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

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**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 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 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 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 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 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