parents' involvement with schools were complex. It showed that, controlling for other factors, parents living in less educationally deprived areas felt less involved with their children's primary schools. Also, at the individual level, parents with higher socio-economic status felt less involved with their children's secondary schools. However, over and above socio-economic status and the educational deprivation of an area, parents who reported having difficulties keeping up with bills or credit commitments also tended to feel less involved with their children's primary and secondary schools. In addition, we found that neighbourhood variables (which could possibly be linked with socio-economic status) such as residents helping and trusting one another and 'belonging' to the local area are associated with greater school involvement.
- 3.18 Our findings could suggest that parents living in less educationally deprived areas or those with higher socio-economic status have higher expectations for being involved with their children's schools and therefore evaluate schools as involving them less than they would like. Interpreted alongside our analysis on satisfaction, we show that parents living in less educationally deprived areas tend to feel both less involved and less satisfied with their children's primary schools.
- 3.19 Our analysis also showed that, controlling for other factors, parents of primary school children living in urban areas reported that they were more involved with their children's primary schools compared to those living in rural areas.

- 3.20 This research, coupled with our analysis findings, suggests that the relationship between socio-economic status, urban/rural location, educational outcomes, and parental involvement with schools is complex, and warrants further investigation.
- 3.21 Controlling for other factors, speaking Welsh on a daily basis was significantly associated with higher parental involvement with primary and secondary schools, as it was with parental satisfaction with school. It is not known whether respondents' children attended Welsh or English medium schools. It would be useful to identify this, as it could have implications for the targeting of support for non-Welsh speaking parents of children attending Welsh medium schools.
- 3.22 As with parents' satisfaction with school, our analysis linked parents' involvement with their child's primary and secondary schools to their children's wellbeing. Parents who reported higher levels of satisfaction with their child's wellbeing also felt more involved with their children's schools. Parental satisfaction with the Welsh Government was also linked to higher reported involvement. While parent's involvement in their child's school and their child's wellbeing could be related, other research has shown that children's wellbeing is influenced by other factors such as socio-economic status and parental education.
- 3.23 Overall, the outcomes of our analysis show that parents in Wales generally feel involved with the schools their children attend, which is very positive. As with the outcomes for parental satisfaction with school, the analysis outcomes are useful in helping us to understand some of the factors which underlie parental involvement with school. They enable us to highlight some implications for policy, and to make suggestions for further research which is needed to permit more insight into why the identified relationships exist in order to strengthen the evidence base for policy-making. However, our analysis only identifies statistical associations rather than allowing us to state what causes them.
- 3.24 Looking at the variables which we found to be significant, the findings suggest that the factors which influence parental feelings of involvement

with school do not lead to clear interpretations at both primary and secondary level, especially in relation to socio-economic status. In addition, we found that primary school parents who lived in less deprived areas felt less involved with their child's primary schools, and those who had difficulty in keeping up with their financial commitments felt less involved with their child's schools (whether they attended primary or secondary schools). These findings could be interpreted as contradicting each other, but could equally reflect higher expectations of involvement among parents in more affluent areas regardless of their actual financial situation.

The evidence in context

- 3.25 There is substantial cross-over in the literature between parents' involvement with their children's schools, parents' engagement with children's learning, and parents' aspirations for children. Studies often investigate a combination of these aspects and discuss them interchangeably. This is perhaps unsurprising given the closeness of the topics, their known impact on educational outcomes, and their importance for policy makers.
- 3.26 According to the Educational Evidence Portal (2009, citing Harris and Goodall, 2007), in research and policy '*parental engagement is defined as parental engagement in learning, as opposed to parental involvement* *ā } Á • & @Parental involvement in schooling (e.g. attending parents' evenings) is seen as reactive, whereas parental engagement with their child's learning is seen as proactive.*
- 3.27 This distinction is important for the purposes of this discussion because our analysis separately examined parents' *engagement with learning* and parents' *involvement with schools* and found some key differences in the variables which were associated with each. This emphasises the need for policy-makers and practitioners to acknowledge that these two aspects have similarities and differences.

3.28 Estyn (2014) has identified that schools which are successful in engaging lower socio-economic status parents/parents living in disadvantaged areas:

- work closely with parents through special events and effective communication to raise their awareness of the importance of good attendance
- create a welcoming environment
- use different methods of communicating with parents, and use these methods to provide additional information on healthy eating and behaviour management
- encourage the use of the school as a 'hub' to enable parents to access services from other agencies
- think carefully about the names of initiatives delivered by/from the school. For instance, 'parenting programmes' can have negative connotations and thus discourage involvement. Using more positive terms like 'commitment' or 'active partnership' is more encouraging for parents.

3.29 However, an earlier Estyn report (2009) found that there was no clear pattern of involving parents with primary schools across Wales. In this report, Estyn identified the need for primary schools to monitor how they engaged with parents and how effective they were at doing so. In addition, they highlighted that efforts should be made to engage fathers and grandparents along with those parents who were not naturally keen to volunteer for parent governor roles or to fund-raise for schools.

3.30 Looking at the differences between parents of primary school children living in urban areas compared with those living in rural areas, a recent OECD report stated that there is an 'urban advantage' in most countries across the world. Schools in urban areas tend to have many of the characteristics associated with higher performance and better educational outcomes. This could include parental involvement practices. However, the UK is one of the few countries worldwide in which this is not the case; overall, pupils in schools in rural areas perform better than pupils in urban areas (OECD, 2013).

Further research

- 3.31 These mixed findings show that we need to know more about the factors which underlie parental involvement with schools before we can make fully informed suggestions for future policy-making. Designing and implementing a standardised national questionnaire which assesses parental involvement with schools would be an effective way of achieving this, as outlined in the previous section on parental satisfaction with schools. A project such as this could also explore the links between involvement and satisfaction.
- 3.32 When designing the questions on involvement with schools, some of the questions asked of parents in the Estyn (2009) survey should be replicated to show what progress has been made in promoting parental involvement with schools since then, particularly in relation to engaging fathers, grandparents, and parents who may not actively volunteer to be involved with school activities. We also need to understand more about the barriers which prevent parental involvement from both the school and the parent perspective and how they can be overcome; this should also be a specific focus of the questionnaire.
- 3.33 The *Growing up in Scotland* study (Scottish Government, 2012) examined the relationships between background and area-level variables, different types of parental involvement with school (e.g. receiving information on their child's progress or learning; attending parents' evenings; having ad-hoc meetings with teachers) and their satisfaction levels with the school. If the Welsh Government chooses to design and implement a Wales-based questionnaire as suggested, it would be useful if it also covered more of these aspects to facilitate a more detailed understanding of them and how they interact with one another in order to make more informed recommendations for policy.

4 Assistance with children's learning

Key Findings

After controlling for a range of factors such as gender, age of parent and age of child, educational background and socio-economic background, we found that:

- Parental assistance with children's basic learning (for 3 – 7 year olds) was generally high.
- Parents assisted more with basic learning if their children were at the older end of the age range. Parents also assisted more with basic learning if they had a university degree; or had fewer children in the household.
- Parents assisted less with children's basic learning if they were male; had difficulty keeping up with their financial commitments; or were less satisfied with their neighbourhood.
- Parental assistance with children's advanced learning (for 8 – 17 year olds) was also generally high, but slightly less than with basic learning.
- Parents assisted more with advanced learning if their children were at the younger end of the age range. Parents also assisted more with advanced learning if they themselves were younger; lived in less deprived areas; were in higher socio-economic categories; had higher levels of life satisfaction; were more satisfied with their neighbourhood; or lived in a local authority with a higher expenditure on education.
- Parental assistance with children's basic and advanced learning was very similar across local authorities.
- Research emphasises the impact of parents' assistance with children's learning on better educational outcomes.
- There is a need to examine how fathers can best support their children's learning, and how parents can support the learning of children of different ages.

How was assistance with basic learning measured?

- 4.1 In the National Survey¹⁸, parents and legal guardians of children aged 3-7¹⁹ who currently attended a local authority-funded primary school were asked: ‘How often do you
- look at books or read stories to [him/her].
 - help [him/her] to recognise or learn about letters, numbers or shapes.
 - help [him/her] to read or write.
 - help [him/her] with school work’.
- 4.2 For each question, respondents were asked to select one of the following six answer options:
- A. Every day
 - B. Several times a week
 - C. Once or twice a week
 - D. Once or twice a month
 - E. Less often
 - F. Not at all.
- 4.3 These “basic learning” questions were asked in light of research which shows that parents who engage in the above and other activities support their child’s cognitive development and contribute to more positive educational outcomes (e.g. Desforges and Abouchaar, 2003).
- 4.4 Around 1,500 parents of children aged 3-7 were asked this question. The National Survey results showed that around 80% of parents assisted with their child’s basic learning at least several times a week. Around 60% helped their child with school work at least several times a week.

¹⁸ A copy of the 2012-13 National Survey for Wales questionnaire is available at <http://wales.gov.uk/docs/caecd/research/120130nswquestionnaire2012-2013en.pdf>. The National Survey’s headline results can be found at <http://wales.gov.uk/docs/statistics/2013/130530-national-survey-wales-2012-13-headline-results-en.pdf>.

¹⁹ If parents or guardians had more than one child aged 3-7 in the household, interviewers randomly selected one of these children for them to think about when answering this question.

