

# Is breakfast the most important meal of the day?

## Understanding the effects of breakfast on cognitive performance, behaviour and learning in school children

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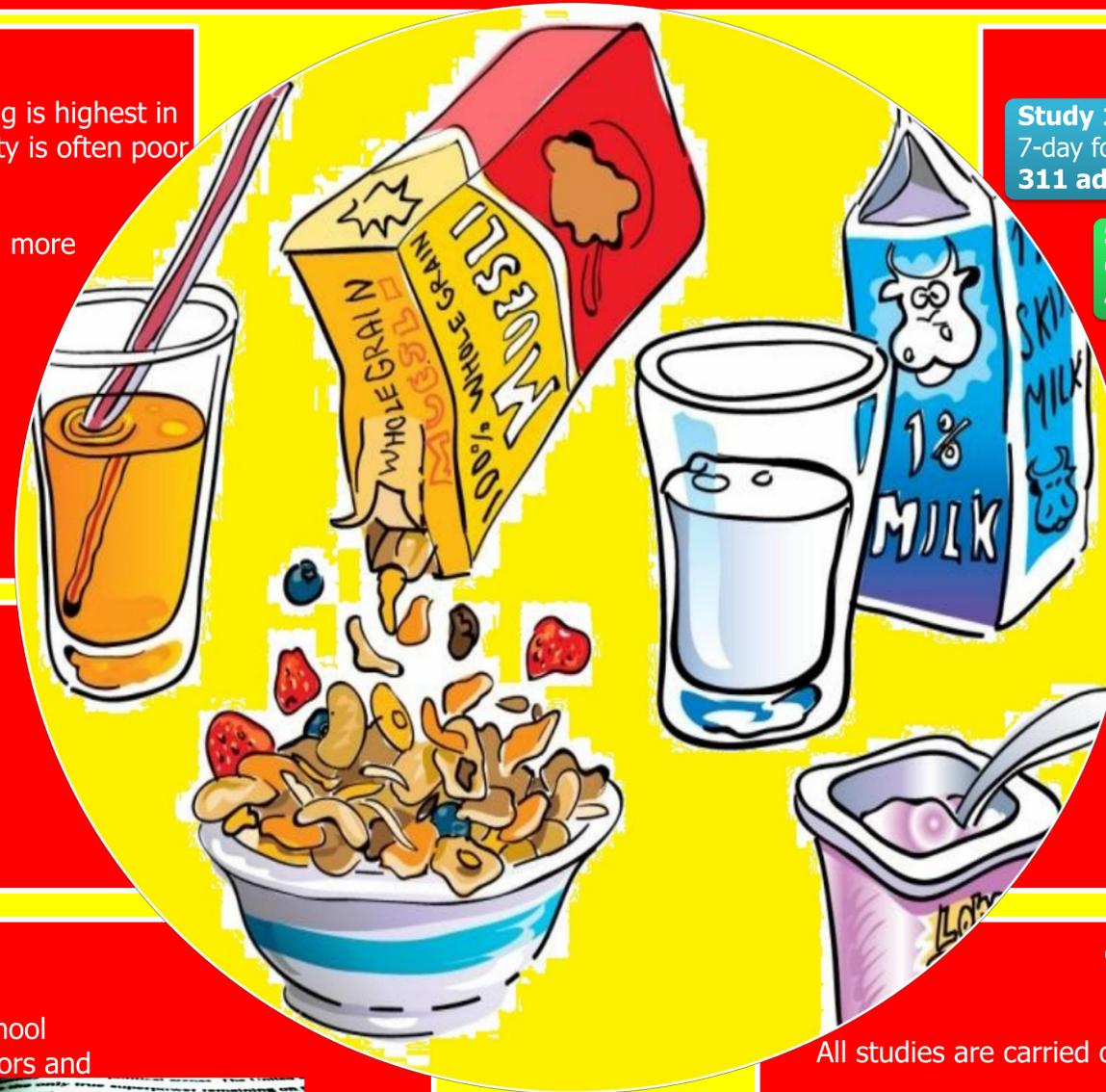
Institute of Psychological Sciences

### Why bother with breakfast?

A third of adolescents **never** eat breakfast. Breakfast skipping is highest in adolescents and where breakfast is eaten, the nutrition quality is often poor

### Benefits of breakfast

- ✓ Provides **fuel** for the **brain**. Young brains use 200%-300% more glucose than an adult brain
- ✓ **Breaks** overnight **fast**, - longer in adolescents
- ✓ Associated with maintaining a normal **Body Mass Index**
- ✓ Makes large contribution to daily **nutrient intake**
- ✓ Positive effects on **cognitive performance**
- ✓ Increases ability to stay **on-task in the classroom**
- ✓ Positive effects on **school grades, attendance** and **punctuality**



### The Methods

**Study 1** Habitual breakfast, school performance, cognitive failures  
7-day food diary, questionnaire and cognitive failures questionnaire  
**311 adolescents** aged 16-18 years

**Study 2** Habitual breakfast, Cognitive Abilities Test performance  
Questionnaire, Cognitive Abilities Test scores and bodyweight  
**420 young adolescents** aged 11-13 years

**Study 3** Acute effects of breakfast on in class behaviour  
Filming classroom activity, breakfast compared with no breakfast  
**26 young adolescents** 11-13 years

**Study 4** Acute of breakfast on cognitive performance and mood  
Cognitive testing, breakfast compared with no breakfast  
**232 young adolescents** 11-13 years

### The Aims

To investigate the effects of breakfast on:

1. **Cognitive performance**
2. **Subjective mood state**
3. **School achievement**
4. **On task behaviour in class**

### The Impact

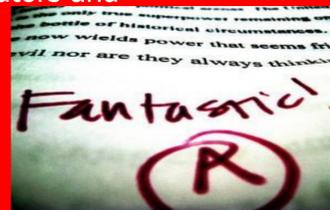
Currently, no funding for breakfast in schools, only for free school meal at lunch. Breakfast provision reliant on school funds, charities or external businesses. 80% of core lessons are before lunch.  
**Should some investment be directed at providing breakfast?**

### The Measures

Objective and validated cognitive tests



Ecologically valid school performance indicators and school grades



Film classroom behaviour



Ask them! Rate feelings using Visual Analogue Scale



### The Partnership

All studies are carried out secondary academy schools.

**Research benefits:** Access to large sample in the "real world"  
**School based benefits:** Raise educational aspirations and impact

### Our partnership work

- ✓ Dissemination evening
- ✓ Breakfast club donations
- ✓ Higher education and careers talks
- ✓ Student mentoring
- ✓ Colour vision screening
- ✓ Research Open Days
- ✓ Healthy eating assemblies
- ✓ Podcast
- ✓ Student voice focus groups
- ✓ Science education
- ✓ Community event
- ✓ Text book donations

