The press releases from Durham Council's website are no longer available, so this information has been compiled second-hand from sources such as Ben Goldacre's 'badscience.net', which include many quotes from media/press releases/results.

Fish oil pill study

In 2006 in the UK, Durham County Council announced their plan to use school children in a trial to investigate whether there was a link between omega-3 fish oils and school performance. Just over 3,000 year 11 students across numerous Durham County Council comprehensive schools were recruited to take part in the trial. Every participant in this trial was given the same treatment: they took 6 omega-3 pills a day.

One million pounds' worth of omega-3 pills were donated by fish oil supplement company Equazen. These pills were given out to students in the schools, with everyone involved (teachers, parents, researchers and students) knowing who was participating in the trial. The stated goal was to then measure students' predicted GSCE scores against their actual achievements.

The following are comments on this trial from various media sources (all quoted on badscience.net):

> The Daily Mail: "The trial will continue until their GCSE examinations next June – which will need £1 million worth of supplements supplied free. The company hopes the results of the project will then spark orders all over the country."
>
> ...
>
> Mr Ford added: "We will be able to track pupil's progress and measure whether their attainments are better than their predicted scores."
>
> Dr Madeleine Portwood, senior educational psychologist at Durham county council, who has led much of the previous research into fish oils added: "The scale of this new trial is extraordinary. "Previous trials have shown remarkable results and I am confident that we will see marked benefits in this one as well."
>
> Equazen's press release: "The County-wide strategy will continue until the pupils complete their GCSE examinations next June, and the first test of the supplement's effectiveness will be when they sit their mock exams this December. We are able to track pupils' progress and we can measure whether their attainments are better than their predicted scores," said Mr Ford.
>
> "You will be invited to send a reporter and/or photographer to a media launch of the trial at a County Durham school on the morning of September 6 where key players in the initiative, including pupils, will be available for interview."

Full details of the trial were not made available but Equazen, along with Dave Ford (chief inspector of schools) and Madelaine Portwood (senior educational psychologist) championed it, and many different news outlets posted on the story with interest.

A summary of some results were eventually posted on the Durham Council website. Their press release included the following comments:

> "Detailed analysis of the outcome of the initiative shows that pupils who took the Omega-3 supplement did better than those who did not."

> "Initially, just over 3,000 Year 11 pupils began the study, taking the Omega-3 tablets at school and at home. By the time GCSE examinations came around, 832 pupils had 80 per cent or greater compliance."

The same statement explained how they had determined that students taking omega-3 had performed better:

> "Mr Ford and his colleagues then sought to identify the same number of Year 11 pupils who had not taken the supplement and match them to those who had, according to school, gender, prior attainment and social background."

How could this study have been improved upon?

Write a short response (200 – 300 words) identifying problems with this research. Some of the questions you could consider might include:

- Are there any problems with the design of the study (for example, in how they gave out the pills)?
- How did they measure results (ie, decide whether a student had 'improved' or not)?
- How many students did they study to get their results? Which students? Could using this group have been a problem?
- How was this research reported?
- Who was responsible for this research?
- If the students did improve in academic performance, could there have been other reasons (other than the fish oil)?

You may notice other issues.