- 4.5 Initial analysis of the Survey results revealed some differences between parents' responses depending on their gender; their socio-economic classification; their qualification level; and their employment status²⁰.
- 4.6 We used regression analysis to explore these relationships further, firstly scoring the responses to these questions by attributing zero for 'not at all', 1 for 'less often', 2 for 'once or twice a month', 3 for 'once or twice a week', 4 for 'several times a week', and 5 for 'every day, and then combining them using factor analysis²¹ to create a measure of the extent to which parents assisted their child with basic learning.

Modelling assistance with basic learning

- 4.7 The relationship between the extent to which parents assisted their child with basic learning and the set of background variables was modelled. Controlling for a range of factors, we found that, in general, parents tended to give more assistance:

- to older children in the 3 – 7 age range
- if they held a university degree
- if there were fewer children in the household

but that they tended to give less assistance if they were:

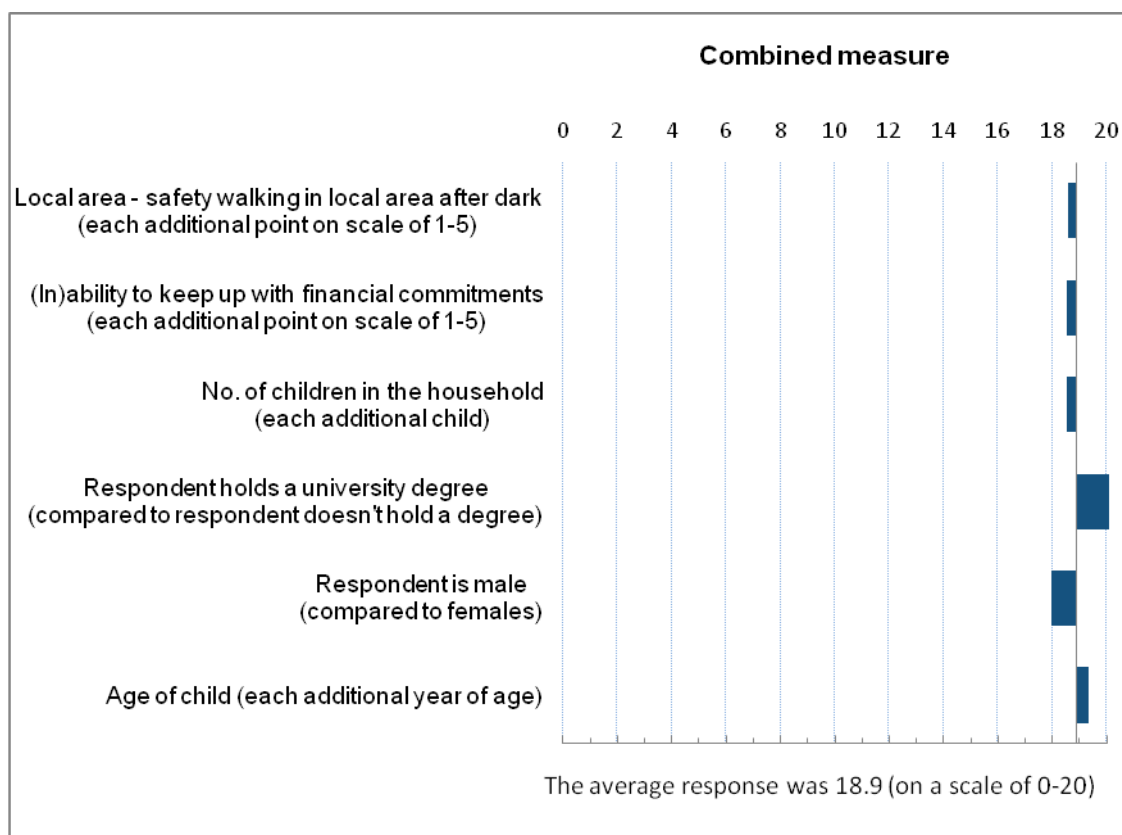
- male
- reported that they had difficulties keeping up with bills and credit commitments
- thought that the area they live in is safe after dark.

- 4.8 The chart below indicates these relationships. It shows how each of the background variables is associated with the level of assistance given.

²⁰ Gender was defined as whether parents were male or female. Socio-economic classification was defined as whether parents worked in managerial or professional occupations; intermediate occupations; routine or manual occupations; had never worked or were long-term unemployed. Qualification level was defined as parents' highest qualification. Employment status was defined as whether parents were in employment or not in employment.

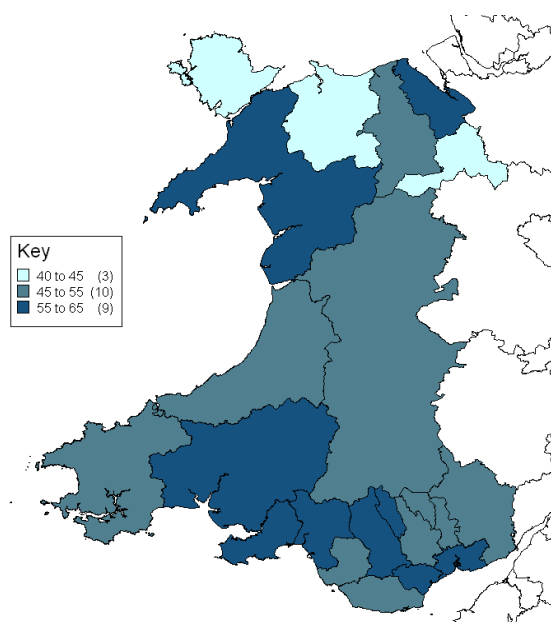
²¹ Please see Technical Appendix for further explanation of this technique.

Figure 4.1: Assistance with child’s basic learning



4.9 The level of parental assistance with their child’s basic learning was generally high, and also consistent across local authorities, with at least 50% of parents in the majority of local authorities reporting helping their child with all four activities ‘every day’ or ‘several times a week’. The amount of variation between local authorities is small and, after differences in the characteristics of respondents recorded as assisting with learning have been taken into account, this variation is reduced further such that they are not significantly different. This means that the apparent difference between local authorities is due to differences in the characteristics of their populations.

Figure 4.2 Percentage of parents in each local authority helping their child with all four basic learning activities ‘every day’ or ‘several times a week’



Advanced learning

How was assistance with advanced learning measured?

4.10 In the National Survey²², parents and legal guardians of children aged 8-17²³ who currently attended a local authority-funded secondary school were asked: ‘How often do you

- Help [him/her] to read or consult books, magazines or newspapers.
- Help [him/her] to look up or consult information on a computer or the internet.
- Support [him/her] with school work.

²² A copy of the 2012-13 National Survey for Wales questionnaire is available at <http://wales.gov.uk/docs/caecd/research/120130nswquestionnaire2012-2013en.pdf>. The National Survey’s headline results can be found at <http://wales.gov.uk/docs/statistics/2013/130530-national-survey-wales-2012-13-headline-results-en.pdf>.

²³ If parents or guardians had more than one child aged 8-17 in the household, interviewers randomly selected one of these children for them to think about when answering this question.

- 4.11 For each question, respondents were asked to select one of the following six answer options:
- A. Every day
 - B. Several times a week
 - C. Once or twice a week
 - D. Once or twice a month
 - E. Less often
 - F. Not at all.
- 4.12 These “advanced learning” questions were asked in light of research which shows that parents assisting with children’s learning continues to impact positively on attainment into the secondary phase (e.g. DCSF, 2008; Desforges and Abouchaar, 2003; Dubow et al, 2009).
- 4.13 Around 2, 200 parents of children aged 8-17 were asked this question. The National Survey results showed that over 50% supported their child with school work at least several times a week. Conversely, parents were less likely to help their child to look up information on a computer or the internet, with 20% never doing so.
- 4.14 Initial analysis of the Survey results revealed some differences between parents’ responses depending on their gender; their socio-economic classification; their qualification level; and their employment status²⁴. We used regression analysis to explore these relationships further, firstly scoring the responses to these questions by attributing zero for ‘not at all’, 1 for ‘less often’, 2 for ‘once or twice a month’, 3 for ‘once or twice a week’, 4 for ‘several times a week’, and 5 for ‘every day, and then combining them to create a measure of the extent to which parents assisted their child with basic learning.

²⁴ Gender was defined as whether parents were male or female. Socio-economic classification was defined as whether parents worked in managerial or professional occupations; intermediate occupations; routine or manual occupations; had never worked or were long-term unemployed. Qualification level was defined as parents’ highest qualification. Employment status was defined as whether parents were in employment or not in employment.

