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Educational Experiences and Outcomes of Children with Special Educational Needs: Phase 2 – from age 9 to 13

A Secondary Analysis of Data from the Growing Up in Ireland Study

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Foreword

The NCSE is pleased to publish findings of the second phase of a research study. We commissioned this research to find more out about the educational experiences and outcomes of students with special educational needs. The research uses data from the Growing Up in Ireland study, a government-funded longitudinal study of over 8,000 children whose progress is being tracked at different points in their lives. The first report published in 2014 examined students at nine years of age. This second report examines how students are faring at 13 years of age and their progress since they were nine.

The report details students' education progress in a number of areas, including: reading and maths test results; attitudes towards school; attendance rates; experience of being bullied; moods and feelings; and wellbeing.

It notes that some positive progress has been made in certain areas for students with special educational needs between the ages of nine and 13. While there was a small increase in average wellbeing scores for all students, this was more marked for students with special educational needs. More progress was also made between ages 9 and 13 by students with special educational needs in reading/verbal reasoning scores compared to students without special educational needs.

However, despite this progress since they were nine years of age, 13 year old students with special educational needs are still faring worse than their peers without special educational needs in a number of areas. In the area of wellbeing, students with special educational needs still had significantly lower scores overall than students without special educational needs aged 13. This reflects the relatively low base from which they started from at age 9, and the particularly low scores for 13 year old students with behavioural, emotional and social difficulties, general learning difficulties, autism spectrum disorder or multiple special educational needs. Twice as many students with special educational needs than without special educational needs at age 13 reported being bullied. Students with special educational needs also adjusted less well to post-primary school than students without special educational needs.

This report provides further insights into how students with special educational needs are faring in the education system. As such, it should be of interest to all those working to improve outcomes for students with special educational needs.

Teresa Griffin
Chief Executive Officer

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Abstract

This report is the second report from a study titled *Educational Experiences and Outcomes for Children with Special Educational Needs*. It is a secondary analysis of Ireland's national longitudinal study of children, Growing Up in Ireland (GUI), commissioned by the NCSE. The results of the first set of analyses related to when children were aged 9 were published by the NCSE in November 2014. The results examined educational, wellbeing and engagement outcomes of children with special educational needs when they were aged 9. This second report, which uses data from GUI when children were aged 9 and 13, considers the extent to which special educational needs have changed or remained the same over time; examines progress in some of the outcomes examined in the first report, along with additional outcomes, such as transition to post-primary school; and considers differences between children with special educational needs in terms of type of special needs, socio-economic, school and home contexts, and outcomes. The report includes a short literature review of these topics (in addition to the literature review in the first report), and presents the results comprehensively. First, the classification of special educational needs is described, and the SEN status of children at age 13 is compared to their status at age 9. The classification scheme distinguishes between children with behavioural, emotional and social difficulties, general learning disabilities or difficulties, speech and language/specific learning disabilities, Autistic Spectrum Disorders, physical or sensory disabilities that impact on daily life, and multiple or unclassified special educational needs. There is, in addition, a group of children who had special educational needs at age 9 but not at age 13. Second, school and home contexts of these children are described, including transition pathways and changes in home environments between ages 9 and 13. Third, a range of outcomes is examined under the general headings of engagement and attendance, wellbeing, and achievement and expected attainment. Fourth, progress in several of these outcomes is explored while taking account of a range of school, home and socio-economic characteristics. The report includes a set of conclusions and policy implications. The Executive Summary provides an overview of the key findings, and an overview of all elements of the study.

Keywords

Special educational needs (SEN); educational experiences; educational outcomes; achievement; engagement; well-being; longitudinal study.

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Executive Summary

Background to the study

In January 2013, the NCSE issued a call for tender entitled A Secondary Analysis of Growing Up in Ireland: Data on Educational Experiences and Outcomes for Children with Special Educational Needs. In it, the NCSE noted that, despite significant investment to support children with special educational needs over the past decade, there is only limited evidence relating to the engagement, progress and outcomes of these pupils. A report published by the NCSE (Douglas *et al.*, 2012) made a number of recommendations, one of which focused on the need for further research on pupil outcomes in Ireland.

A research team in the Educational Research Centre (ERC) and the Special Education Department in St Patrick's College were tasked with this analysis in April 2013. The study was conducted in two phases, and the results of Phase 1 were published by the NCSE in November 2014 (Cosgrove *et al.*, 2014). The results of Phase 2 are presented in this report. The Phase 1 report drew on data from the Growing Up in Ireland (GUI) study when children were 9 years old (Wave 1 only), while this report, for Phase 2, uses data from when children were 9 and 13 years of age (both Waves 1 and 2 of GUI).

