

The impact of free early education for 3 year olds in England

Introduction

In England, all 4 year olds have been entitled to a free, part-time early education place since 2000, and all 3 year olds have effectively been entitled to a free place since 2005.

The research summarised in this note examines the impact of government funding for free part-time early education places for 3 year olds on:

- the take up of early education amongst 3 year olds;
- their mothers' work status;
- children's educational development during primary school.

This note summarises the results of two related research projects. With funding from the ESRC through its Secondary Data Analysis Initiative, and the Nuffield Foundation, **Jo Blanden (University of Surrey), Emilia Del Bono (University of Essex), Kirstine Hansen (Institute of Education), Sandra McNally (University of Surrey) and Birgitta Rabe (University of Essex)** investigated the impact of free early education on children's development.

With funding from the ESRC through its Secondary Data Analysis Initiative, **Mike Brewer (University of Essex and IFS), Sarah Cattan (IFS), Claire Crawford (University of Warwick and IFS), and Birgitta Rabe (University of Essex)** investigated the impact of free early education on mothers' work patterns.

Policy Details

In 1998 the Labour government announced that it would introduce a free entitlement to part-time early education for all 3 and 4 year olds in England. This followed a similar policy announced by the Conservative government in 1996 for all 4 year olds. The policy became effectively universal across England for 4 year olds by 2000 (helped by a shift towards an earlier school starting age), but expanded more slowly for 3 year olds, becoming effectively universal across England by 2005. The devolved nations have similar policies, but this project examined only the policy regime in place in England.

The policy did not involve central or local government increasing its own provision of early education places to any significant extent; instead, it was intended to make use of the considerable private market for childcare and early education that has grown up over past decades. As a result, the free entitlement can be taken up at a local authority nursery school, a nursery class in a maintained school, or at a private, voluntary or independent setting (known collectively as PVI), or, more rarely, with a child-minder.

The entitlement was initially for 2.5 hours a day (12.5 hours a week) for 33 weeks a year, but it has been expanded so that it now covers 15 hours a week (which can be taken flexibly over fewer days) for 38 weeks a year. From September 2013, the free entitlement was extended to 2 year olds from low-income families. The impact of that expansion is not covered by this research project.

The state has supported childcare in other ways as well over this period, both through the tax and benefit system and through specific investments (e.g. in neighbourhood nurseries). However, the free entitlement represents the largest investment in early years, with spending on early education places for 3 and 4 year olds estimated to be around £1.9bn a year in England (National Audit Office, 2012).

The 2002 Interdepartmental Childcare Review (Strategy Unit, 2002) referred to state support for “good quality, integrated childcare” as leading to a “double dividend” by both promoting children’s development (particularly among disadvantaged children) and encouraging parental employment.

When the policy was first introduced, children could only engage in short sessions of early education each day; the objective was therefore focussed on the child development element of this ‘double dividend’. However, the 2006 guidance to local authorities (DFES, 2006) stated that “because the free entitlement is available only on a rigid stand-alone sessional basis ... it may also deter parents from taking up paid work or training opportunities”. This document set out the government’s aim to increase both the number and flexibility of free hours available to 3 and 4 year olds via this policy, emphasising that supporting working families was also important.

Research Methods

When the free entitlement was being introduced in the early 2000s, some local authorities saw the availability of free places for 3 year olds increase considerably. Other local authorities were already offering a large number of hours of free early education through maintained nursery places, and therefore saw additional places rise by much less. There was also variation in the timing of the build-up among those areas which funded new places: for example, although two thirds of 3 year olds were accessing free places in 2002, in some local authorities (e.g. Bath, Kent and East Sussex), less than 30% of children were benefitting.

By comparing areas that saw a large increase in free places to those that did not, the researchers assess how the increased availability of free early-education affected mothers and children, within these different authorities. For example, if the free entitlement has an impact on mothers’ work patterns, one would expect to see an association between an increase in the number of free part-time early education places available in the local authority at age 3, and mothers’ employment rates or hours of work¹. For children’s development, we

would expect places to be associated with educational outcomes some time later. This research looked at children’s performance in the Foundation Stage Profile at age 5 and their Key Stage 1 and 2 results at ages 7 and 11 respectively.

For the research design to work, it is essential to separate the impact of the change in free places from other factors which change at the local area level. To do this, each research team estimated a detailed econometric model which takes account of the fact that different local authorities might be on different trajectories in terms of child development or mothers’ work patterns, might have experienced different changes in economic conditions, or might be benefitting differentially from other early years policies, such as the availability of Sure Start services.

