

Growing Up in Scotland: Characteristics of pre-school provision and their association with child outcomes

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This document presents key findings from a project that explored the relationship between children's experience of pre-school provision and change in their social and cognitive development between ages 3 and 5. The project examined differences in the characteristics of pre-school provision experienced by different children and whether, in particular, the quality of the provision – as assessed through inspection by the Care Inspectorate or Education Scotland – influenced change in children's outcomes. The project used data collected from mothers and children in the first birth cohort of the Growing Up in Scotland (GUS) study between 2008 and 2010. Survey data was linked to administrative data held by the Care Inspectorate and Education Scotland.

Main Findings

- 92% of children aged four in Scotland took up their statutory pre-school entitlement in 2008-09. Children from more and less deprived areas and those from higher and lower income households were equally as likely to do so.
- 58% of children attended a local authority primary school nursery class, 20% attended another type of local authority pre-school setting (such as a stand-alone nursery or family centre), 14% attended a private provider and 8% a voluntary provider.
- LA primary school nursery classes were less likely to be attended by children in the highest income quintile than by those in the lowest income quintile. In contrast, use of private settings increased with income.
- Regardless of the provider, quality of care and education was generally assessed as being 'good' or better. It was highly unusual for a child to attend provision assessed as unsatisfactory or weak on any indicator. 32% of children attended a pre-school setting graded as either very good or excellent in each of the four Care Inspectorate quality themes. The proportion doing the same using the five Education Scotland Quality Indicators was lower, at 20%.
- There were no statistically significant differences in the extent to which children from different backgrounds – as measured by household income, parental education and area deprivation – were likely to attend higher quality pre-school provision. On average, higher quality pre-school settings did not appear to be consistently catering for children with better or poorer developmental status on entry.
- Of the various pre-school characteristics considered, only the grading on the Care Inspectorate's theme of 'care and support' was found to be associated with child outcomes, after controlling for differences in children's backgrounds. Children who attended providers with a higher care and support grade were more likely to show higher vocabulary skills by age 5, irrespective of their skills at age 3 and their social background.

Background

At three and four years of age, all children in Scotland are currently entitled to receive a minimum of 475 hours of pre-school education per year. As of August 2014, the Scottish Government will increase the statutory entitlement to 600 hours. Given that upwards of 90% of children eligible for a pre-school place take it up, this place offers an important opportunity to address inequalities in cognitive and social development ahead of children's entry to school.

To date, there has been only limited consideration of national variations in children's experience of pre-school provision in Scotland and how differences in this experience may affect their outcomes at school entry.

Aims and methods

This study used data from GUS, combined with administrative data provided by the Care Inspectorate and Education Scotland, to provide a detailed understanding of the characteristics of pre-school provision in Scotland and how it is experienced by children who live in different areas and who have different social background characteristics. Furthermore, it sought to explore the association between the characteristics of the pre-school setting a child attends and their cognitive and social development between ages three and five.

The GUS data used was collected from children and families in the first birth cohort (BC1) mainly at around age four (sweep four collected in 2008/2009) though data collected at earlier and later ages is also included.

3691 children (92%) were attending pre-school provision at age four. Parents of these children provided details for the pre-school setting attended by the child. This data was linked to Care Inspectorate administrative details using a list of daycare of children services that were operating at any point between 1st August 2007 and 30 August 2010. Pre-school details were successfully matched to Care Inspectorate service information for 3658 children (99%) corresponding to 1296 pre-school centres. Grades on quality themes from Care Inspectorate inspections were available for between 2878 (78%) and 3013¹ (82%) children.

¹ The number varies according to the specific QI

Using the Education Scotland data, 1244 (96%) pre-school settings were successfully matched. However, as Education Scotland only takes a representative sample of pre-school settings for inspection, Quality Indicator (QI) data within the valid date range was only available for 415 (32%) settings. When merged back into the GUS child-level dataset, this meant Education Scotland QI data on their pre-school setting was provided for 1086 children – 29% of all children attending pre-school provision.

Measuring the quality of pre-school provision

Following inspection of pre-school settings both the Care Inspectorate and Education Scotland assess the quality of the service provided.

The Care Inspectorate assesses care against four quality themes: care and support; environment; staffing; and management and leadership.

Education Scotland evaluates provision using five quality indicators: improvement in performance; children's experiences; meeting learning needs; the curriculum; and improvement through self-evaluation.

For each indicator or 'theme', a provider can be given an evaluation or grade of between one and six, with six being the highest. The values equate to the following descriptive terms: 1 = unsatisfactory; 2 = weak; 3 = satisfactory (Education Scotland)/adequate (Care Inspectorate); 4 = good; 5 = very good and 6 = excellent.

What does pre-school education look like for children in Scotland?

In 2008/09, 92% of children aged 3-4 years old were receiving pre-school education in some form. Children from more and less deprived areas and those from higher and lower income households were equally as likely to be attending pre-school.

There is a great deal of variation in the characteristics of the different pre-school settings that children attend. Most obviously the settings vary in their funding and 'management' arrangements. 58% of parents reported that their child attended a local

authority primary school nursery class, 20% attended another type of local authority pre-school setting (such as a standalone nursery or family centre), 14% of children attended a private provider and 8% a voluntary provider.

This fundamental distinction is often associated with a range of other differences in the characteristics of the settings children experience in terms of the size, age range catered for and, crucially, the quality of the care and education being provided.