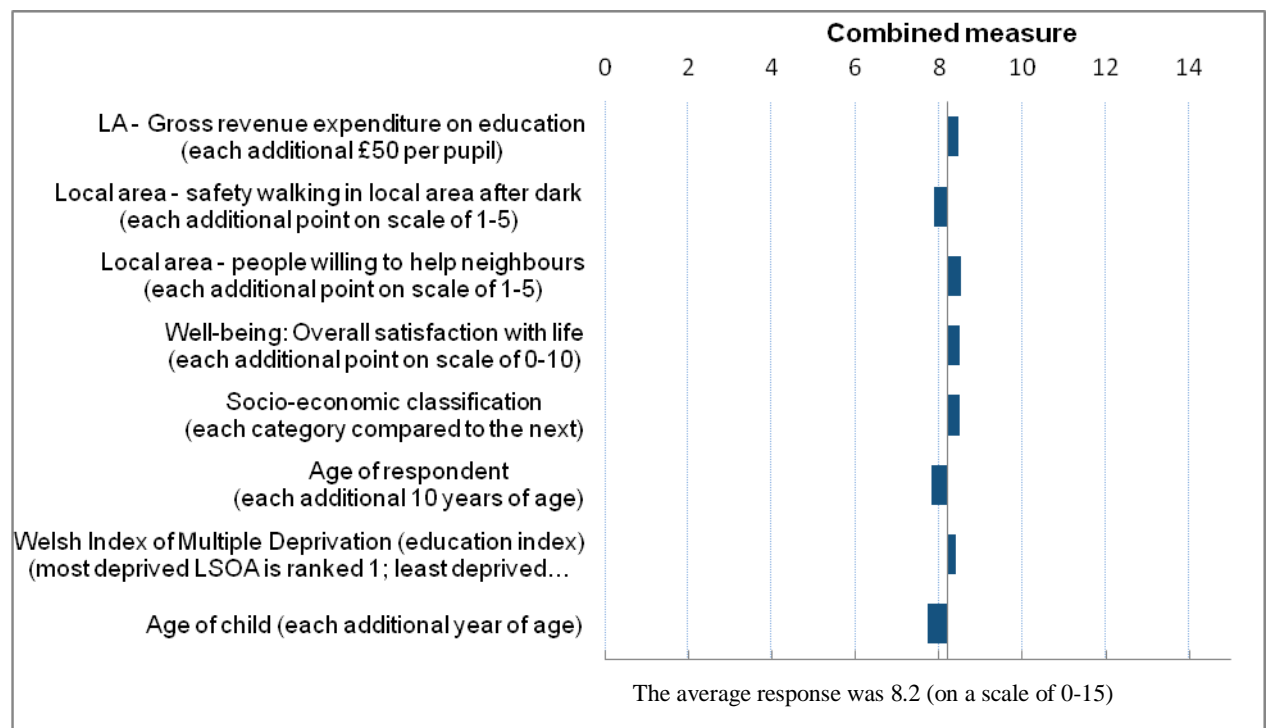
Modelling assistance with advanced learning

4.15 The relationship between the extent to which parents assisted their child with advanced learning activities and the set of background variables was modelled. Controlling for a range of factors, we found that, in general, parents tended to give more assistance:

- to younger children
- if they were younger themselves
- if they lived in an area that is less educationally deprived
- if they were in a higher socio-economic group
- if they reported higher levels of overall life satisfaction
- if they thought that people in their local area are willing to help their neighbours
- if they thought that their local area isn't safe after dark
- if they lived in a local authority with a relatively higher expenditure on education

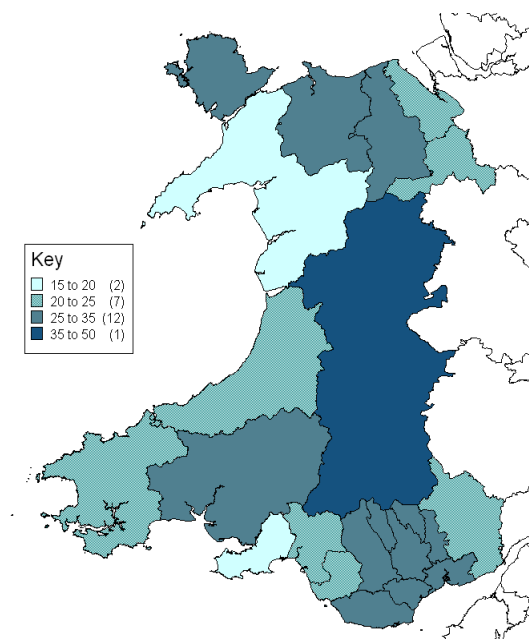
4.16 The chart below illustrates these relationships. It shows the average level of assistance and the change that is associated with a change in each of the background variables.

Figure 4.3: Assistance with child's advanced learning



4.17 The extent to which parents assisted with their child's advanced learning activities was less than with basic learning, but was still fairly high. The percentage of parents in each local authority assisting their child with all three activities 'every day' or 'several times a week' ranged from 15% to 50%. Again, after taking account of the differences in respondents' characteristics shown to be associated with assisting with advanced learning, the small differences that originally existed between local authorities became even smaller and are not statistically significant. This means that the apparent difference between local authorities is due to differences in the characteristics of their populations.

Figure 4.4: Percentage of parents in each local authority helping their child with all three advanced learning activities 'every day' or 'several times a week'



Key messages from research and implications for policy making

Assistance with children's learning

4.18 We found that parental assistance with children's learning was generally high and was similar across local authorities in Wales. Controlling for other factors, parents in one or more of the following groups assisted more with basic learning: those who had older children; had a university degree; had fewer children in the household. Parents assisted less with

basic learning if they were male; had difficulty keeping up with their financial commitments; and/or were more satisfied with their neighbourhood. Parents in one or more of the following groups assisted more with advanced learning: those who had younger children; were younger themselves; lived in less deprived areas; had a higher socio-economic classification; had higher life satisfaction; were more satisfied with their neighbourhood; and/or lived in local authorities which spent more on education.

The evidence in context

- 4.19 Parents' involvement in their child's education is strongly associated with the child's educational achievement e.g. Desforges and Abouchaar, 2003; Egan, 2013; Goodall *et al*, 2011; Grayson, 2013; Scottish Government, 2012). According to Desforges and Abouchaar (2003), 'Parental involvement has a significant effect on children's achievement and adjustment even after all other factors, such as social class, maternal education and poverty...(have been taken into consideration)... Differences in parental involvement have a much bigger impact on achievement than differences associated with the school in primary age range. Parental involvement continues to have a significant effect through the age range...' (Desforges and Abouchaar, 2003, p86).
- 4.20 Parental involvement can also lead to improved relationships between parents, teachers and schools, and increased parental involvement with schools (Grayson, 2013). This highlights the close inter-relationship (as outlined elsewhere in this report) between parents' involvement with their children's learning, as opposed to parents' involvement with their children's schooling.
- 4.21 Research also shows that key differences exist between parents in the extent of their involvement with their child's education (Scottish Government, 2012). As identified in our analysis, parents from lower socio-economic status backgrounds tend to be less involved with their children's education (Desforges and Abouchaar, 2003). However, lower

socio-economic status has also been associated with having fewer children (except in families from certain minority ethnic backgrounds); our analysis found that parents with fewer children were more involved with their child's education.

4.22 The strength of these findings is reflected in the wealth of interventions which have been targeted at increasing the involvement of parents from lower socio-economic status backgrounds with their child's education.

4.23 Grayson (2013), for NFER, reviewed a large body of research evidence from the last two years on the links between parental involvement with education and narrowing the gap in attainment for disadvantaged groups. She concluded that the key features of successful parental engagement interventions were:

- a robust evidence base and built-in evaluation design
- clearly defined outcomes and criteria for success/failure
- content shaped by local needs and circumstances
- sufficient resources and capacity for development
- appropriate consideration of the barriers facing participants and measures put in place to address them
- engagement and support from senior staff
- sustainability.

4.24 Our findings are also in line with the research which links parental education with their involvement in their child's education. Better educated parents tend to provide a more stimulating environment for their children, which in turn is positively associated with better educational and wellbeing outcomes (Desforges and Abouchaar, 2003; DCSF, 2008; Dubow *et al*, 2009).

4.25 This has important implications for shaping policy and practice in family education programmes. NIACE (2013) outlined in their Family Learning Inquiry that initiatives which have led to only small increases in parental education have been successful in raising children's educational outcomes. Our finding that parents with a university degree assist more with their children's basic learning, considered in tandem with this,

emphasises that high-quality, effective family learning programmes are needed as much as ever to promote parental assistance with learning with the wider aim of improving children's educational outcomes. Such programmes need appropriate resourcing (funding and staffing), and must be subject to ongoing, robust evaluation to ensure that they are achieving their aims as fully as possible.

- 4.26 Broadly, we found that parents of primary school aged children are involved with their education to a greater extent than parents of secondary school children. Again, research tends to support this finding (e.g. Crozier, 1999, cited in Ritchie *et al* 2005; Desforges and Abouchaar, 2003). Parents may feel more confident to help younger children with their learning, but as children get older, parents may perceive themselves to lack the necessary skills and knowledge to do so (DCSF, 2008; Welsh *et al* 2004, cited in Ritchie *et al* 2005).
- 4.27 Interestingly, evidence also suggests that parents of older children may need to support their learning in different ways to parents of younger children. For instance, Ritchie *et al* (2005) state that parents of older children should support their aspirations and educational activities rather than being more directly involved in the educational process.

Further research

- 4.28 These findings have some important implications for policy and practice in promoting parents' involvement with their child's education in Wales.
- 4.29 As outlined previously in relation to parental engagement with school, Egan (2013) states that future policy initiatives in Wales should have a shared focus on teaching and learning, and on raising the aspirations, attitudes and behaviours of families. Current and recent initiatives have tended to focus on these elements separately. According to Egan, if these foci were joined, these initiatives would be more effective.
- 4.30 There is also research which supports our finding that mothers tend to be more involved with their child's education than fathers (e.g. DCSF, 2008; Peters *et al* 2008, cited in Educational Evidence Portal, 2009).

