Girls have better motor skills than boys do

Earlier studies have shown differences between boys' and girls' motor skills - usually to the girls' disadvantage. However, researchers have now made some different findings.

The results of the recent study also show that there are large differences in motor skills between girls and boys – but this time in favour of the girls.

Associate Professor Elin Reikerås and Professor Thomas Moser of the Reading Centre at the University of Stavanger have studied young children's motor skills and early gender differences, and compared the results to a study conducted in the UK.

The study is part of The Stavanger Project.

Observed more than 1,000 two-year olds

From the time that they were two and a half years old, over 1,000 children have been systematically observed by kindergarten teachers over a three month period. Using an observation form, they recorded the children's gross motor skills (such as throwing a ball), fine motor skills (such as turning pages in a book), self-help skills (such as dressing themselves) and overall movement skills (such as moving around the kindergarten without bumping into others).

The use of kindergarten teachers to conduct observations is unique for this study, as researchers usually conduct the data collection themselves.

"Since we are studying so many children over time, we needed help to carry out the observations, and it is natural to use someone who knows the children well," says Reikerås.

"Kindergarten teachers have been trained in how they should systematically observe children's motor skills development. They have also had training in math, language and social skills that are used in other parts of the project. They have been well prepared for the job and are confident in their task," she explains.

The quality of data registration was ensured in that there were always two kindergarten teachers who observed a child over time, and they had to come to a joint assessment.

For researchers, it has also been important to differentially consider whether a child is on the way to mastering a skill, and not just whether the child masters the skill or not. That is, even if the child does not yet independently master a skill, the child is recognized if it manages the skill partially or with support from an adult. The registration is thus distinguished between four skill levels:

(1) Able

(2) Almost able
Not able, but on the way

Not able at all

“This paints a more nuanced picture of the child's skills and provides a better basis for assessing children's development over time in a credible and reliable way,” says Moser.

The girls are best

The results of the study showed that girls performed better in self-help skills, fine motor skills and general movement skills. In the gross motor area, such as kicking a large ball, riding a tricycle or running and jumping, there were no differences between boys and girls.

“It was surprising that the boys did not do better in these gross motor skills, because we expected that considering what previous research has shown,” says Reikerås.

The researchers are now interested in whether gender differences change over time, and how they change. By looking closely at children's motor skills when they are four years old, the researchers will see how these skills develop and whether or not the gender differences remain over time.

Norwegian children have good gross motor skills

The researchers compared the results from the Stavanger project with another study conducted in the UK, where the same observation instrument was used on a group of children who were three and one-half years old.

“When we compare these two studies, we see that British children scored slightly higher than Norwegian children did on fine motor skills, self-help skills and general movement skills, but not on gross motor skills,” says Reikerås.

Moser and Reikerås assume that the nine-month age difference is the reason why the British children apparently have slightly better motor skills than the Norwegian children did.

“Nine months does mean a huge amount for motor skills development in this age group,” says Moser.

The researchers therefore find it very interesting that when it comes to gross motor skills, the young Norwegian children are on the same level as are older British children.

They cannot say for sure why this is so, but they assume that it has something to do cultural differences. In Norway, physical activity is part of the educational programme in kindergarten. Children's physical activity is noticed and followed up on continuously.

“In addition, Norwegian kindergartens often have good outdoor areas and much time is spent outdoors with opportunities for various physical activities, something they don't have in the UK,” says Reikerås.

Examining motor skills development

The work on the Stavanger project will continue until 2018, and the next step for researchers now is to investigate the relationship between motor skill level and social, mathematical and linguistic development.

In addition, the researchers want to examine the motor skills development through kindergarten age.
They want to compare the children's motor skills when they are two and one-half years old with their motor skills when they are four and one-half years old. That way we can see how these skills develop over time. Does having weak motor skills when you are two years old automatically mean that you still have weak skills at four years old?

“It would be interesting to see to what extent severe motor skill weakness among four year-olds could already have been discovered at the age of two,” says Moser.

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Read the Norwegian version of this article at forskning.no [7]

Fact box

Young children use their bodies to learn. Good body control and motor skills are therefore important for their knowledge development, social skills, language development and well-being.

University of Stavanger [11]
Children can play their way to more learning in school [12] Healthier food for day care children [13]
Elin Reikerås' profile [17] Thomas Moser's profile [18]

Side story

The Stavanger Project:

- The project is a multidisciplinary, longitudinal study of language, mathematics, motor skills, social skills, reading, writing and arithmetic.
- The goal is to generate new knowledge about kindergarten children's skills and the importance of early development factors for reading, writing and arithmetic.
- The project started in 2007 and will continue at least until 2018. The project is a collaboration between the University of Stavanger and Stavanger municipality.
- 1,348 children are participating in the project.

The Stavanger Project[6]

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