- Children attending private providers were found to be significantly less likely to experience the highest quality of provision:
- 16% of children attending a private pre-school setting had a provider who scored five or six against all four Care Inspectorate quality themes compared with 37% of children who attended a local authority primary school nursery class.

Whilst nursery classes in LA primary schools are the dominant provider for children in all income groups, they are less likely to be attended by children in the highest income quintile than by those in the lowest income quintile. In contrast, use of private settings increase with income:

- 67% of children in households in the lowest income group attended a LA primary school nursery class compared with 47% of those from the highest income group.
- 7% of children from households in the lowest income group attended a private provider compared with 24% of children from households in the highest income group.

These differences largely reflect the different childcare needs of couple families with both parents employed, who tend to have higher incomes.

There was no significant systematic difference in the quality of pre-school settings that more and less advantaged children attended. In other words, for example, children from higher income households or whose parents had higher qualifications were no more likely than those from lower income households or whose parents had lower qualifications to attend a higher quality pre-school setting.

What is the status of children's cognitive and social development at age three and how has this changed by age five?

Children in more advantaged circumstances – whether measured by household income, parental level of education or socio-economic classification – had higher average cognitive ability on both measures² at ages three and five than children in more disadvantaged circumstances.

The vast majority of children were not reported to have any social, emotional or behavioural difficulties at ages four, five and six. However, the proportion of children with moderate or severe difficulties increased according to increasing levels of disadvantage.

At the beginning of their statutory pre-school entitlement, on average children who attended local authority primary school nursery classes were more likely to have higher social development difficulties and lower cognitive ability than children who attended private providers. These differences largely occur because a greater proportion of children who use private providers are from more advantaged circumstances where social difficulty levels are known to be lower and cognitive ability levels higher.

In contrast, again using a measure taken around the time children start their pre-school entitlement, those who attended settings with high and mixed quality ratings were not significantly different in terms of their social and cognitive development. Thus, on average, higher quality pre-school settings do not appear to be consistently catering for children with better or poorer developmental status on entry.

Is there any relationship between the characteristics of the pre-school setting that a child attends and the change in their cognitive or social development?

² Expressive vocabulary and problem solving

Of the various pre-school characteristics considered – type of provision, quality of provision, weekly duration of attendance, the size of the pre-school setting and having attended a nursery or playgroup setting prior to starting pre-school entitlement – only the grading on the Care Inspectorate’s theme of ‘care and support’ was found to be associated with the assessed child outcomes, after controlling for differences in children’s backgrounds.

Children who attended providers with a higher care and support grade were more likely to show higher vocabulary skills by age five, irrespective of their skills at age three and their social characteristics.

The positive effects of attending a higher quality provider appeared to be similar for children with different social backgrounds and attending a private setting with a high care and support grade was not any more beneficial than attending a similarly graded primary school nursery class.

Conclusion

That there were no significant differences in the average quality of pre-school settings that more and less advantaged children attended or differences in the quality of settings attended by children with different levels of social and cognitive development is an important and encouraging finding. This, together with the near universal attendance at statutory pre-school provision, suggests that the benefits of pre-school education can be shared across children regardless of their background. Nevertheless, given the known socio-economic variations in the *types* of provision used by different children and the known differences in their developmental ability on entry to pre-school, some shift in the balance to further improve the quality of provision accessible to children most in need may be beneficial in reducing inequalities between the most and least advantaged.

The data considered for this report did not allow exploration of differences in staff qualifications according to provider type or quality. However, given the important link between staff qualifications and quality of provision, it is important to ensure that access to staff with complementary skills and higher level qualifications is available for children in all pre-school settings.

The findings here suggest that the imminent increase in pre-school entitlement due in August 2014 is unlikely to have either a direct positive or detrimental impact on child outcomes. There may be some benefits from the increase in statutory pre-school hours through increased opportunities for both parents to work or to pursue further education or training. However, the increased hours of entitlement alone are limited in allowing parents to take up work and education opportunities. To maximise the opportunity for parents, it is crucial that the entitlement is delivered flexibly to suit typical patterns of employment and education.

The emergence of quality as the key characteristic of pre-school provision associated with child outcomes underlines the importance of retaining standards as pre-school educational entitlement expands. In terms of improving early vocabulary – a key predictor of later attainment – the most important quality measure has been shown to be ‘care and support’. This analysis has highlighted, for the first time, exactly which aspect of quality is most important for cognitive development and should help prioritise efforts at retaining and improving quality. Indeed, this study suggests that aspects of pre-school settings that are routinely inspected are associated with child outcomes. If these can be measured routinely, it also suggests they can be improved. Therefore it seems feasible that this aspect of quality could be improved across all settings if the necessary support is provided and the provider is committed to improving.

The size of the effects of pre-school quality on child outcomes is quite small. Nevertheless, it appears that attending high quality pre-school provision will benefit children in terms of their vocabulary ability which may, in turn, help reduce known socio-economic inequalities in this and other developmental outcomes. However, it will not by itself eradicate these inequalities. As well as early childhood education and care, children’s exposure to learning at home is important in helping them achieve better outcomes. Yet with almost universal attendance at statutory pre-school provision amongst eligible children in Scotland, these settings undoubtedly present an important opportunity to make a significant and long-term difference to many children’s lives.