There is some suggestion that fathers would like to become more involved, and that the nature and quality of their involvement has greater impact on their children's educational outcomes than the amount of time they spend with their children (DCSF, 2008).

- 4.31 This finding suggests that there is scope for further investigation into how fathers can best support their child's education, in order to inform targeted policy-making. To achieve this, the Welsh Government could initially commission a research study which includes a literature review element and consultations with a representative sample of fathers from across Wales. Such a study could aim to explore a) what activities fathers should do with their children in order to support their children's learning; b) what help fathers need to support their children's learning, and c) what the roles of the Government, local authorities / education consortia, schools and families should be in delivering this support. This study could then inform the development of targeted support materials and / or guidance. It would be vital to evaluate such materials and / or guidance rigorously, defining the outcomes to be achieved and planning the evaluation in tandem with the design and production of the materials.
- 4.32 Our findings combined with the supporting evidence point to the need for further research which identifies and explores a) how parents can best support their children throughout the age range to improve their educational outcomes, and b) the barriers to parents supporting their children's learning throughout the age range. Such a study should include a review of the national and international evidence in these areas, combined with consultations with parents and educational professionals from across Wales. It would be important to gain the perspectives of parents from a wide range of backgrounds in light of findings from our analysis and existing research which suggest that differences exist between parents with different characteristics regarding the extent to which they support their children's basic and advanced learning. As with the questionnaire we suggest as a means of further investigating parental satisfaction and engagement with schools in Wales, it would be necessary to include parents of children attending

special schools and Pupil Referral Units (PRUs) and professionals working in these settings to ensure that we develop a rounded understanding of how parents can best support the learning of children with a wide range of learning needs.

4.33 The findings from this additional study could be used to shape policy and to produce guidance and materials for schools and parents on supporting children's basic and advanced learning. They could also feed into targeted family learning initiatives to ensure that they are designed to meet the needs of parents across Wales.

5 Aspirations for children

Key findings

After controlling for a range of factors such as gender, age of parent and age of their child, educational background and socio-economic status, we found that:

- Most parents in Wales wanted their children to stay in full-time education after the age of 16. Response patterns were very similar across local authorities.
- Parents were more likely to want their children to stay in full-time education after the age of 16 if their children were older.
- Parents were less likely to want their children to stay in full-time education after the age of 16 if they themselves had no formal qualifications, and if they lived in local authorities where a higher percentage of pupils achieve the Level 2 threshold at GCSE.
- Research suggests that the factors which influence parents' aspirations for their children are complex and multiple.
- While parents' aspirations for their children have some influence on their children's' aspirations, the culture within families may be more important in fostering positive aspirations.

How were aspirations for children measured?

5.1 In the National Survey, parents of children aged 11-15 were asked:
'When [name] reaches 16 and can leave school, what would you like [him/her] to do?'

Respondents were asked to choose from the following 8 answer options:

- A. continue in full time education
- B. go on a training course or start an apprenticeship
- C. get a full-time paid job (either as an employee or self-employed)
- D. work, unpaid, in the family business full-time
- E. work, unpaid, as a volunteer full-time
- F. start a family
- G. join the armed forces

H. other.

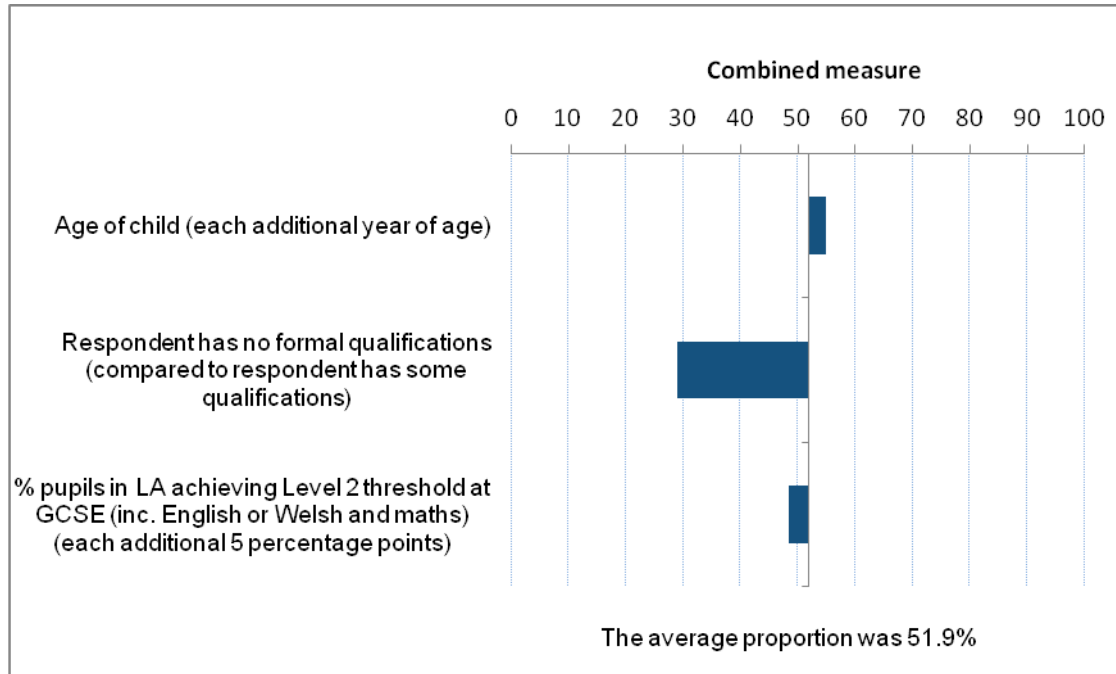
- 5.2 This question was included in the National Survey in light of research which shows that parents' aspirations for their children (and children's own aspirations) are associated with attainment (e.g. DCSF, 2008; Dubow *et al*, 2009). 1, 500 parents of children aged 11-15 responded to this question.
- 5.3 The National Survey results showed that 79% of parents wanted their child to continue in full-time education. 10% wanted their child to go on a training course or start an apprenticeship. A further 3% wanted their child to get a full-time paid job (either as an employee or self-employed), and 6% stated that it was up to their child to decide what they chose to do once they reached 16 and left school.
- 5.4 The Welsh Government was interested in finding out which personal factors (such as demographics, income, qualifications, wellbeing, experience and views) and area-level factors (such as deprivation) were most closely associated with any differences in parents' aspirations for their child to continue in full-time education.
- 5.5 We used regression analyses to explore this, grouping responses into two categories: 'continue in full time education', and 'not continue in full time education'.

Modelling aspirations for child to continue in education

- 5.6 The regression model explored what proportion of parents aspired for their child to continue in full time education. After controlling for a range of factors we found that, in general, parents were less likely to want their child to remain in full time education post-16 if they:
- were responding about a younger child
 - had no formal qualifications
 - lived in a local authority where, counter-intuitively, a relatively higher percentage of pupils achieve the Level 2 threshold at GCSE (five or more GCSE grades at A*-C including English or Welsh and maths).
- 5.7 The chart below illustrates these relationships. It shows the average proportion (as a percentage) of parents who say they want their child to

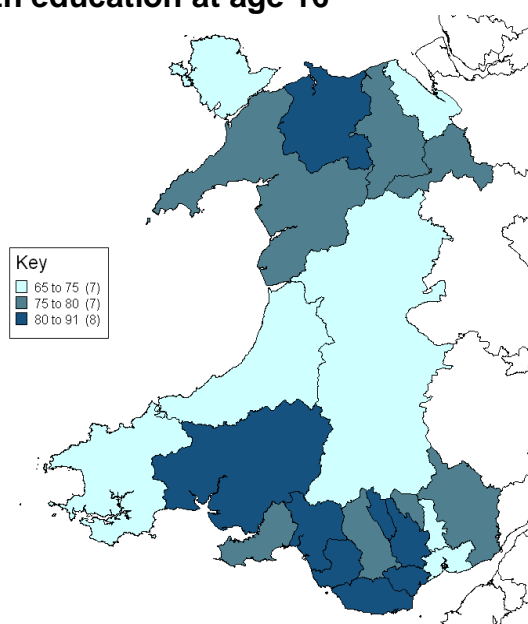
stay in education post-16 and how this proportion changes with changes to the background variables.

Figure 5.1: Aspiration for child to continue in education at age 16



5.8 The majority of respondents said that they wanted their child to remain in full time education at the age of 16. The average for each local authority is shown in the map below. Again, after taking account of the differences in respondents' characteristics that were shown to be associated with aspirations for their child, the small differences that originally existed between local authorities, have now become even smaller and are not statistically significant. This means that the apparent difference between local authorities is due to differences in the characteristics of their populations.

Figure 5.2: Percentage of parents in each local authority who wish their child to continue with education at age 16



Key messages from research and implications for policy making

Aspirations for children

- 5.9 Our analysis showed that most parents across Wales wanted their children to stay in full-time education after the age of 16. Controlling for other factors, parents were more likely to want their children to stay in education if their children were at the older end of the 11 -15 age range. Parents with no formal qualifications, and those who lived in local authorities where a higher percentage of pupils achieve the Level 2 threshold at GCSE were less likely to want their children to stay in education.
- 5.10 Our finding that parents, living in local authorities where children attain higher at GCSE level, tend to have lower aspirations for their children is difficult to interpret. However, it could reflect the current economic situation and the fact that parents may wish their children to get a job or begin an apprenticeship after the age of 16 rather than accruing debt through remaining in education.

