

New Research published on Cortex!

Written by PisaVisionLab

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Congratulation to [Elisa](#) , [Francesca](#) , [Marco](#) and [Concetta](#) who just published a new paper on Cortex!

Castaldi, E., Tinelli, F., Cicchini, M. & Morrone, M. C. (2018). Supramodal agnosia for oblique mirror orientation in patients with periventricular leukomalacia, Cortex, [PDF](#)

Periventricular leukomalacia (PVL) is characterized by focal necrosis at the level of the periventricular white matter, often observed in preterm infants. PVL is frequently associated with motor impairment and with visual deficits affecting primary stages of visual processes as well as higher visual cognitive abilities. Here we describe six PVL subjects, with normal verbal IQ, showing orientation perception deficits in both the haptic and visual domains. Subjects were asked to compare the orientation of two stimuli presented simultaneously or sequentially, using both a two alternative forced choice (2AFC) orientation-discrimination and a matching procedure. Visual stimuli were oriented gratings or bars or collinear short lines embedded within a random pattern. Haptic stimuli comprised two rotatable wooden sticks. PVL patients performed at chance in discriminating the oblique orientation, both for visual and haptic stimuli. Moreover when asked to reproduce the oblique orientation, they often oriented the stimulus along the symmetric mirror orientation. The deficit generalized to stimuli varying in many low level features, was invariant for spatiotopic object orientation, and also occurred for sequential presentations. The deficit was specific to oblique orientations, and not for horizontal or vertical stimuli. These findings show that PVL can affect a specific network involved with the supramodal perception of mirror symmetry orientation.

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