OBJECTIVE
Mirroring movements in adolescents with unilateral spastic cerebral palsy are common. Tools quantifying such movements are lacking and this may partly explain why it is still unclear if mirroring movements affect bimanual performance.

To investigate if mirroring movements, assessed by a novel computer vision based software, affect bimanual performance in children with unilateral spastic CP.

METHODS
Study group
- 18 adolescents (9 boys) with unilateral spastic CP participated.
- Median age 15 years (range: 13-20 years).

Movements of the non-active hand were video recorded while the adolescent opened and clenched the fist of the contralateral hand.

Evaluation:
- Mirroring movements were classified according to Woods and Teuber (WT).
- Mean Quantity of Motion was calculated from pixel differences between subsequent video frames through computer vision based software.
- Bimanual performance was assessed using Assisting Hand Assessment (AHA).

RESULTS
Mirroring movements were identified in 7 participants both by Woods and Teuber and Quantity of Motion. In the 7 participants with identified mirroring movements there was a strong inverse correlation between AHA and Quantity of motion ($r=0.74; p=0.058$).

Participants with no identified mirroring movements had wide variations in bimanual performance assessed by AHA (logit: 37 to 100).

CONCLUSION
Our results suggest that a higher amount of mirroring movements adversely affects bimanual performance in children with unilateral spastic CP. Participants without mirroring movements had a wide variation in bimanual performance assessed by AHA.

Our novel video-based software identified the same participants with mirroring movements as the Woods and Teuber indicating that this software can be used to detect mirroring movements.

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