The evidence in context

- 5.11 Research indicates that parents' aspirations are strongly linked with their children's educational and wellbeing outcomes (DCSF, 2008; Dubow *et al* 2009; Goodman and Gregg, 2010). However, it is important to acknowledge that many other factors are known to influence children's aspirations over and above their parents' aspirations for them (DCSF, 2008).
- 5.12 Our findings support the idea that parents' aspirations for children change as children progress through secondary school. This has been suggested by previous research (Gutman and Ackerman, 2008 cited in DCSF, 2008). It would be interesting to explore further what factors influence changes in aspirations, for example awareness of opportunities, financial considerations, etc. Our finding that parents with no qualifications are significantly less likely to say that they want their child to remain in education after the age of 16 is widely supported by research (e.g. DCSF, 2008; Dubow *et al* 2009). If having no qualifications is accepted as a proxy measure of socio-economic status, our finding could be taken as support for the substantial body of evidence which suggests that the aspirations of less well-off parents are strongly related to their children's lower attainment. Indeed, Goodman and Gregg (2010) state that poorer mothers' aspirations are 'one of the single most important factors associated with lower educational attainment at age 11' (p. 6) even after prior ability is accounted for.
- 5.13 However, it is also likely that 'parents with higher education have higher attaining children for whom they have higher expectations' (DCSF, 2008, p9). This suggests that it is difficult to measure the influence of parental aspirations on children's attainment.
- 5.14 Ritchie *et al* (2005) argue that the culture within families is central to fostering positive aspirations, regardless of background characteristics: 'Where there is a culture which encourages aspirations, children will flourish, even when living in poverty; where a culture exists which negates achievements, children will not prosper' (Ritchie *et al* 2005 p4).

5.15 If taken at face value, our finding that parents' aspirations are stronger for older children considered alongside research which shows that parents' aspirations are stronger for younger children could suggest that parents who responded to the 2012-13 National Survey show different patterns of aspirations for their children depending on their age when compared to different samples of parents. It could equally be the case that other factors which were not included in the analysis were responsible for this finding.

Further research

5.16 A possible implication of our findings in relation to parental aspirations for their children could be that efforts need to be focused on raising the aspirations of parents with no qualifications, particularly those with younger children. The culture within families is also likely to be an important consideration for future policy making.

5.17 However, as outlined previously, the factors which influence parents' and children's aspirations are complex and multiple. We therefore need to know more about these factors, their relative strength and how they interact with each other before we can make more informed recommendations for policy and practice.

5.18 Commissioning a research study which examines parental aspirations for their children in Wales from birth throughout the age range would be a useful way of exploring the factors which shape parental aspirations for children and children's aspirations for themselves. Such a study should begin with a review of international literature, should incorporate a standardised scale for measuring parents' and children's aspirations and should obtain a baseline (initial) measure to enable accurate tracking over time. It should combine these elements with an analysis of background characteristics and in-depth consultations with parents and children so that a fuller picture of aspirations and the factors which influence them can be built up. The findings from this study would form a useful and necessary contribution to the evidence base in order to target policy and practice going forward.

6 Views on the education system

Key findings

After controlling for a range of factors such as gender, age of respondent and age of child, educational background and socio-economic status, we found that:

- In general, respondents had positive views of the education system in Wales. Few differences were observed across local authorities.
- Respondents had more positive views of the education system in Wales if they were younger; had higher levels of life satisfaction; were more satisfied with their neighbourhood; or were more satisfied with the Welsh Government.
- Respondents had less positive views of the education system in Wales if they had a university degree; or were in higher socio-economic classes.
- Research examining the relationships between individual and area level characteristics and views on education in Wales is scarce. Commissioning a survey of parents in Wales (as recently done in England) could be a useful way of identifying whether different views exist between parents from different backgrounds as a basis for further exploration.

How were views on the education system measured?

6.1 In the National Survey, a cross-section of around 4,300 respondents was asked:

‘Please say what you think overall about the state of education in Wales nowadays’.

When answering this question, respondents were asked to consider all aspects of the education system, from nursery schools through to universities and adult education courses. Respondents rated their answers on a scale of 0 to 10, where 0 is ‘extremely bad’ and 10 is ‘extremely good’.

6.2 The Welsh Government was particularly interested in finding out people’s views on the education system in Wales in light of the educational reforms which have taken place since devolution.

6.3 The National Survey results showed that the average rating was 6.6. Initial analysis of the Survey data showed that some differences existed between respondents' ratings depending on where in Wales they lived²⁵; how wealthy they were; their level of education; their age; and whether they had children aged under 16 living in the household. We used regression analyses to explore these differences further.

Modelling views on the education system

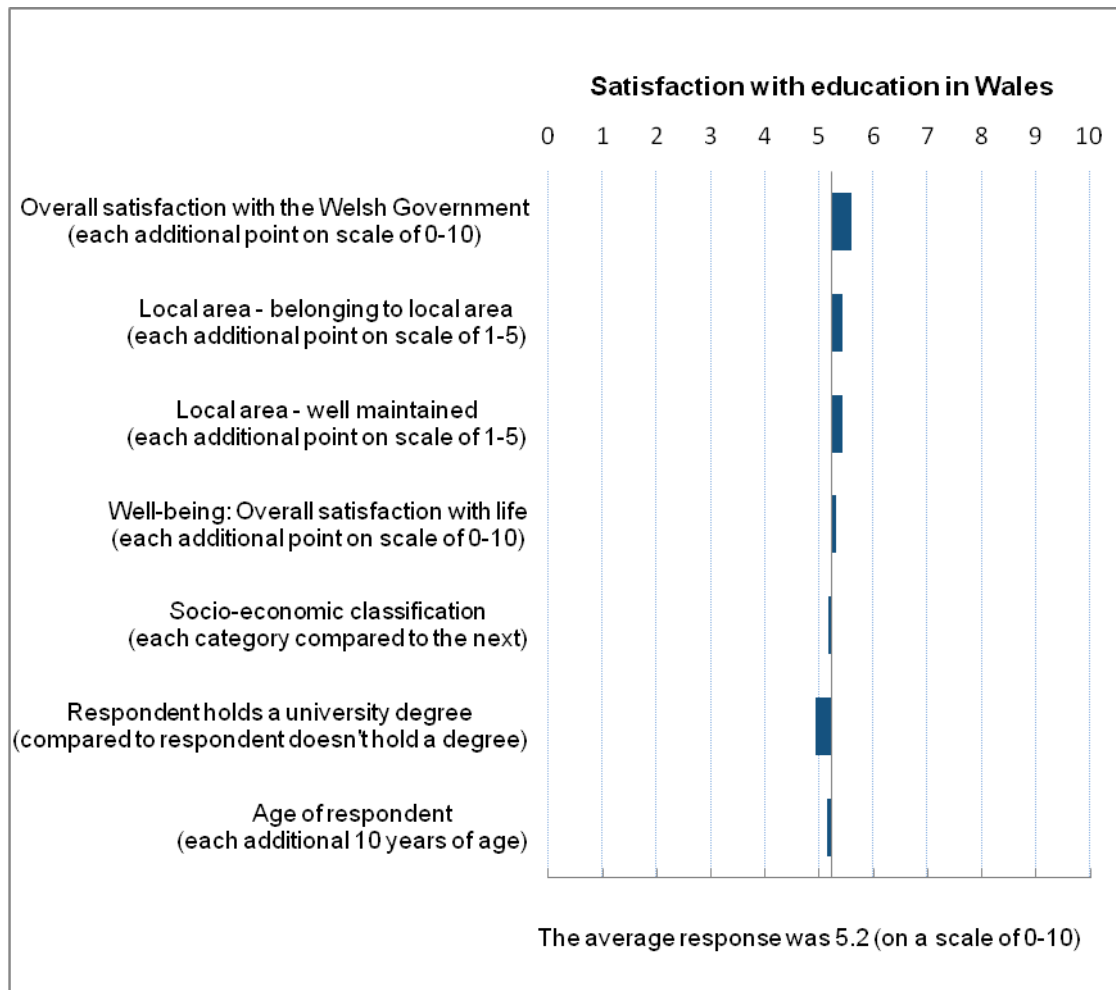
6.4 Respondents' satisfaction ratings were modelled to investigate the relationships with the set of survey variables. After controlling for a range of factors we found that, in general, parents tended to have positive opinions of the state of education in Wales if they:

- were younger
- did not hold a university degree
- were in a lower socio-economic group
- reported higher levels of life satisfaction
- thought that the area they lived in was well maintained
- had a sense of belonging to their neighbourhood
- reported higher levels of satisfaction overall with the Welsh government.

6.5 The following chart illustrates these results. It shows the average opinion rating and the change in opinion associated with a change in each of the background variables.

²⁵ Initial analysis of the Survey results looked at differences in views on the education system by urban / rural area; local authority; region (public services footprint); ACORN classification; WIMD deprivation score; WIMD education score; highest qualification; age; and children aged under 16 living in the household.