In addition, the work on mothers’ work patterns also used a comparison group of mothers with younger children, with the idea that their employment rates would not be affected by the provision of free places for 3 year olds.

¹ The research does not examine whether there are longer-term benefits on mothers’ work patterns, which might arise if women earn more later on as a result of their additional work experience.

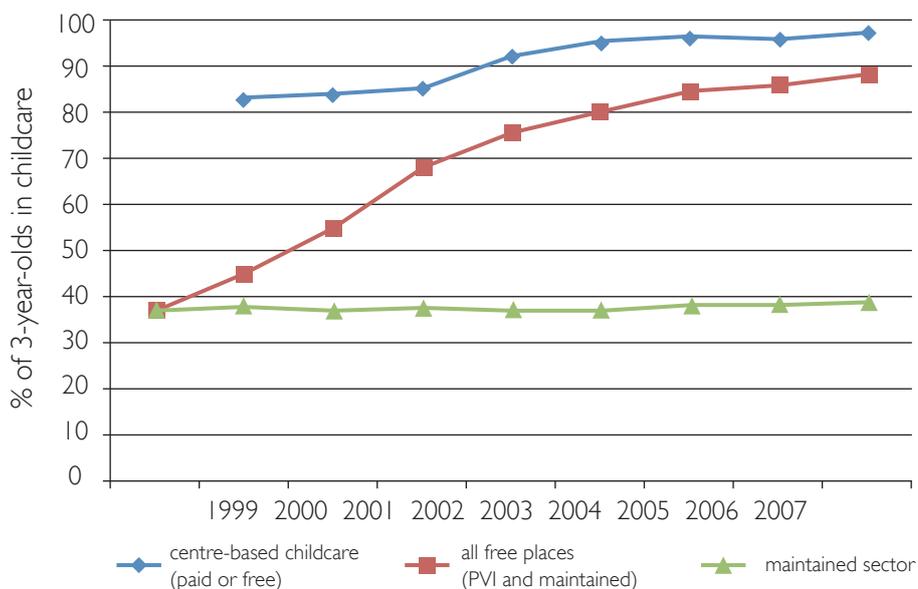
The impact of the free entitlement on nursery attendance

Figure 1 shows the proportion of 3 year olds in England benefitting from a free part-time early education place, and the proportion of places taken in maintained and private, voluntary or independent (PVI) settings. For later years, it also shows the proportion of 3 year olds in England attending any type of formal early education (of any hours a week), regardless of whether or not it was paid for by parents.

It shows that, even before the free entitlement was introduced, around 37% of 3 year olds in England were

able to access some free early education. These children were using early education provided by some local authorities in maintained schools, even though local authorities were not at the time specifically funded to do this. This means that for about 4 in 10 children, the announcement of the free entitlement made little difference to the availability of free early education (other than clarifying that it should be for 12.5 hours a week, 33 weeks a year and should begin the term after children turn 3).

Figure 1: Percentage of 3 year olds in England in early education, 1999 – 2007



Source: DfE statistical releases

The introduction of the free entitlement ensured that many more 3 year olds had access to a free part-time early education place: the proportion of 3 year olds taking up free places rose from 37 percent in 1999 to 88 percent in 2007, a rise of around 50 percentage points. It is clear, however, that this rise was not driven by the state expanding its own provision of early education: almost all of the growth in free early education places for 3 year olds since 2000 has been in PVI settings.

Finally, Figure 1 shows that about 44 percent of 3 year olds were paying to access early education in a PVI setting, before the announcement of the free

entitlement (in Figure 1, this is the difference between the proportion of children using free care and the proportion of children using any kind of care). This means that the proportion of 3 year olds using any early education – whether or not it was paid for by their parents – rose by only 14 percentage points between 2000 and 2007, a much smaller rise than the increase in the availability of free places.

The research examined the relationship between the availability of free places and the number of children using free or paid-for early education at the local level. It suggests that out of every six children receiving free early education in 2007, only one more child

attended; the remaining five would have been in some form of early education even in the absence of the policy. For these five children, the introduction of the free entitlement mostly acted to reduce how much their parents paid for early education (although there may also have been an increase in the quality of early education because of the tighter regulation of settings that received public funding).

