Investing in Child Health and Development: The Impact of Breastfeeding on Children's School Performance

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There is now strong evidence that breastfed babies are less prone to stomach upsets, ear infections and the coughs and colds of early childhood than their bottle fed peers. There is also a growing body of evidence that breastfeeding may confer more long term benefits for child development. For example, studies have consistently shown that breastfed children score more highly on cognitive and academic performance tests in later life compared with those who were bottle-fed. At first glance the explanation seems simple: breast milk contains nutrients that improve brain development during infancy leading to longer-term gains in cognitive performance. The story may not be so simple however. Research shows that children who are breastfed are more likely to come from more advantaged households, that is, those with higher levels of education, higher income and social class. This means that these children enjoy other economic and environmental advantages and it may well be that it is these factors, not the breast milk itself, that explains the higher ability scores among the breastfed.

Recent research carried out by the ESRI (McCrory & Layte 2011)[†] has sought to shed some light on this issue using data from the Child Cohort of the Growing Up in Ireland project, a study of 8,568 nine-year-old children whose development is being followed over time. The children's parents were asked whether their child was ever breastfed as an infant and the duration of this breastfeeding in weeks. The children also completed the Drumcondra reading and maths tests. More importantly, the Growing Up in Ireland study also collects a large number of other measures of the families' social and economic situation providing the information necessary to identify the specific effect of being breastfed.

The study found that children who were breastfed scored almost 9 points higher on the reading and 7 points higher on the maths tests compared to those who were bottle-fed. More persuasively, the study also found that test scores improved with the amount of breastfeeding which the child had experienced

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although the benefits peak after around 6 months of breastfeeding. However, it also showed that there was a strong association between breastfeeding and the socio-economic characteristics of the household such as the mother's level of education, household social class, household income, and the number of children's books in the home. For instance, about three quarters of those who were university educated breastfed compared with a quarter of those who had a lower secondary education or less.

The question is: does the effect of breastfeeding remain once we remove the effect of the child's family background? The research showed that it does. Although the gain from breastfeeding dropped to 3.2 percentage points on reading and 2.2 percentage points on mathematics, these differences are statistically significant. Breastfeeding for a longer time did not have a statistically identifiable advantage.

The results quantify the benefits which being breastfed in early life has for child educational development but could this effect vary across children? Those coming from more affluent homes have a number of advantages that contribute to educational development aside from breastfeeding so we may see less of an effect for these children. On the other hand, the effect may be largest for the most disadvantaged children. This is precisely what the study found. The test score advantage of breastfeeding was largest among the most socially disadvantaged where it averaged 7 percentage points on reading and 4 percentage points on maths. Among the most advantaged breastfeeding improved scores by around 1 percentage point on both the reading and maths test.

The advantages of breastfeeding for health in childhood are already well established but this study shows that breast feeding is also very important for the child's long term development. This result underlines the importance of encouraging and facilitating mothers to breastfeed where at all possible for the first six months of the child's life, particularly among women with less education or in lower income groups whose children have the most to gain. This task is all the more important as Ireland has the lowest breastfeeding rate in Europe. Around half of women giving birth in Irish hospitals are breastfeeding their child 48 hours after birth. This is true of between 75 and 95% of women in most other European countries (http://www.europeristat.com/bm.doc/european-perinatal-health-report.pdf, p82).

Not all women will be able to breastfeed their child. Demonising mothers who cannot or choose not to would be counterproductive but identifying and sharing evidence as to the advantages of breastfeeding can play a positive role in persuading women of the benefits. Non-Irish women giving birth in Irish hospitals are twice as likely to breastfeed as Irish women and this suggests that attitudes

toward breastfeeding are important in shaping behaviour. But, it is also important to provide an environment which is supportive of women who want to if we are serious about increasing breastfeeding levels in Ireland.

[†]McCrory, C. & Layte, R. (2011). The effect of breastfeeding on children's educational test scores at nine years of age: Results of an Irish cohort study. *Social Science & Medicine* (in press).