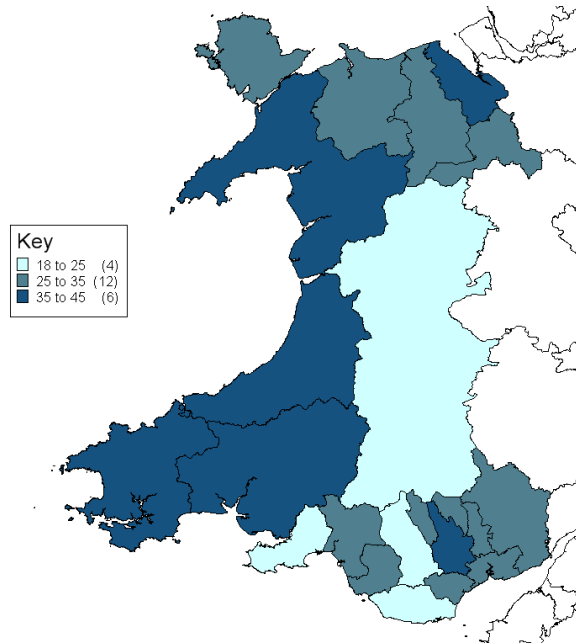
Figure 6.1: Opinion of the state of education in Wales



6.6 Respondents' opinions of the state of education in Wales overall were generally high, with the average respondent rating their opinion as 6 or 7 out of 10. The percentage of respondents in each local authority who rated their opinion as 8 or above is shown in the map below, and there is a small amount of variation between local authorities. Once the differences in respondents' characteristics shown to be associated with opinions of education in Wales are taken into account the small amount of variation between local authorities is reduced, although these differences still remained statistically significant. This means that most of the apparent difference between local authorities is due to differences in the characteristics of their populations. However, there is still a small amount of variation that remains unaccounted for. So, either there are

differences between local authorities or there are other characteristics that have not been measured in the survey.

Figure 6.2: Percentage of respondents in each local authority rating their opinion of the state of education in Wales as 8 or more out of 10



Key messages from research and implications for policy making

6.7 Overall, our analysis showed that most respondents across Wales held positive views of the education system. It also revealed some interesting relationships between respondents' characteristics and their views on the education system in Wales. Younger respondents; those with a higher degree of life satisfaction; those who were more satisfied with their neighbourhood; and those who were more satisfied overall with the Welsh Government all tended to have a higher opinion of the state of education in Wales. Conversely, respondents with a university degree and those with a higher socio-economic status tended to have lower opinions of the state of education in Wales.

6.8 The finding that many people in Wales hold high opinions of the education system is positive. It implies that they perceive that the Welsh Government's education policy and provision is broadly meeting the needs of learners across Wales. Our tandem finding that respondents who are more satisfied with the education system in Wales are also

more satisfied with the Welsh Government may strengthen this assumption.

- 6.9 It is interesting that respondents with a higher socio-economic status were less satisfied with the education system. Although it is not possible to say what underpins this result without further analysis, this could be linked with our finding that respondents with a higher socio-economic status were less satisfied with secondary schools. Taken together, these findings could reflect that the host of initiatives which have aimed to improve educational outcomes for more deprived children, young people and families have achieved some success. They could also be interpreted as a caution that it is equally important that education policy and provision meets the needs of learners from more advantaged backgrounds to ensure that they, too, are supported to achieve their full potential. Equally, they could also suggest that respondents with a higher socio-economic status have higher expectations of the education system.
- 6.10 Regarding our finding that respondents with a university degree were more likely to be less satisfied with the education system, it is reasonable to assume that they have greater experience and understanding of the education system than those without a degree (although they may not have been educated in Wales). Without further exploratory research, it is difficult to interpret this finding any further.

The evidence in context

- 6.11 Although research which has specifically examined influences on satisfaction with education in Wales is scarce, there is, however, a much wider body of evidence which links parents' views of education (in particular, their views on the value of education) with socio-economic status and school engagement (NAfW, 2011). The Welsh Government has already committed to explore 'NEET hotspots with a view to sharing good practice' (NAfW, 2011, p8) to support its youth engagement agenda. This work will be important in developing future approaches to

supporting schools to work with parents and children to promote positive engagement with schools, and thus help to foster more positive educational outcomes.

Further research

6.12 Our analysis is useful because it sheds some light on the factors which are statistically associated with satisfaction with the education system in Wales. It would be valuable for the Welsh Government to gain a broader insight into people's views on different aspects of educational policy and practice in Wales, their perceived fitness for purpose, and how they could be improved so that they meet the diverse needs of learners across Wales as fully as possible.

6.13 The National Union of Teachers (NUT) recently commissioned the polling company YouGov to survey a representative sample of 2,008 parents of school age children across England. The survey explored parents' views of various aspects of the UK government's educational policy, teaching and learning in schools, and of the government's impact on the education system. The survey was completed by respondents living in range of family situations with children of various ages throughout all school years, across all regions of England (National Union of Teachers, 2013).

6.14 Commissioning a similar survey of a large, representative sample of parents in Wales could be a cost-effective way of initially exploring their views on different aspects of the education system in Wales. When designing such an instrument, it would be important to incorporate both open and closed questions to enable respondents to elaborate on their opinions and experiences. Including parents with children attending all types of educational provision would also be necessary in order to capture a diverse range of perspectives. The survey should also lend itself well to empirical analysis so that differences between respondents with different characteristics and from different parts of Wales could be detected. In addition, it would be important to consider how to reach parents from different backgrounds and how to overcome some of the

barriers they may face in completing such a survey (e.g. literacy, language, mobility, internet access).

6.15 This survey would enable a deeper insight into the views of parents in Wales on the education system and supporting policy strands. This would be a useful contribution to the evidence base. However, it should be borne in mind that such a survey should not be seen as a substitute for rigorous empirical evaluation which must be implemented to enable us to accurately measure the effectiveness of policy and practice.

7 Conclusions

- 7.1 Overall, most respondents across Wales were satisfied with their children's schools, were well engaged with their children's schools, support their children's learning, have high aspirations for their children, and were satisfied with the education system in Wales.
- 7.2 Our analysis revealed some interesting relationships between respondents' individual and area-level characteristics. Of the key findings identified, the relationships between socio-economic status, speaking Welsh, child's wellbeing, and measures of satisfaction are among the most interesting.
- 7.3 Significant associations were identified between socio-economic status and each of the survey questions we looked at, with the exception of parents' aspirations for their children. Various measures of respondents' satisfaction with their neighbourhoods were also found to be significant across most of the survey questions. While not a focus of this analysis, satisfaction with neighbourhood could reasonably be assumed to be associated with socio-economic status.
- 7.4 Speaking Welsh and satisfaction with child's wellbeing were significantly associated with parental satisfaction and engagement with their children's schools. In addition, of the survey questions examined, respondents' views on education were the most strongly associated with measures of satisfaction: satisfaction with life, neighbourhood, and the Welsh Government.
- 7.5 It is notable that while these associations were significant, we found that the direction of the association was often in the opposite direction to that identified in research and policy. This suggests that these variables are important, but that carefully planned further investigation is needed to explore and untangle the relationships, and to identify the full range of factors which are influencing them in order to target future policy and practice accurately.

7.6 With regards to the local authority-level differences observed, it must be borne in mind that these differences were small overall, even when they were significant statistically. In addition, it is not possible to say on the basis of the analysis whether these represent genuine differences in respondents' opinions across the authorities (over and above the demographic differences between authorities), or whether the observed differences are due to something else which the models are not currently measuring. Again, further insight can only be gained through further investigation into the full range of factors which influence the opinions of the people of Wales in relation to the survey questions focused on in this analysis.

7.7 We make the following suggestions for further research:

- a standardised, bilingual questionnaire to investigate differences in parental satisfaction with school and engagement with school in relation to individual, school and area characteristics.
- a study exploring how fathers can support their children's learning, and how the Welsh Government, local authorities / educational consortia, and schools can facilitate this
- a study exploring how parents can best support their children's learning across the age range
- longitudinal research which tracks development and influences on parental aspirations for their children over time
- a large-scale survey of parents' views on different aspects of the education system and education policy in Wales.

7.8 This research should be used to inform policy and practice, including practical guidance, materials and support where relevant.

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Technical appendix

This appendix provides further detail on the methodology that was used to conduct the statistical analysis in this report. It contains explanations of the main techniques that were used (factor analysis and multilevel modelling), outlines the procedures that were undertaken in order to produce the various analyses, and presents full tables of the final results. It also includes a description of all the variables used in the regression analysis, and a summary of the weighting that was used throughout.