The aims of both phases of the study are to provide new evidence to help us understand more clearly how children with special educational needs, and specific identifiable subgroups within this cohort if possible, are faring at school in terms of:

- outcomes which relate to academic attainment or achievement and expectations in relation to same;
- participation in and engagement with school and learning, and their learning progress and expectations in relation to same; and
- independence skills, self-esteem, wellbeing at school and relationships with teachers and peers.

Two further goals are to identify and analyse the factors associated with these experiences and both formal and less formal educational outcomes, and to identify potential implications for educational policy and/or practice arising from the analysis.

The aims of Phase 2, in addition to those above, are to:

- revisit the system of classifying special needs used in the first report in light of any changes in questions asked in Wave two regarding special educational needs, special class location and other issues;
- match data between the two waves and compare children's outcomes for each wave and progress achieved (using the framework for the first phase of the study);

- track transitions to post-primary school types of the GUI children and how they have settled in to post-primary school; and
- identify the extent to which the needs of the GUI cohort have remained stable or changed between the two waves.

Due to the breadth of the findings throughout the report, the executive summary highlights the key findings of the report by area or theme, collating findings from across chapters of the report. Initially, three key areas are summarised: prevalence and stability; socio-economic status and special educational needs (SES and SEN); and home and educational background. Key findings from these themes are described under categories of an outcomes framework developed by Douglas *et al*. (2012): transition, engagement and attendance; happiness and wellbeing; and achievement and attainment.

Key findings

Prevalence and Stability: Classification of special educational needs at ages 9 and 13 years

After matching data for children at age 9 and age 13, and using parents' and teachers' responses for children at age 9, and parents' responses for children at age 13, it was found that:

- 17.9% of the 7,525 children at 13 years of age had special educational needs at the time of the survey.
- 26.9% of children had special educational needs at either or both age 9/age 13.
- 8.9% of children had special educational needs at age 9 but not at age 13.
- 6.8% of children had special educational needs at age 13 but not at age 9 (meaning that they were identified after the age of 9).

The seven specific categories arising from the GUI data are for the purpose of the report, and do not align with categories of special educational needs currently used to allocate resources to schools to support children with special educational needs in either the old or new models of resource allocation. This is because the questions asked of parents were not designed to align with either of these models. Prevalence in the seven specific categories at age 13 are in Table E1.

Table E1: Prevalence of special educational needs at age 13

Category	Overall Prevalence	Boys	Girls
BESD: Behavioural, Emotional or Social Difficulties[1]	4.1%	3.8%	4.5%
GLDD: General learning disabilities or difficulties	2.5%	2.5%	2.4%
SLDD: Specific learning difficulties or speech and language difficulties	8.0%	9.3%	6.7%
ASD: Autistic Spectrum Disorders	1.4%	2.2%	0.6%
Physical/sensory disabilities that impact on daily life	0.7%	0.7%	0.8%
Multiple or unclassified special educational needs	1.3%	1.5%	1.0%
Special educational needs at Wave 1 and 2	11.2%	13.1%	9.2%
Special educational needs at Wave 1 only	8.9%	10.3%	7.4%
Special educational needs at Wave 2 only	6.8%	6.8%	6.7%
No special educational needs at Waves 1 or 2	73.1%	69.7%	76.8%

A comparison of the SEN classification of individual children identified as having special educational needs at *both* age 9 and age 13 (11.2% of all children) shows that SEN classification changed over time, and the extent and nature of this change depends on the 'initial' classification:

- A majority of children with ASD at age 9–85% – remained classified in this group at age 13. The remaining 15% were distributed across BESD, GLDD and SLDD groups.
- Only one in three children with GLDD at age 9 remained in this group at age 13. A considerable percentage of these children – 44% – were classified in the SLDD group at age 13.
- About half of the children with BESD at age 9 were also classified in the BESD group at age 13. Just over a quarter were classified in the SLDD group at age 13, while about one in 10 were classified in the GLDD group at age 13.
- Almost three-quarters of children with SLDD at age 9 remained in this group at age 13, while about 12% were in the GLDD group, and 6% in the ASD group, at age 13.
- 44% of children with a physical or sensory disability at age 9 were also in this group at age 13. About 28% of these children were classified in the SLDD group (due in part to the inclusion of dyspraxia under the classification of physical and sensory disabilities at age 9), and 22% in the multiple or unclassified SEN group, at age 13.
- Just over half of children with multiple or unclassified SEN at age 9 were in the SLDD group at age 13. The remainder were distributed across the other SEN groups.

