

[3] Introduction and Overview

3.1 Purpose of Survey

The evidence that specific changes in nutrition have a direct impact upon behaviour, learning ability and mental health is extensive and well summarised in the Mental Health Foundation's 2006 report 'Changing Diet, Changing Minds'¹. The Food for the Brain Schools Projects², in a special educational need school, and an underperforming primary school, have provided further evidence that improved nutrition may have a positive impact on learning and behaviour. A substantial and convincing body of scientific evidence, including many randomised-controlled trials, shows that a child's nutrition has a profound effect on their learning and behaviour:

- Ten out of twelve randomised controlled trials (RCTs) assessing the impact of vitamin and mineral supplementation have illustrated significant improvement in non verbal IQ and concentration³
- A diet high in essential fats, especially omega 3 essential fats, as well as supplementation improves attention and reading, and reduces anxiety and aggression. Numerous studies have been conducted in this area⁴ including two recent randomised controlled trials^{5,6}
- A diet with a balanced glycemic load, incorporating more whole foods and slow-releasing sugars and less refined foods and fast-releasing sugars, eaten at regular intervals, may improve learning, attention and reduces anxiety and aggressive behaviour^{7,8,9}
- A significant proportion of children with ADHD may have unidentified food and chemical sensitivities^{10,11} Gluten sensitivity, for example, is far more common in children with behavioural problems than in those without.¹²

The evidence from what is now a large and growing body of broadly consistent research links sub-optimum nutrition with poor cognition and behaviour. While much is known about the kind of diet that provides Recommended Daily Allowances, little is known about the kind of diet that equates to optimal mental health, learning and behaviour. Since RDAs largely do not take into account recent research on nutrition and mental health there is no good reason to assume that these kind of levels, if eaten, are optimal for mental health.

The Food for the Brain Child Survey sets out to examine aspects of mental health, academic performance and behaviour, as well as symptoms associated with nutritional inadequacy, in relation to food consumption to help provide insight into the kind of dietary intake that equates to optimal mental health and academic performance.

With a sample size of 10,222, of which 3,139 (30%) have provided Standardised Assessment Test (SAT) score data, this represents the largest survey on the nutrition and mental health of British school children ever conducted.

1. 'Feeding Minds - the impact of food on mental health' The Mental Health Foundation, 2006 – see <http://www.mentalhealth.org.uk/feedingminds/>
2. See www.foodforthebrain.org for details on these projects and their results
3. D. Benton, 'Micro-nutrient supplementation and the intelligence of children', *Neuroscience and Biobehavioural Reviews*, Vol 25(4), 2001, pp. 297-309
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5. A. Richardson and P. Montgomery, 'A randomized controlled trial of dietary supplementation with fatty acids in children with developmental coordination disorder', *Pediatrics*, Vol 115, 2005, pp. 1360-1366
6. Sinn, N. & Bryan, J. 'Effect of supplementation with polyunsaturated fatty acids and micronutrients on ADHD-related problems with attention and behaviour.' *Journal of Developmental & Behavioral Pediatrics*, Vol 28(2), 2007, pp. 82-91.
7. Haapalahti M et al, 'Food habits in 10-11-year-old children with functional gastrointestinal disorders'. *European Journal of Clinical Nutrition*, Vol (58)7, 2004, pp1016-1021
8. D. Benton et al., 'The impact of the supply of glucose to the brain on mood and memory', *Nutrition Reviews*, Vol 59(1 Pt 2), 2001, pp. S20-1
9. L. Lien et al., 'Consumption of soft drinks, hyperactivity, mental distress and conduct problems among adolescents', *American Journal of Public Health*, 2006, Vol. 96, No. 10, pp. 1815-1820
10. C. Carter et al., 'Effects of a few food diet in attention deficit disorder', *Archives of Disease in Childhood*, vol 69, 1993, pp.564-8
11. J. Egger et al., 'Controlled trial of oligoantigenic treatment in the hyperkinetic syndrome', *Lancet*, 9 March 1985, pp. 540-5
12. Gerarduzzi T et al. 'Celiac disease in USA among risk groups and general population in USA' *Journal of Pediatric Gastroenterology and Nutrition*, Vol 31 (suppl), 2000: pp S29, Abst. 104