Weighting

In all analysis, observations were weighted using the following weight provided in the National Survey dataset:

SampleAdultWeight	Weight to make respondent sample reflect all-Wales characteristics
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As detailed in the technical report for the National Survey for Wales, this weight incorporates:

- A design weight (to compensate for differences in sampling probability)
- An address response propensity weight (to compensate for estimated differences in the probability of achieving an interview at the sampled address)
- A calibration weight (to compensate for differences between the sample profile weighted using the first two weights and the known population profile)

(Hanson & Sullivan, 2012: 57)²⁶

Factor analysis

Factor analysis was used to combine questions to create robust measures of parents' involvement in learning and engagement with schools, to be used as outcomes in multilevel models. Factor analysis is a statistical technique used to combine responses from separate questions which individually measure different aspects of the same underlying trait. It is used to determine whether

²⁶Hanson, T. & Sullivan, S. (2012). *National Survey for Wales 2012 (Quarter 0) Technical Report*. Cardiff: Welsh Government Social Research. Available: http://www.esds.ac.uk/doc/7320/mrdoc/pdf/7320_nsfwtechnicalreport.pdf

it is valid to combine the questions and whether each question contributes equally to the overall measure or whether they are weighted differently. The combined measure (the factor) becomes a more comprehensive measure that reflects all of the useful information in the separate individual questions (or 'items'). Exploratory factor analysis (EFA) was conducted in Mplus version 5. This software package was chosen for its provision for EFA with categorical indicators. All of the questions used were of this measurement type, therefore Mplus provided the most robust estimation (other packages, such as SPSS, would treat categorical variables as continuous for the purposes of factor analysis). As single measures were desired and the number of factor indicators was small (maximum of four per desired measure), one-factor solutions were specified. Observations were only used in the analysis where there was valid data for all specified items ('Listwise deletion' was specified in Mplus).

The tables below display the factor loadings for each item on the factors. The factor loadings are the correlations between each variable and the underlying factor. The higher the loading, the more relevant the variable is to that factor. Goodness-of-fit statistics are also reported to show that the assumption of unidimensionality among the items is acceptable. As an indication of good model fit, Hu and Bentler (1999)²⁷ recommend a value of not less than 0.95 for the Tucker Lewis Index (TLI) and not more than 0.05 for the root mean square error of approximation (RMSEA). Based on these guidelines all four factor solutions provide a reasonable fit to the data. As further evidence of reliability the tables also contain Cronbach's Alpha, which is a measure of the internal consistency of a scale. A higher Alpha statistic (on a 0-1 scale) indicates a higher degree of internal consistency.

These analyses provided the evidence needed to reliably use four measures as outcomes in multilevel models. These were termed: involvement in basic learning, involvement in advanced learning, engagement with primary school and engagement with secondary school. Scores on these measures were calculated in SPSS using a sum of the responses to each item. This method

²⁷ Hu, L. & Bentler, P.M. (1999). 'Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives'. *Structural Equation Modeling: A Multidisciplinary Journal*, 6:1, 1-55.

was chosen over the calculation of factor scores in Mplus in order to facilitate replication with future rounds of data and thereby robust comparison should the Welsh Government wish to compare between survey years.

Table 1. Basic learning (child aged 3-7)

How often do you....

Item	Factor loading
Look at books or read stories	0.743
Help him/her to recognise or learn about letters, numbers and shapes	0.817
Help him/her to read or write	0.918
Help him/her with school work	0.674
TLI	0.955
RMSEA	0.024
Reliability (Cronbach's Alpha)	0.772
N	1384

Table 2. Advanced learning (child aged 8-17)

How often do you....

Item	Factor loading
Help him/her to read or consult books, magazines or newspapers	0.822
Help him/her to look up or consult information on a computer or the internet	0.770
Support him/her with school work	0.684
TLI	1.000
RMSEA	0.000
Reliability (Cronbach's alpha)	0.763
N	2226

Table 3. Engagement with primary school

Item	Factor loading
When I've wanted to meet with [name]'s teachers I have been able to meet with them within a reasonable period of time	0.816
I'm kept informed as much as I want to be about [name]'s progress, for example, through parents' evenings or school	0.912

reports	
I'm involved as much as I want to be in decisions about [name]'s education	0.801
Do you feel you are kept informed about the performance of [name]'s primary school?	0.675
TLI	0.999
RMSEA	0.024
Reliability (Cronbach's alpha)	0.758
N	1909

Table 4. Engagement with secondary school

Item	Factor loading
When I've wanted to meet with [name]'s teachers I have been able to meet with them within a reasonable period of time	0.757
I'm kept informed as much as I want to be about [name]'s progress, for example, through parents' evenings or school reports	0.897
I'm involved as much as I want to be in decisions about [name]'s education	0.863
Do you feel you are kept informed about the performance of [name]'s secondary school?	0.719
TLI	0.999
RMSEA	0.027
Reliability (Cronbach's alpha)	0.791
N	1438

Multilevel modelling

Multilevel modelling is a development of a common statistical technique known as 'regression analysis'. This is a technique for finding relationships between variables given the values of one or more related measures.

Multilevel modelling takes account of data which is grouped into similar clusters at different levels. For example in the present study, individuals are grouped in local authorities. Individuals living in a local authority will be more alike, on average, than individuals living in different local authorities. Multilevel modelling allows us to take account of this hierarchical data structure and produce more reliable results.

It is important to emphasise that multilevel modelling can only identify associations. It cannot attribute causality. The outcomes of the analysis will indicate whether or not there are differences in opinions or experiences for different types of respondents, but it will not tell us why.

While also looking at the influence of individual-level characteristics, our multilevel models allowed us to test for any differences between local authorities, or whether any apparent differences have been explained by inclusion of characteristics of local authorities or their residents. Having established this we were able to determine which explanatory variables were above or below the average for particular outcomes.

We ran three types of multilevel models depending on the measurement level of the outcome (response) variable:

- **Linear models:** Used for continuous response variables (outcomes), for example a factor score. The reported coefficient for an explanatory variable represents the change in the response variable (for example, 'basic learning' score – model 6) for a one unit increase in that explanatory variable, holding all other variables in the model constant.
- **Logistic models:** Used to model the probability of a response in one of two categories of a binary (1 or 0) categorical response variable (outcome), e.g. aspire to be in full time education or not. The reported coefficients represent the ratio of log odds of giving the response being modelled, for example having the aspiration for your child to stay in education (Model 8), holding all other variables in the model constant. The exponential of each coefficient yields the odds ratio.
- **Ordinal logistic models:** Used to model the probability of a categorical response variable (outcome) with more than one category, for example a Likert scale categories from 1 (strongly disagree) to 5 (strongly agree). The reported coefficients represent the ratio of log odds of being higher up that scale, for example having higher levels of reported satisfaction (models 1 and 2), holding all other variables in the model constant. The exponential of each coefficient yields the odds ratio.

Table 5 : Multilevel models

Model no.	Model outcome	Sample	Type of model
1	Satisfaction with school – primary	Child attends state primary school	Ordinal 5=Very satisfied 1=Very dissatisfied
2	Satisfaction with school – secondary	Child attends state secondary school	Ordinal 5=Very satisfied 1=Very dissatisfied
3	Opinion of state of education in Wales	Random sample of respondents, including parents and non-parents	Linear: 0-10 scale
4	Engagement with child's school - primary	Child attends state primary school	Linear: factor score
5	Engagement with child's school - secondary	Child attends state secondary school	Linear: factor score
6	Involvement in basic learning activities	Child aged 3-7	Linear: factor score
7	Involvement in advanced learning activities	Child aged 8-17	Linear: factor score
8	Aspirations for child	Child aged 11-15	Logistic Continue in full time education after 16 (1) vs. not (0)

Multilevel models were run using Mplus version 5. A set of explanatory variables that might be expected to be associated with the outcomes and that were of interest to the Welsh Government were included and a backwards selection process determined which of the variables were statistically significant predictors of the outcome variables. Listwise deletion was used so cases with any missing data in any of the variables were not included in the analysis.

The explanatory variables in tables 6 and 7 were included in all the models initially. The individual level variables were obtained from the National Survey for Wales dataset. Several LSOA variables were matched into this so that we could incorporate information on local area characteristics, including a measure of population density. The Local Authority Level variables selected varied according to their potential relevance to the outcome (for example, if the model was concerned with primary schools, LA variables relating to primary schools were included).

Explanatory variables

Table 6. LA level variables

LA0001	LA - Gross revenue expenditure on Education (£ per head, FY 2012-13)
LA00025	LA - % achieving the expected level - Key Stage 2 (L4+)(AY 11-12)
LA00032	LA - Pupil teacher ratio: LEA maintained primary schools(AY 12-13)
LA00033	LA - Pupil teacher ratio: LEA maintained secondary schools (AY 12-13)
LA00016	LA - EDU/017 - % pupils achieving Level 2 threshold including a GCSE grade A*-C in English or Welsh (1st language) and maths(FY 2012-13)

Table 7. Individual-level variables

LSOA variables		
WIMDEdu	Welsh Index of Multiple Deprivation – education index. More info: http://wales.gov.uk/statistics-and-research/welsh-index-multiple-deprivation/?lang=en	Most deprived LSOA is ranked 1; least deprived 1896. One area has a higher deprivation rank than another if the proportion of people living there who are classed as deprived is higher.
urban	Derived from urban/rural classification of LSOA.	1=urban, 0=not urban
Isoapop	Population count of adults in LSOA, obtained from the 2011 census.	Count
Pritrav/sectrav	Average travel time to a primary school/secondary school in LSOA.	Mean time in minutes.
Questionnaire/derived variables		
age	Age of respondent.	Age in years.
gender	Gender of respondent.	1=male 0=female
degree	Educational qualifications – whether the respondent holds a university degree.	1=degree 0=no degree
noquals	Educational qualifications – whether the respondent has no formal qualifications.	1=no qualifications 0=other response