[1] In the first report of this study (Cosgrove *et al.*, 2014), which used GUI data from Wave 1 only, BESD was referred to as SEBD (social, emotional and behavioural difficulties).

The relationship between gender and categories of special educational needs varied depending on whether the child was classified as having SEN at age 9 only, at age 13 only, or at both ages 9 and 13. While about two in five of the children with special educational needs at age 9 only (40.6%) and with special educational needs at ages 9 and 13 (40.3%) were girls, about half of the children with special educational needs at age 13 only (48.7%) were girls.

Supports for children with special educational needs at ages 9 and 13 years

An examination of supports at ages 9 and 13 show that learning support and resource teaching were the most common forms of support. Focusing on children with SEN at age 9 only, resource teaching and learning supports were concentrated among children with GLDD. While about 36% of all children with SEN (at either or both ages 9 and 13) received in-school supports, this was concentrated among children with SEN at both ages 9 and 13 (68%) more so than children with SEN at age 13 only (26%) or SEN at age 9 only (2.3%). Out-of-school supports at age 13 were received by about one in six children with SEN (at either or both age 9 and 13), and again, this was higher among children with SEN at age 9 and 13 than children with SEN at either age 9 or age 13 only. It is important to note that this analysis of supports for SEN, as reported by parents, who may not be aware of all supports, cannot inform us about the suitability of supports for children.

Home and educational background

Home contexts

Examining household composition, one-parent households were more prevalent among children with special educational needs (27.3%) than children without special educational needs (16.3%), and were particularly prevalent among children with BESD (35.7%), GLDD (34.5%), and ASD (30.6%). Also, 6% of children without special educational needs experienced changes in the numbers of parents in the household, compared to 12% of children with special educational needs. Changes in household structure between ages 9 and 13 were most frequent among children with BESD.

The parents of children with special educational needs had lower average educational attainment than parents of children without special educational needs, with variation across the specific SEN groups.

About 30.7% of children with special educational needs were in families reporting financial stress, compared to 20.3% among families of children without special educational needs. Financial stress was highest among families of children with BESD, GLDD, and ASD. Also, parents of children with BESD and GLDD tended to experience a worsening of levels of financial stress from Wave 1 to Wave 2 to a greater extent than parents of children in the other SEN groups.

School contexts

The GUI sample is slightly but statistically significantly more socio-economically advantaged than the population, but nonetheless may be considered broadly representative. This is probably due to loss of participants between Waves 1 and 2 of the study. In Wave 2 when children were age 13, almost all children (98.2%) were in post-primary school; of these, 46.9% were in First Year, and 53.1% were in Second Year. About 1% of children in Wave 2 of GUI were in primary school. This is lower than the population estimate of 2.6%. A further 0.9% of children in GUI Wave 2 were enrolled in special schools. This is similar to the population estimate of 1.1%.

About twice as many children with special educational needs than without special educational needs were enrolled in schools with high levels of literacy difficulties (15.3% vs 8.4%), high levels of numeracy difficulties (15.3% vs 8.3%), and high levels of emotional and behavioural difficulties (8.0% vs 3.6%). However, prevalence of these difficulties varied more by school DEIS status than by individual child SEN.

Key findings on outcomes

Findings included here are closely related to Douglas *et al.*'s (2012) framework of outcomes: engagement and attendance (including transition); happiness and wellbeing; and achievement and attainment. Many of the findings under each theme have multiple parts: first, findings are presented in relation to children at age 13; second, for most of the outcomes (if the measure was used at both age 9 and age 13), progress from ages 9 to 13 is explored, by taking into account of 'how children were doing' at age 9; and, finally, for a group of selected outcomes, these findings are contextualised with the extent to which differences in outcomes may be associated with children's socio-economic, demographic and school and home environments, in addition to how they were doing at age 9.

For the group of selected outcomes, analyses for the contextualised findings use *multilevel modelling*, accounting for the fact that children are grouped in schools (and children in the same school share some social and educational characteristics). These models add value to the report by examining progress over time whilst at the same time adjusting for a range of background characteristics. This adjustment is important given the inter-relationships between SEN and some of the other characteristics.

