

Social communication difficulties in Developmental Coordination Disorder: same or different than those found in Autism Spectrum Disorder (ASD)?

Jeanne Kruck, Jean-Michel Albaret, Vivianne Krostubieck, Yves Chaix, Maëlle Biotteau

Keywords: Developmental Coordination Disorder (DCD), Autism Spectrum Disorders (ASD), Social Communication Questionnaire (SCQ)

Introduction: Apart from their movement difficulties, youngsters with Developmental Coordination Disorder (DCD) generally have insufficient capability for social participation and cognition (Chen et al. 2003; Sylvestre et al., 2013). They present both social communication and psychosocial difficulties and tend to be less able for understanding emotions than their well co-ordinated age peers. These specific difficulties have been linked to a consequence of their poor motor engagement (Cairney et al., 2013) as to an overlap with Autism Spectrum Disorders - ASD (Lichtenstein et al., 2010; Gillberg et al., 2015). The aim of this study was to use qualitative research methods to understand which factors constrain social communication in children with DCD, in order to develop effective rehabilitation programs. **Methods:** To precisely address the question of social communication level in DCD, we compared 30 children with DCD to two different controls groups (1) 30 children with ASD commonly consider as a model for the pathogenesis of social communication disabilities, and (2) 28 typically developing children (TD). For all these 88 boys (8 to 12y7m; mean age=9y9m; SD=1y1m), cognitive abilities were assessed by the Wechsler Intelligence Scale for Children (WISC-IV), motor ability was tested with the Movement Assessment Battery for Children (M-ABC) and social communication

impairments were evaluated by the Social Communication Questionnaire (SCQ). **Results:** No differences were found between the 3 groups on age, gender, IQ and measures of attention. For social communication variables, 4 scores were considered in the analyses: the total SCQ Score and the 3 sub-scores: 1) Communication, 2) Restricted and Repetitive Behavior and 3) Reciprocal Social Interaction. For the total SCQ Score and the first 2 subtests, both DCD and ASD children scores were higher than TD, and ASD children scores were significantly higher than DCD children scores. For the Reciprocal Social Interaction, DCD and ASD children scores were again significantly different from those of TD children but were not significantly different with each other. **Conclusion:** Our study confirms the social communication deficit found in previous studies in DCD (Sumner et al., 2016). However, our results question the nature of such difficulties. The absence of difference between DCD and ASD children in Reciprocal Social Interaction area indeed highlights common characteristics in both disorders and questions about a possible continuum between the two. This also raises the issue of the clinical appropriateness of this test, that is relevant to the differential diagnosis of ASD vs TD or vs. other disorders (ADHD for exemple); but perhaps less relevant vs DCD.