We must rely on surveys of parents to understand whether the increase in funded places led to a greater increase in the use of early education amongst children from disadvantaged backgrounds, and small sample sizes hamper our ability to draw firm conclusions. The

data suggests that children in families from lower social classes (as defined by parental occupation) were more likely to move into formal childcare or early education as the policy took effect than those from higher social classes. However there is no clear pattern when split by the level of the mother's educational qualifications. Children from disadvantaged backgrounds were, however, more likely to stop using informal childcare (care offered by family and friends) over the period when the free entitlement expanded. If formal childcare is of higher quality than informal care, then this could mean that their quality of care has improved as a consequence of the policy.

The impact of the free entitlement on child development

This part of the project was conducted by **Jo Blanden (University of Surrey)**, **Emilia Del Bono (University of Essex)**, **Kirstine Hansen (Institute of Education)**, **Sandra McNally (University of Surrey)** and **Birgitta Rabe (University of Essex)**. A more complete write-up of the results can be found [here](#).

The researchers linked variation in the availability of free early education places when the child was age 3 to their test scores in later years, available from the Department for Education in the form of the National Pupil Database.

This analysis focused specifically on children attending early education from 2002 to 2007, as this enables the researchers to use information on school-based assessments at age 5, which are not available for earlier years. Using this time period has other advantages too; between 2000 and 2002, the first years of the policy build-up, only 6 percent of the funded places were genuinely new capacity. In addition, it took some time for the quality requirements on providers of the free entitlement to be enforced. For both reasons it is sensible to focus on later years when assessing the impact of offering free part-time early education places on child development.

As described above, the researchers effectively compared the change in children's outcomes in areas where the free entitlement was already well established in 2002, with areas which experienced substantial

growth in the free entitlement between 2002 and 2007.

If the free entitlement has an impact, and provided not too many children change Local Education Authorities between the age of 3 and 5, then one would expect an association between an increase in free places and an improvement in children's assessed development in the Foundation Stage Profile at age 5. The researchers also examined the performance of the same cohorts of children in their Key Stage 1 tests at age 7 and their Key Stage 2 tests at age 11.

Findings

The roll out of the free entitlement to 3 year olds had small impacts on the outcomes of children assessed at age 5, which get even smaller by age 7, and disappear completely by age 11. The main results at age 5 are summarised in Table 1. Impacts are expressed in terms of percent increases in Foundation Stage Profile point scores, compared to the average. Expanding the number of free places to cover a further 10 percent of all children leads to additional progress of 0.4 percent among all children. As the results are based on more than one million observations, the impact has been estimated precisely and is statistically different from zero, but it is clearly very small. For comparison, the gap between children eligible and not eligible for free schools meals is 12.5 per cent and the gap between boys and girls is 7 per cent.

Table 1. Impact on child outcomes of a 10 percentage point increase in free early education places

	Foundation Stage Profile Score	Literacy	Numeracy	Social Development
% increase in point scores, compared to mean				
All children	+0.38***	+0.36**	+0.40***	+0.29**
Children in 33% most deprived neighbourhoods	+0.60***	+0.70**	+0.63**	+0.43**
50% Local Authorities where most new places were created	+0.99***	+0.70***	+0.75***	+0.62***

Note: ***indicates statistical significance at the 1% level; ** at the 5% level; * at the 10% level.

The overall effect of the policy was to increase the fraction of 3 year olds benefitting from a free part-time early education place by around 50 percentage points. So the impact of the expansion of the free entitlement as a whole was around five times greater than the figures shown in the Table.

In other words, the decision to make early education for 3 year olds free across all of England improved the outcomes of English children at age 5 by 2 percent on average (from a score of 87.5 out of a possible 117 on the FSP to a score of 89.3, everything else equal). Results for particular aspects of the curriculum - literacy, numeracy and social development - are very similar.

There is weak evidence that the policy had more impact on the poorest children; the second row of Table 1 shows that effects were slightly larger for children who lived in the most disadvantaged neighbourhoods, but this pattern is not seen for other measures of disadvantage i.e. for children eligible for Free School Meals or for those with English as an additional language.

The final row of the Table shows the estimated impact of providing more free places assessed for the half

of Local Education Authorities in which the most new places were created. As would be expected, the impacts on child development are larger in these areas (and, conversely, are very small in the LEAs where few new places were created during the 2000s).