It is important to note that children in primary and special schools were not included in all of the analyses due both to the small numbers of children in each of these settings when children were age 13, and the fact that school characteristics are quite different in these two settings compared to post-primary schools.

The outcomes examined included days absent from school, wellbeing (Piers-Harris scores), being bullied (parents' reports), reading test scores, and mathematics test scores.

Comparisons of four groups of children were made: children with SEN at age 9, with SEN at age 13, with SEN at both ages 9 and 13, and without SEN at either age.

Transition, engagement, attendance, and subjects studied

Transition to post-primary school

A majority of children who took part in GUI at age 13 had settled well into post-primary school (98% of children were in post-primary school at age 13), according to their parents, although more children without special educational needs (94%) than with special educational needs (80%) had settled in well. Children with special educational needs adjusted less well to post-primary school than children without special educational needs. Children with BESD, GLDD, and ASD adjusted less well than other children with special education needs.

All of the schools which 13 year olds in the GUI study attended had supports in place to assist children in their transition to post-primary, and 80% of all children were in schools with five or more kinds of transition support in place (e.g. induction day, formal integration programme, links with primary schools, study skills programme). However, none of the supports that were asked about in GUI were targeted at specific groups. This, coupled with the lower levels of positive transition to post-primary for children with SEN, may indicate a need to examine the extent to which supports targeted to the needs of children, as well as the particular aspect of the transition process, are in place.

Engagement at ages 9 and 13

At age 13, when asked how they felt about post-primary school, more children with SEN (17%) than without SEN (10%) indicated a dislike of school. Among children with special educational needs, liking of school was lowest among children with BESD, GLDD, physical or sensory disabilities that impact on daily life, and children with SEN at age 9 only.

Children were asked if they liked school at both ages 9 and 13. However, the manner in which the question was asked is not identical across waves, so results should be interpreted with some caution. In general, though, dislike of school increased between the ages of 9 and 13, but more so for children with special educational needs than without special educational needs.

Liking of school decreased among 23% of children without special educational needs and 29% of children with special educational needs between the ages of 9 and 13. Conversely, liking of school increased among 24% of children without special educational needs, and 21% of children with special educational needs, between age 9 and age 13.

Even after accounting for whether or not they liked school at age 9, liking of school in all but two of the seven SEN groups was significantly lower than children without special educational needs at age 13. Liking of school in children with ASD and with multiple or unclassified SEN did not differ from children without SEN.

Attendance at ages 9 and 13

Attendance rates over the previous 12 months at age 13 were lower among children with SEN than without SEN: 8.5% of children without SEN had missed two or more weeks of school, compared to 16.5% of children with SEN. Relatively high absence rates were found for children

with BESD, GLDD, physical or sensory disabilities, and multiple or unclassified SEN. Across all children, attendance rates at ages 9 and 13 are positively related to one another: children who had more days absent from school at age 9 tended also to have more days absent from school at age 13.

Children with SEN missed significantly more days of school than children without SEN at both age 9 and 13. The difference in days of school missed at age 13 is larger than the difference at age 9 between these two groups. This suggests a relative disimprovement in attendance of children with SEN compared to children without SEN. Even after accounting for number of days absent from school at age 9, the absence rates of each of the seven SEN groups remained significantly higher than the absence rate of children without special educational needs. Adjusted absence rates were particularly high for children with BESD and GLDD.

Findings suggest that targeting supports at individual children with low attendance coupled with robust individual-level attendance records would be more effective than school-level attendance policies on their own.

The results also highlighted the importance of positive adjustment in transitioning to post-primary school for attendance rates of children in general. For children with special educational needs at age 9 only and at both age 9 and 13, attendance rates were the same as for children without special educational needs at both stages, once account was taken of their level of adjustment to post-primary school.

The presence of socio-economic characteristics in the final multi-level analysis confirms socio-economic inequalities in children's attendance rates. The fact that these, along with children's attendance patterns at age 9, were in the final model, indicate the importance of promoting, supporting and maintaining good attendance patterns in children from early on.

Subjects studied at age 13

Of children enrolled in post-primary schools, fewer than 1% without special educational needs did not study Irish. In contrast, one in five children with special educational needs did not study Irish. This figure exceeded 40% among children with GLDD, BESD and ASD. Given the impact that the study of Irish may have on future educational opportunities, availability of a suitable course of Irish to all children with special educational needs merits consideration.

