

# Healthy diet boosts children's reading skills

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# HEALTHY DIET MAY IMPROVE LEARNING

suggests a new study published in the European Journal of Nutrition

Researchers from the University of Eastern Finland and the University of Jyväskylä followed 161 children aged 6–8 years through Grades 1–3.

They found that better diet quality in Grade 1 was related to better reading skills in Grades 1–3.



## 01 HEALTHY DIET

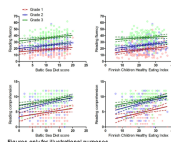
Healthy diet was assessed using the Baltic Sea Diet Score (BSDS) and the Finnish Children Healthy Eating Index (FCHEI) which describe a diet:

high in vegetables, fruit and berries, fish, whole grain, low-fat milk, and vegetable oil  
low in red and processed meat, sugary products, and saturated fat

## 02 DIET QUALITY AND READING SKILLS

Better diet quality was associated with better reading fluency and reading comprehension scores across the grades.

Relationships between diet quality and reading skills were independent of socioeconomic status, physical activity, fitness, body adiposity etc.



Figures only for illustrational purposes

## 03 STRICT ADHERENCE VS. POOR ADHERENCE TO HEALTHY DIET

### HIGHEST THIRD OF BSDS OR FCHEI



VS

### LOWEST THIRD OF BSDS OR FCHEI



~4.0 points higher reading fluency and 1.3–1.9 points higher reading comprehension score across the grades

Corresponds to 10–20% of total reading fluency scores and 14–38% of total reading comprehension scores

Almost one year behind in reading skills in Grade 2

Had also poorer reading comprehension scores than those in the middle third of FCHEI

## 04 KEY POINTS



Healthy diet was based on the Nordic and Finnish dietary guidelines

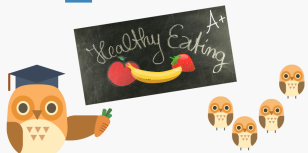


Healthy diet was \* high in vegetables, fruit, berries, whole grain, low-fat milk, and \* low in red and processed meat, sugary products, and saturated fat



Healthy diet in Grade 1 was related to better reading skills in Grades 1–3

## 05 CONCLUSION



These results suggest that following the Nordic and Finnish dietary guidelines that results in increased consumption of vegetables, fruit, berries, and low-fat milk and decreased consumption of red meat, sausage, and foods high in sucrose could improve reading skills in school-aged children.

Abstract: Haapala TA, Eloranta AM, Voutilainen T, Järvenpää AL, Pönnönen AM, Ahonen T, Lyytikäinen V, Lahti TA. Diet quality and academic achievement: a prospective study among primary school children. European Journal of Nutrition 2014; in-pub ahead of print; available at www.

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A healthy diet may improve learning. Credit: Eero Haapala

A healthy diet is linked to better reading skills in the first three school years, shows a recent study from Finland. Published in the European Journal of Nutrition, the study constitutes part of the Physical Activity and Nutrition in Children Study conducted at the University of Eastern Finland and the First Steps Study conducted at the University of Jyväskylä.

The study involved 161 [children](#) aged 6-8 years old, and followed up on them from the first grade to the third grade in school. The quality of their diet was analysed using food diaries, and their academic skills with the help of standardised tests. The closer the diet followed the Baltic Sea Diet and Finnish nutrition recommendations - i.e. high in vegetables, fruit and berries, fish, whole grain, and unsaturated fats and low in red meat, sugary products, and saturated fat - the healthier it was considered.

The study showed that children whose diet was rich in vegetables, fruit, berries, whole grain, fish and unsaturated fats, and low in sugary products, did better in tests measuring reading skills than their peers with a poorer diet quality.

The study also found that the positive associations of diet quality with reading skills in Grades 2 and 3 were independent of reading skills in Grade 1. These results indicate that children with healthier diets improved more in their reading skills from Grade 1 to Grades 2-3 than children with poorer diet quality.

"Another significant observation is that the associations of diet quality

with [reading skills](#) were also independent of many confounding factors, such as socio-economic status, [physical activity](#), body adiposity, and physical fitness," says Researcher Eero Haapala, PhD, from the University of Eastern Finland and the University of Jyväskylä.

Parents, schools, governments and companies can improve the availability of healthy foods

A healthy diet seems to be an important factor in supporting learning and academic performance in children. By making healthy choices every meal, it is possible to promote a [healthy diet](#) and enhance [diet quality](#). Parents and schools have an important role in making healthy foods available to children. Furthermore, governments and companies play a key role in promoting the availability and production of healthy foods.

**More information:** Eero A. Haapala et al, Diet quality and academic achievement: a prospective study among primary school children, *European Journal of Nutrition* (2016). [DOI: 10.1007/s00394-016-1270-5](https://doi.org/10.1007/s00394-016-1270-5)

Provided by University of Eastern Finland

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