SEC	National Statistics socio-economic classification (NS-SEC), constructed to measure the employment relations and conditions of occupations. More info: http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/soc2010-volume-3-ns-sec--rebased-on-soc2010--user-manual/index.html	1= Never worked and long term unemployed 2 =Semi routine and routine occupations 3 =Lower supervisory and technical occupations 4 =Small employers/own account workers 5 =Intermediate occupations 6 =Managerial and professional occupations.
wbeing	Well-being: Overall satisfaction with life.	0-10 scale
NumChild	No of children in the household.	
Dailywel	Speak Welsh on a daily basis – derived from WelFrqSpk.	1=speak Welsh daily 0=do not speak Welsh daily
Sinpar	Household type – derived from DvHhType.	1=single parent 0=not single parent
wbarea	Well-being - overall satisfaction with area lived in.	0-10 scale
wbwork	Well-being - overall satisfaction with work situation.	0-10 scale
health	Health in general.	1=very good 2=good 3=fair 4=bad 5=very bad
neighb	Local area - people willing to help neighbours	1=strongly disagree 5=strongly agree
lasafe	Local area - safety walking in local area after dark	1=Very unsafe 2=Fairly unsafe 3=Fairly safe 4=Very safe

latrust	Local area - trusting people in the neighbourhood	<p>1=None of the people in the neighbourhood can be trusted</p> <p>2=A few people in the neighbourhood can be trusted</p> <p>3=Some people in the neighbourhood can be trusted</p> <p>4=Many people in the neighbourhood can be trusted</p>
lamain	Local area - well maintained	<p>1=strongly disagree</p> <p>5=strongly agree</p>
Labelong	Local area - belonging to local area	<p>1=Strongly disagree</p> <p>5=Strongly agree</p>
wbchil	Well-being - overall satisfaction with the well-being of childre	0-10 scale
Bills	Finance - ability to keep up with bills and credit commitments at present	<p>1=Keeping up with all bills and commitments without any difficulties</p> <p>2=Keeping up with all bills and commitments but is a struggle from time to time</p> <p>3=Keeping up with bills and commitments but is a constant struggle</p> <p>4=Falling behind with some bills or credit commitments</p> <p>5=Having real financial problems and have fallen behind with many bills or credit commitments.</p>
wgsat	Overall satisfaction with the Welsh government	0-10 scale

Agepri/agesec	Age of child for questions on primary/secondary schools.	Age in years
Agebas/ageadv	Age of child for questions on parental involvement basic and advanced learning.	Age in years

Final model results

Explanatory variables were centred (continuous variables each had a mean of zero) to enable ready interpretation of the intercept term. Model results tables display the estimated model coefficients, standard errors and t- and p-values from the t-test of each coefficient's individual significance. The tables also display the means / thresholds and residual variances / variances between LAs.

Model 1. Satisfaction with school – primary

Variable	Estimate	S.E	Est./S.E.	P-Value	Odds Ratio	
DAILYWEL	0.335	0.124	2.692	0.007	1.398	
WIMDEDU	0.000	0.000	-2.588	0.01	1.000	
WBAREA	0.1	0.03	3.325	0.001	1.105	
WBWORK	0.065	0.015	4.36	0.000	1.067	
NEIGHB	0.133	0.043	3.067	0.002	1.142	
LAMAIN	0.302	0.055	5.445	0.000	1.352	
WBCHIL	0.097	0.042	2.302	0.021	1.102	
AGEPRI	-0.081	0.031	-2.637	0.008	0.923	
Between Level						
LA00025	-0.054	0.019	-2.888	0.004	0.947	
Thresholds						
PSSCHSAT\$1	-3.542	0.556	-6.368	0.000		
PSSCHSAT\$2	-2.288	0.5	-4.579	0.000		
PSSCHSAT\$3	-1.601	0.502	-3.188	0.001		
PSSCHSAT\$4	0.384	0.463	0.829	0.407		
Residual Variances						
PSSCHSAT	0.014	0.013	1.092	0.275		
N					1888	

Model 2. Satisfaction with school – secondary

Variable	Estimate	S.E.	Est./S.E.	P-Value	Odds ratio
WIMDEDU	0.000	0.000	3.538	0.000	1.000
NEIGHB	0.199	0.078	2.548	0.011	1.220
NUMCHILD	0.131	0.04	3.307	0.001	1.140
WBCHIL	0.168	0.039	4.282	0.000	1.183

Variable	Estimate	S.E.	Est./S.E.	P-Value	Odds ratio
Between Level					
Thresholds					
SSSCHSAT\$1	-2.806	0.342	-8.216	0.000	
SSSCHSAT\$2	-1.573	0.384	-4.099	0.000	
SSSCHSAT\$3	-0.904	0.376	-2.401	0.016	
SSSCHSAT\$4	0.777	0.321	2.419	0.016	
Variances					
SSSCHSAT	0.075	0.022	3.472	0.001	
N	1455				

Model 3. Opinion of the state of education in Wales

Variable	Estimate	S.E.	Est./S.E.	P-Value	Effect size
AGE	-0.008	0.002	-3.885	0.000	-0.082
DEGREE	-0.296	0.085	-3.505	0.000	-0.157
SEC	-0.068	0.014	-5.016	0.000	-0.065
WBEING	0.084	0.028	2.988	0.003	0.076
LAMAIN	0.188	0.045	4.155	0.000	0.107
LABELONG	0.202	0.054	3.762	0.000	0.104
WGSAT	0.356	0.02	17.429	0.000	0.391
Between Level					
Means					
EDSAT	5.229	0.38	13.748	0.000	
Variances					
EDSAT	0.019	0.009	2.099	0.036	
N	3960				

Model 4. Engagement with child's school – primary

Variable	Estimate	S.E.	Est./S.E.	P-Value	Effect size
WIMDEDU	0.000	0.000	-2.571	0.01	-0.073
URBAN	0.359	0.144	2.487	0.013	0.171
DAILYWEL	0.481	0.147	3.28	0.001	0.23
BILLS	-0.308	0.055	-5.613	0.000	-0.143
LATRUST	0.204	0.067	3.024	0.002	0.074
LAMAIN	0.233	0.058	4.01	0.000	0.114
WBCHIL	0.13	0.043	3.029	0.002	0.074
WGSAT	0.071	0.02	3.65	0.000	0.063
Between Level					
Means					
PENGAGE	4.273	0.36	11.855	0.000	
Variances					
PENGAGE	0.079	0.029	2.762	0.006	
N	1735				

Model 5 – engagement with child's school – secondary

Variable	Estimate	S.E.	Est./S.E.	P-Value	Effect size
SEC	-0.16	0.057	-2.797	0.005	-0.100
DAILYWEL	0.674	0.221	3.044	0.002	0.244
BILLS	-0.316	0.091	-3.48	0.001	-0.100
NEIGHB	0.241	0.05	4.785	0.000	0.087
LABELONG	0.154	0.074	2.074	0.038	0.051
WBCHIL	0.257	0.054	4.735	0.000	0.129
WGSAT	0.215	0.05	4.26	0.000	0.148

Variable	Estimate	S.E.	Est./S.E.	P-Value	Effect size
Between Level					
Means					
SENGAGE	3.993	0.306	13.06	0.000	
Variances					
SENGAGE	0.057	0.032	1.78	0.075	
N	1352				

Model 6 – Involvement in basic learning activities

Variable	Estimate	S.E.	Est./S.E.	P-Value	Effect size
AGEBAS	0.408	0.07	5.824	0.000	0.150
GENDER	-0.968	0.308	-3.139	0.002	-0.253
DEGREE	1.153	0.183	6.292	0.000	0.302
NUMCHILD	-0.425	0.135	-3.155	0.002	-0.109
BILLS	-0.399	0.107	-3.739	0.000	-0.102
LASAFE	-0.384	0.136	-2.82	0.005	-0.081
Between Level					
Means					
BASICL	18.946	0.576	32.872	0.000	
Variances					
BASICL	0.074	0.055	1.349	0.177	
N	1482				

Model 7 – Involvement in advanced learning activities

Variable	Estimate	S.E.	Est./S.E.	P-Value	Effect size
AGEADV	-0.542	0.044	-12.239	0.000	-0.386
WIMDEDU	0.001	0.000	4.451	0.000	0.102
AGE	-0.044	0.016	-2.72	0.007	-0.082
SEC	0.225	0.056	4.021	0.000	0.096
WBEING	0.217	0.066	3.277	0.001	0.091
NEIGHB	0.259	0.086	2.999	0.003	0.065
LASAFE	-0.386	0.09	-4.297	0.000	-0.077
Between Level					
LA00001	0.004	0.001	2.677	0.007	0.625
Intercepts					
ADVANCEL	8.268	0.516	16.026	0.000	
Residual Variances					
ADVANCEL	0.075	0.066	1.136	0.256	
N	2193				

Model 8 – aspirations for child to continue in full time education post 16

Variable	Estimate	S.E.	Est./S.E.	P-Value	Odds ratio
AGECHI	0.116	0.056	2.077	0.038	1.123
NOQUALS	-0.974	0.174	-5.594	0.000	0.378
Between Level					
LA00016	-0.028	0.01	-2.821	0.005	0.972
Thresholds					
EDASPS\$1	0.078	0.704	0.111	0.912	
Residual Variances					
EDASPS	0.046	0.046	1.002	0.317	
N	1470				