Happiness and wellbeing at ages 9 and 13

Comparisons of children's wellbeing (using Piers-Harris scores) indicated that children with SEN had significantly lower levels of wellbeing than children with no SEN, both overall and in the six areas that form the Piers-Harris measure of wellbeing. Wellbeing scores were particularly low among children with BESD, GLDD, ASD, and multiple or unclassified SEN.

Across all children, there was a small increase in mean wellbeing scores between ages 9 and 13. This increase was more marked among children with special educational needs, which is a positive finding. At ages 9 and 13, wellbeing scores were moderately positively related to one another, indicating a modest degree of stability in children's wellbeing. However, even after children's wellbeing scores at age 9 were taken into account, children in all seven SEN groups had significantly lower wellbeing scores than children with no special educational needs at age 13. Adjusted scores were particularly low among children with BESD, ASD, physical or sensory disabilities, and GLDD.

Exploring the wellbeing of 13 year olds in the context of individual, home and school characteristics, analysis (a multilevel model) showed that children's wellbeing did not vary across DEIS status (at primary or post-primary) or by post-primary school sector. However, it was also found that being bullied at age 9 has a negative association with wellbeing scores at age 13 (after accounting for other characteristics). This suggests a long-term negative impact of bullying. Second, the interaction between gender and SEN group for wellbeing of 13 year olds suggests different levels of emotional vulnerability among children in the three SEN groups, depending on whether they are boys or girls. Boys with SEN at both age 9 and 13 appear to be comparatively more vulnerable (have lower wellbeing scores than boys with SEN at age 9 only or age 13 only), while girls with special educational needs at age 9 only and age 13 only had the lowest wellbeing scores.

In addition to being asked about their wellbeing in general, children at age 13 were asked a series of questions about their mood and feelings (the Mood and Feelings Questionnaire; MFQ). Children with BESD, GLDD, ASD and multiple or unclassified SEN reported significantly and substantively lower mood than children without special educational needs.

At age 13, 10% of all children reported that they had been bullied during the past three months. Twice as many children with SEN (16%) than without SEN (8%) reported having been bullied. Experiencing bullying was most common among children with BESD, GLDD, and multiple or unclassified SEN.

Reports of bullying were compared at ages 9 and 13. However, the timeframe mentioned in the question on bullying for parents refers to the past year when aged 9, and the past three months when aged 13. About four times as many parents of children with special educational needs (11.3%) than with no special educational needs (2.7%) reported that their child had been bullied at both ages 9 and 13. However, regardless of SEN status, parents who reported that their child had been bullied at age 9 were about 2.8 times more likely to report that they had been bullied at age 13. The analyses have not examined the reasons for being bullied, or the impact, so should be interpreted quite broadly, and within the wider context of other wellbeing measures considered in this report.

Analyses using individual, home and school characteristics to explore parents' reports of the child being bullied indicated that no school-level characteristics were associated with being bullied (i.e. post-primary school sector and DEIS status, and primary school DEIS status). A lower likelihood of bullying was found for boys, Second Years, and having more close friends.

Achievement and expected attainment at ages 9 and 13

Achievement at ages 9 and 13

The verbal reasoning (VR) and numeric ability (NA) tests administered to children in GUI were not designed for children with special educational needs and more children with SEN (about 12%) than without SEN (about 4%) were missing test scores. In particular, the test score results of children with ASD, physical or sensory disabilities, and multiple or unclassified SEN should be interpreted cautiously since these three groups of children had the highest rates of missing test scores among the groups examined. It is also important to bear in mind that the analysis of test scores covers children in post-primary schools and does not include children in special schools or primary schools.

Children with SEN had mean scores on both tests that were significantly lower than those of children without SEN. However, not all children with SEN had low average test scores. Children (attending post-primary schools) with a physical or sensory disability and with multiple/unclassified SEN had statistically the same mean scores as children without special educational needs, while children with ASD (in post-primary schools) had a mean VR score the same as children without special educational needs. Note, however, that many of the children in the GUI sample with ASD and physical or sensory disabilities were in special or primary schools and their test scores are not included in this analysis. In all other cases, children in the specific SEN groups had mean test scores that were significantly lower than those of children without SEN. Test scores were particularly low among children with GLDD.

