My hands can´t move like that: Mental rotation of body parts in cerebral palsy subjects

Isabel Catarina Martins
IPCDVS - Institute of Cognitive Psychology; Faculty of Psychology and Educational Sciences - Coimbra; Portuguese Association of Cerebral Palsy

Armando Mónica de Oliveira
Laboratory of Experimental Psychology; Faculty of Psychology and Sciences of Education of University of Coimbra Portugal

Michel-Ange Amorim
University of Paris-Sud - UFR STAPS

Abstract: Implicit mental rotation tasks involving body parts have been shown to reflect biomechanical properties of the corresponding motor performance (Parsons, 1987, 2001). These findings have raised the issue of the involvement of motor representations, and not just visual ones, both in the simulation of body movements (Sirigu & Duhamel, 2000) and the mental rotation (MR) of other kinds of objects (de'Sperati & Stucchi, 2000). In this study our main question is to understand to what extent motor imagery underlies mental rotation outside the realm of body segments and how MR works among subjects who were never able to experience physical rotations of certain parts of the body, as cerebral palsy subjects. Main outcomes go as follows: both groups exhibit a similar pattern of constraints on the hands task