This implies that the small positive impacts that are found across all children on average are coming mostly from those children who would not have attended early education without the free entitlement. If one makes the assumption that *all* of the benefits at age 5 are felt by these children, then the results imply that those children who went to early education thanks to the free entitlement do almost 15 points better on the FSP than they would have done (17% better compared to the mean).

The researchers followed the same cohorts of children through to age 7 and age 11, when they took tests for Key Stage 1 and 2. The estimated impacts of the free entitlement for 3 year olds on children who are aged 7 are very small: the effect found for writing implies that the policy overall raised the progress of children by 0.4 per cent. The effects completely disappear by age 11, even for those groups and areas where the benefits at age 5 were larger.

It is clear from the 2002 Interdepartmental Childcare Review that the government of the time believed that providing free early years' education would be beneficial for children's development, and it cited several studies to support this claim. Is it, therefore, surprising that this project has found only small effects?

The first point to reiterate is that not many children attended childcare as a consequence of the policy, so it is not surprising that the benefits averaged across all children are small. When we assume that all the benefits at age 5 accrued to the small group of children who attended because of the free place, impacts are substantial but they did not last.

The EPPE (Effective Primary and Pre-school Education) study formed the bedrock of the then government's evidence base. This study provided evidence that children who received pre-school education in the late 1990s had better cognitive development when they started school than those who had not attended. The estimated effects of attendance in EPPE are broadly comparable to the ones we find, although both are likely to be overstatements, albeit for different reasons.² However in contrast to our findings, research from the EPPE team has shown that impacts from pre-school attendance can be observed in school outcomes up to age 11 and beyond (Sammons et al, 2008, Sylva et al, 2014).³

But there are plausible reasons why the EPPE findings should not be compared directly to the results of this research. First, the EPPE study finds that only attending the best performing nurseries had long-lasting effects, and many of these were in the maintained sector. The fact that our study finds that positive impacts on children do not persist might be because the places created in the PVI sector were not of sufficiently high quality. Previous research has found that quality tends to be higher in the maintained sector and that having highly qualified staff is particularly important (Gambaro, Stewart and Waldfogel, 2014; Mathers and Smees, 2014). If publicly-provided early education provision were more common, or more children had been looked after by those with higher qualifications, then perhaps the situation might have been different.

Second, the EPPE study is based on children who went to pre-school in the late 1990s. A lot has changed since then. The free entitlement was implemented at the same time as a large increase in spending on education, which led to smaller class sizes and more teaching assistants, as well as the introduction of a new curriculum and increased school accountability. It could be that, as primary schools have improved, pre-school experience matters less, as teachers now do a better job of helping all children fulfil their potential.

²The main aim of the EPPE study was to investigate the benefits of attending high vs. low quality settings at ages 3 and 4. Some children who did not attend any form of early education were added to the study when they started school. It is therefore possible to estimate the effect of attending any early education on later outcomes, by comparing the outcomes of children whose parents had chosen to send them to pre-school compared with those whose parents had not. Because the study did not collect detailed information on the children who did not attend pre-school at age 3, however, it is possible that the differences between these sorts of children in later years were also present before pre-school attendance began and cannot, therefore, be ascribed to it. The estimates reported for children who attended pre-school in this study may be overestimates because it is simply assumed that all of the benefits accrued to children who participated. In our research we assume that all the benefits of the free entitlement accrue to children who attend as a result. If there are also benefits for other children through quality effects or through the income transfer the participation effects will be overstated.

³The EPPE findings concurred with those from the US Perry Preschool Project in finding substantial benefits in non-academic domains, in particular behaviour. We can only investigate these aspects to a very limited extent through the social and personal development aspect of the Foundation Stage Profile.

The impact of the free entitlement on maternal employment

This part of the project was conducted by **Mike Brewer (University of Essex and IFS)**, **Sarah Cattan (IFS)**, **Claire Crawford (University of Warwick and IFS)**, and **Birgitta Rabe (University of Essex)**. A more complete write-up of the results can be found [here](#).

The researchers made use of the same gradual expansion of the free entitlement across areas of England to estimate how the availability of free part-time early education places for 3 year olds was linked to mothers' work patterns. Similarly to the project on children's outcomes, the research effectively compared changes in the work patterns of mothers of 3 year olds in areas which saw large increases in free early education places during the 2000s, with areas that saw much smaller increases. In addition, this study used

mothers of younger children as a comparison group.