Overall, children's reading/verbal reasoning and mathematic/numeric ability scores are quite stable, between ages 9 and 13. The reading/verbal reasoning scores of more children with special educational needs (31%) than without special educational needs (24%) showed relative increases. This is positive, since it indicates that relatively more progress was made by children with SEN than without SEN.

While good progress in the area of reading/verbal reasoning has been made among children with special educational needs in general, the amount of progress varies across SEN groups. The verbal reasoning scores of most groups of children with SEN at age 13 were at about the expected levels based on their scores at age 9. However, the verbal reasoning scores of two groups of children, children with BESD and children with GLDD, were lower than might have been expected at age 13.

In contrast to reading/verbal reasoning, while progress in mathematics has been made among some children with special educational needs, the level of progress is less than would be expected based on their test scores at age 9 among some children with SEN. There was no difference in the percentages of children with and without SEN showing relative progress in mathematics/numeric ability over time.

The numeric ability scores of some groups of children with SEN were at about the expected levels at age 13, based on their scores at age 9. However, numeric ability scores of children with SLDD and BESD at age 9 only were lower than might have been expected at age 13. Further, the mean numeric ability score of children with general learning disabilities or difficulties was significantly and moderately lower than would have been expected. Overall, less progress in mathematics than in reading has been made by children with SEN, than by children without SEN.

Verbal reasoning scores did not differ across school sector, but were significantly lower among children in DEIS post-primary schools than in non-DEIS schools. Additional analyses for verbal reasoning test scores included an interaction between gender and SEN group such that the lowest reading scores were associated with girls with special educational needs at both ages 9 and 13. This finding merits further investigation.

The final model for reading also showed that, despite having an additional year of schooling, children in Second Year had a reading score that was significantly lower than children in First Year. This could be symptomatic of disengagement among some students in Second Year, which has been shown in previous research, and is a finding that merits further study.

Over and above the other characteristics considered, children who expressed a low liking of school at age 13 were doing significantly less well in reading than children expressing medium or high levels of liking. The significant association between dislike of school and reading achievement (after accounting for the other measures in the model) suggests that further examination of why children don't like school is merited.

Similar to the analysis of reading, mathematics scores did not differ across school sector, but were significantly lower among children in DEIS post-primary schools than in non-DEIS schools. Consistent with the analysis of reading, the final analysis for mathematics showed that, despite having an additional year of schooling, children in Second Year had a mathematics score that was lower, on average, than children in First Year.

The final analysis of mathematics shows that, over and above the other characteristics considered, children who expressed a low liking of school at both 9 and 13 years of age had significantly lower mathematics scores than children expressing medium or high levels of liking. It could suggest, in the case of mathematics at least, that dislike of school can start early and have a lasting impact on school performance.

Expected attainment at ages 9 and 13

Children with SEN at age 13 reported lower educational expectations than children without SEN in some respects. For example, while 56% of children without SEN expected a degree, just 36% of children with SEN expected to attain a degree. Children's parents had higher educational expectations for their child than children themselves. Consistent with children's own reports, more parents of children without SEN (85%) than with SEN (60%) expected their child to attain a degree. However, twice as many parents of children with SEN (22%) than without SEN (11%) expected their child to attain an apprenticeship or post-school certificate or diploma.

Overall, there has been an increase in parents' educational expectations for their children between ages 9 and 13, though this increase is slightly larger among parents of children without special educational needs than with special educational needs. This suggests a slight widening of the gap in parental educational expectations among children with and without SEN over time. Analyses that compared parental educational expectations for the seven SEN groups relative to the no-SEN group confirmed that educational expectations are lower in all of these groups, with the exception of parents of children with physical or sensory disabilities.

Key findings emerging from examining outcomes in context (multilevel analysis)

In general, children with SEN are achieving at about the expected level of reading, once their achievement at age 9, along with other background characteristics, are accounted for. This is a positive finding. On the other hand, children with SEN are scoring lower in numeric ability than would be expected relative to children with no SEN, even after accounting for their mathematics achievement at age 9, along with other background characteristics. *Project Maths* has now been fully implemented. However, there has not yet been an evaluation of *Project Maths* that has included an examination of children with SEN.

Second, children with special educational needs at age 13 only may be a vulnerable group among children with SEN more generally. They were more likely than other children to have parents report that they had been bullied, and had the lowest average attendance rates (other factors being equal). Also, lower wellbeing was associated with girls with special educational needs at age 9 only and at age 13 only, and among boys with special educational needs in both age groups. This suggests that children's gender as well as the challenges and needs presented to them by their particular SEN need to be considered within any further analysis of the vulnerabilities of children with SEN.

Some key points can be made that are relevant to children in general. First, the results confirm that attitudes and behaviours that are established at age 9 are related to attitudes and behaviours at age 13. Second, there is some stability in children's wellbeing over time, and reading and mathematics scores at age 9 are quite strongly related to achievement in reading and mathematics at age 13. This underlines the need to establish and support positive attitudes and patterns of behaviour from an early age, using individualised supports where appropriate. Cognitive or academic supports may be particularly well-directed at children who had attended DEIS Band 1 schools and then enrolled in a DEIS post-primary school, while the results suggest that supports targeted at promoting children's wellbeing should be directed at children more generally. Results also suggest that further work on maintaining and improving the engagement of Second Years, and of improving children's engagement with mathematics from primary school upwards, is needed. Third, that being bullied in primary school has a bearing on children's wellbeing in post-primary school and underlines the need to identify factors that protect against the occurrence of bullying from an early stage of children's development.

Conclusions and implications

Findings in this report offer a starting point for consideration in preliminary policy formulation, though many require further research and analysis. The study is not without limitations: GUI was not designed specifically to examine children with special educational needs and the SEN classification scheme is not ideal. For example, children in the GLDD group could not be distinguished between mild, moderate and severe/profound learning disabilities; children with a range of physical or sensory disabilities are classed into a single group; and the identification of children with BESD had to be inferred from parents' responses (many children with BESD would not be formally identified). The numbers of children in some of the groups (ASD, physical or sensory disability, multiple/unclassified SEN) are small. This is particularly relevant for the children in the physical or sensory disability group, when children with physical, visually impaired/blind and hearing impaired/deaf are considered. Further research could inform policy formulation for some of these groups (e.g. BESD, severe/profound GLDD, hearing impairment/deafness).

Also, even though GUI is a very high-quality study, the sample of children at age 13 were slightly more socio-economically advantaged than the population, due to loss of participants between Waves 1 and 2. For the measures of achievement (numeric ability and verbal reasoning), response rates were lower among children with SEN (about 12% were not tested at age 13) than for children without SEN (about 4% did not complete tests at age 13), meaning that we cannot be overly confident in the generalisability of the achievement test results.

The following key implications emerge:

1. This study found that many children with BESD are at a significant disadvantage socio-economically relative to their peers without special educational needs, frequently live in home environments undergoing financial stress and compositional changes, and have poor educational, social and emotional outcomes. Moreover, a significant number of girls emerged with BESD at age 13, and it was shown that BESD frequently co-occurs with other special educational needs at age 9. Despite these findings, a majority of children identified with BESD (on the basis of the GUI data) appear not to be in receipt of educational or psychological supports (albeit that this relies on parents' reports of supports). There is a need for the development of structures and methods to enable early identification of and support for children with BESD (or at risk of BESD). This is a challenging and complex task, however, as it will require continued and enhanced collaboration and co-ordination across sectors at local, regional and national levels. In this respect, the strategies for the development of the Children's and Young People's Services Committees as part of *Better Outcomes, Brighter Futures* are welcomed.

2. The new model of allocation is welcomed (NCSE, 2014), with a fairer and more equitable system of allocation, with the inclusion of measures of socio-economic disadvantage.

3. The wellbeing of children with special educational needs is a matter for concern, particularly children with BESD, GLDD and multiple or unclassified SEN (as defined in this study). Initiatives to address these issues might be appropriate and, within these, that the needs of vulnerable children and young people could be specifically targeted.

4. The changes over time in special educational needs underline the need for capacity in the school system to assess children's cognitive, social, personal and emotional needs in an on-going manner so as to tailor responses to meet those changing needs. Professional development and support should be on-going, and cross-sector collaboration should be maintained and enhanced.

5. There might be a need to develop targeted, tailored supports for a significant minority of children with special educational needs as they transition from primary to post-primary school. Continuity in supports should be safeguarded and the transition process should include supports for educational, social and emotional elements.

6. In some settings, subject choice and subject availability may have a negative impact on children's engagement as well as their future educational options. In particular, the availability of Irish for children with SEN who want to study it should be reviewed.

7. In attempts to address the overall wellbeing and sense of safety and belonging of children with special needs in schools, research using a standard definition of bullying is needed, and this definition should take children's views into account. The multidimensional elements of bullying and bully-perpetrator relationships should be considered.