The research used data from the Labour Force Survey (LFS) from 2000 to 2008. Even with several years' worth of LFS data, some of the final sample sizes are quite small and so – in contrast to the results on child development – some of the estimated impacts are relatively imprecise.

The main results for maternal employment are summarised in Table 2 below. They imply that expanding the availability of free places to cover an additional 10 percent of all children leads to a rise in maternal employment rates of 0.4 percentage points. But small sample sizes mean that there is considerable uncertainty over the size of these estimates.

Table 2. Impact on mothers' work patterns of a 10 percentage point increase in free places

	% in work	% working part-time (<=30 hours per week)	% working full-time (>30 hours per week)
All mothers with a child aged 3	+0.41 ppts	+0.39 ppts	+0.02 ppts
All mothers whose youngest child is aged 3	+0.63 ppts**	+0.47 ppts	+0.16 ppts
Mothers whose youngest child is aged 3 in 50% LAs where most new places created	+1.41 ppts**	+0.25 ppts	+1.11 ppts**
Mothers whose youngest child is aged 3 in 50% LAs where least new places created	+0.29 ppts	0.44 ppts	-0.14 ppts

Note: ***indicates statistical significance at the 1% level; ** at the 5% level; * at the 10% level.

Previous research has suggested that mothers whose youngest child is affected by the offer of free or subsidised childcare are more responsive than mothers who also have younger children. The second row of Table 2 confirms that this was also the case as the free entitlement expanded in England: the results imply that,

amongst mothers whose youngest child is offered a free part-time early education place, a 10 percentage point increase in the number of places leads to a rise in employment of 0.6 percentage points, with most of these mothers moving into part-time work of fewer than 30 hours per week.

This implies that the expansion of the free entitlement, which increased the proportion of children in England who could access the free entitlement by around 50 percentage points, led to a rise in the employment rate of mothers whose youngest child is 3 years old of 3 percentage points (the average employment rate of this group over the last decade was 56 percent).

The final row of the Table shows the estimated impact on mothers whose youngest child was aged 3 assessed for the half of local authorities (LAs) in which the most new places were created. As we might expect, the impacts on mothers' employment are larger in these areas (and, conversely, are smaller in the areas where rather few new places were created during the 2000s). It also seems that mothers in these areas were more likely to move into full-time rather than part-time work. If one makes the assumption that all of the additional employment amongst mothers whose youngest child was aged 3 comes from children who would not have attended early education without the free entitlement, then the results imply that those mothers who used

early education only because it was free were 25 percentage points more likely to work thanks to the free entitlement.

Given that the way in which parents could take-up their free entitlement was relatively inflexible when the policy was first introduced, and that, even now, the free entitlement is only for 15 hours a week and 38 weeks a year, it is perhaps surprising that it seems to have had such a large impact on mothers' work patterns. The estimated impacts are towards the upper end of estimates of the impact of similar policies adopted by other industrialised countries over the last few decades. Of course, it should be remembered that the impacts attributed to the free entitlement are equivalent to an increase in employment of less than 10% amongst the mothers of 3 year olds, equivalent to an additional 12,000 women in work. Thus, even though the effects are relatively large for this group, the policy made a minimal difference to the employment rate of all women (and even of mothers).

Implications

The objective of this research was to assess whether the introduction of free part-time early education places for 3 year olds delivered the 'double dividend' of improved child development and increased mothers' employment.

A very clear finding is that only a small proportion of 3 year olds entered early education as a result of the policy. Nearly 40 out of every 100 3 year olds in England were already benefiting from free early education at the end of the 1990s, and for about 50 of the remaining 60, the policy simply transferred money from the state to parents to pay for early education that they would have used anyway.

As a result, it is perhaps unsurprising that the policy had relatively small and short-lived benefits for children's development when assessed across all children. Moreover, there is little hard evidence that the policy disproportionately benefitted children from disadvantaged backgrounds, suggesting that it has not worked to close the gap in attainment between those from richer and poorer families. However, there appear

to be reasonably positive impacts on mothers' work patterns, with around 6 more mothers in work for every additional 100 funded places provided.

The impact of free early education on both children and mothers is estimated to be considerably larger for those children who would not have used early education had it not been free. This is another way of saying that the free entitlement had a lot of deadweight: it changed the use of early education for relatively few families, and, for the others, it transferred money from tax-payers to parents of young children.

It is therefore tempting to conclude that the money spent on the free entitlement would have been more cost effective had it been focused on providing high quality interventions for the poorest children. However, it is possible that the policy's universalism may have had benefits, if, for example, it encouraged greater take-up of places amongst children from more disadvantaged backgrounds, or a greater mixing of children from different backgrounds in the same early education settings.

Alternatively, one might view the free entitlement as a way of supporting all families with children, just as child benefit does (or used to do before it was removed from families earning more than £50,000), but more directly targeted on activities that benefit children. In recent months, Labour, the Liberal Democrats and the Scottish National Party have all promised to spend additional money to extend the free entitlement to early education, at least for some families. In most cases, it is unclear whether politicians see the primary aim of any extra spending as promoting child development, enabling more parents to work or simply a boost to the finances of families with young children.

The results of this research project suggest that the current approach is not delivering long run gains in

children's cognitive development, and is increasing – but not transforming – the labour market attachment of mothers of young children.

It is possible that extensions to the free entitlement could deliver greater benefits for parents and children, either by increasing the quality of early education, or by increasing the flexibility of the free entitlement for parents and making it easier for parents to combine with additional, paid-for, hours of childcare. What is certain is that the case for extending the free entitlement is not as clear cut as political rhetoric might suggest. A more open and honest debate about the rationale for these policies, and whether the evidence supports the proposed extensions, would be welcome.

Notes

Full details can be found in the following papers:

“Evaluating a demand-side approach to expanding free pre-school education” by Jo Blanden, Emilia Del Bono, Kirstine Hansen, Sandra McNally and Birgitta Rabe, available from <https://www.iser.essex.ac.uk/files/projects/the-effect-of-free-childcare-on-maternal-labour-supply-and-child-development/childoutcomes.pdf>

“The impact of free, universal pre-school education on maternal labour supply” by Mike Brewer, Sarah Cattan, Claire Crawford and Birgitta Rabe, available from <http://www.ifs.org.uk/publications/7403>

For press enquiries, please contact Louise Clarke Cullen at the University of Essex (01206 873087) or Amy Sutton at the University of Surrey (01483 686141) to discuss the impact on children. Contact Bonnie Brimstone at IFS (020 7291 4818 / 07730 667 013), to discuss the impact on mothers' employment patterns.

Contact Jo Blanden or Birgitta Rabe about the the child development paper. Contact Mike Brewer or Claire Crawford about the maternal employment paper.

References

DFES (2006), A Code of Practice on the Provision of Free Nursery Education Places for Three- and Four-Year-Olds (available at: <http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/0175-2006PDF-EN-01.pdf>).

Gambaro, L., Stewart, K. and J. Waldfogel (2013), "A question of quality: Do children from disadvantaged backgrounds receive lower quality education and care in England?" in L. Gambaro, K. Stewart and J. Waldfogel (2014) (Eds.) *An Equal Start? Providing quality education and care for disadvantaged children*, Policy Press.

Mathers, S. and R. Smees (2014) *Quality and Inequality: Do three and four year olds in deprived areas experience lower quality provision*, Nuffield Foundation.

Sammons, P., K. Sylva, E. Melhuish, I. Siraj-Blatchford, B. Taggart and S. Hunt (2008) *Influences on Children's Attainment and Progress in Key Stage 2: Cognitive Outcomes in Year 6*, Department for Children, Schools and Families Research Report DCSF RR048.

National Audit Office (2012) *Delivering the free entitlement to education for three- and four-year-olds*, Her Majesty's Stationary Office.

Sylva, K., E. Melhuish, P. Sammons, I. Siraj-Blatchford and B. Taggart with R. Smees, K. Toth, W. Welcomme and K. Hollingworth (2014) *Students' educational and developmental outcomes at age 16*, Department for Education Research Report DFE RR354.

Strategy Unit (2002) *Delivering for families and children*, Interdepartmental Childcare Review available at <http://dera.ioe.ac.uk/id/eprint/8814>

The Nuffield Foundation is an endowed charitable trust that aims to improve social well-being in the widest sense. It funds research and innovation in education and social policy and also works to build capacity in education, science and social science research. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily those of the Foundation. More information is available at www.nuffieldfoundation.org



University of Essex
Wivenhoe Park
Colchester CO4 3SQ

T: + 44 (0) 1206 872957
iser@iser.essex.ac.uk
www.iser.essex.ac.uk/misoc

